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4 **BEFORE THE STATE OF WASHINGTON**  
5 **ENERGY FACILITY SITE EVALUATION COUNCIL**

6 In the Matter of  
7 Application No. 96-1

8 OLYMPIC PIPE LINE COMPANY  
9 CROSS CASCADE PIPELINE PROJECT  
10  
11

APPLICATION NO. 96-01

**PREFILED TESTIMONY OF  
ELIN A. STOREY**

**ISSUE: CONTINGENCY  
PLANNING AND SPILL  
RESPONSE CAPABILITIES**

**SPONSOR: DEPARTMENT OF  
ECOLOGY**

12  
13 Q: Please state your name.

14 A: Elin Storey.

15 Q: Where do you work?

16 A: The State of Washington, Department of Ecology.

17 Q: How long have you worked there?

18 A: Almost 10 years. I started with Ecology in November 1989.

19 Q: What is your current position?

20 A: I am a Spill Preparedness Specialist, Environmental Planner 3. In simple terms, this  
21 means I do anything related to preparing and planning for the prevention of an oil spill.

22 Q: Before we discuss your work experience, could you describe briefly your educational  
23 background?

24 A: I have a dual degree: a Bachelor of Arts in Political Science and a Bachelor of Arts in  
25 Anthropology. Those degrees I received from the University of Washington in 1986. I also  
26 received a JD from the University of Washington in 1989.

1 Q: Please describe your work history with Ecology.

2 A: I was hired into the Spills Program in September 1990, as an Environmental Planner 2 in  
3 training. WAC 173-181 had just been passed. WAC 173-181 is the one that describes the  
4 backup plan or “contingency plan” in case of an oil spill. A contingency plan must be held by  
5 any entity transporting petroleum products within the state. Because of my legal background, I  
6 was hired to assist with the development of Ecology’s guidance to implement this WAC.

7 In addition to working on the guidance, I also worked on a comparative analysis between  
8 the Oil Pollution Act of 90 (OPA 90) (the federal law related to oil spills) and the WAC, to  
9 determine if our state sovereignty would be preempted when the federal government began to  
10 implement OPA 90 requirements. Prior to the submission of any facility contingency plans, I  
11 worked on many committees with industry and spill response contractors and cooperatives, to  
12 determine the response requirements for the facilities and vessels, as well as how to determine  
13 contingency plan adequacy under WAC 173-181.

14 I held the Environmental Planner 2 (EP2) position for seven years. As an EP2, my job  
15 responsibilities were similar to my current job with the exception of the statewide lead and  
16 committee portions that I now do as an EP3.

17 My duties are as follows:

- 18 (1) serve as the lead technical expert and working supervisor for two junior planning  
19 staffs in Ecology’s Northwest Regional Office for the planning, development and  
20 coordination of oil spill contingency plans, spill drills, statewide response  
21 planning and related issues;
- 22 (2) review and approve oil spill contingency plans to ensure compliance with state  
23 law;
- 24 (3) provide technical assistance to other regional offices, federal, state and local  
25 agencies on spill response planning and drill issues;
- 26 (4) act as the lead for planning, directing and coordinating major projects related to  
preparedness, such as the statewide drill survey. I coordinate these projects with  
other state and federal agencies, the regulated industry, cleanup cooperatives,  
contractors and other stakeholders;

- 1 (5) assist in developing statewide agency policy and procedures for the Spill  
2 Prevention, Preparedness and Response Program related to preparedness issues  
3 including the development of policy for announced and unannounced facility  
4 drills;
- 5 (6) serve on the Steering Committee for the Preparedness team, assisting with  
6 agendas and meetings as needed;
- 7 (7) serve on several sub-committees such as the Equipment and Personnel Sub-  
8 Committee, the Stakeholder Workgroup, the Contingency Plan Review Sub-  
9 Committee, to mention a few;
- 10 (8) serve as the agency lead in reviewing and approving applications from large spill  
11 response cleanup cooperatives and contractors for adequacy under WAC 173-181.  
12 I coordinate with other sections in the program and the U.S. Coast Guard, EPA,  
13 industry and other governmental agencies during the review and approval process;  
14 and
- 15 (9) serve as the NWRO representative on the statewide Significant Spill Investigation  
16 Team that is responsible for investigating and preparing enforcement actions for  
17 significant spills anywhere in the state. Responsibilities include responding to the  
18 spill, conducting field investigations, initiating interviews, taking samples,  
19 preparing reports, drafting enforcement recommendations for approval and  
20 drafting administrative orders where appropriate. Additionally, investigations are  
21 coordinated with the U.S. Coast Guard and the Environmental Protection Agency  
22 where possible.

23 For work related to the major oil refineries in the state, I have a number of duties also:

- 24 (1) serve as the agency technical and planning expert on spill response planning and  
25 drill issues associated with major refinery operations in the state. I coordinate  
26 these issues with the U.S. Coast Guard, Environmental Protection Agency, local  
government, industry cleanup cooperatives or contractors and other sections in the  
Spill Prevention, Preparedness and Response Program and the Industrial Section.
- (2) develop agency response planning and drill guidance and policies that specifically  
address large scale, complex refinery operations.
- (3) act as the lead for planning, conducting and evaluating large, multi-agency  
government and industry led oil spill drills for adequacy and consistency with  
approved spill contingency plans.

Q: You are intimately familiar with contingency plans?

A: Yes. For shorthand, I might refer to them as c-plans.

Q: What is a contingency plan?

A: A contingency plan is a response plan that a facility has established to maximize the effectiveness and timeliness of an oil spill response. If a facility should spill, this plan would be

1 implemented. The c-plan would be submitted to Ecology for approval by the facility. C-plans  
2 must allow for quick access to emergency information during response operations. C-plans must  
3 include information necessary for carrying out oil spill response operations, including location of  
4 personnel and spill response equipment and notification protocols.

5 Q: What is the purpose of the contingency plan?

6 A: The plan's purpose is to protect human health and safety and the environment by  
7 maximizing the effectiveness and timeliness of oil spill response by responsible parties and  
8 response contractors. The intent of the WAC and Ecology's plan review is to generate a c-plan  
9 that, when implemented, is capable of protecting the natural resources of Washington State.

10 Q: Who is required to submit a contingency plan?

11 A: The law requires that c-plans be submitted by those offshore and onshore facilities  
12 located on or near navigable waters of Washington which produce, store, process, transport, or  
13 otherwise handle oil, including crude oil and its derivatives, and which transfer oil in bulk to or  
14 from a tank vessel or pipeline.

15 Q: Is there any other determining factor for determining whether an onshore facility must  
16 submit a c-plan?

17 A: Onshore facilities must be located such that they could "reasonably be expected to cause  
18 substantial harm to the environment" due to an oil discharge to navigable waters or adjacent  
19 shorelines.

20 Q: Would Olympic have to submit a contingency plan for the proposed project?

21 A: Yes, because their proposed pipeline is, by definition, an onshore facility located both on  
22 and near navigable state waters, and the pipeline carries oil, which, if spilled, could reasonably be  
23 expected to cause substantial harm to state resources. In addition, the proposed pipeline would be  
24 connected to the existing North-South line, and therefore Ecology would require Olympic to  
25 submit a new contingency plan that covers both the North-South line and the proposed pipeline.

26

1 Q: Let's talk about Ecology's approval of a contingency plan. Are you familiar with that  
2 process?

3 A: Very familiar.

4 Q: Are there standards that must be met for Ecology's approval of a c-plan?

5 A: The WAC states that when a facility spills oil they must be able to "promptly and  
6 properly" respond to the spill to protect human health and safety and the environment.  
7 Specifically quoting from the WAC: "Plans shall be designed to be capable to the maximum  
8 extent practicable of promptly and properly removing oil and minimizing environmental damage  
9 from a variety of spill sizes, including small chronic spills, and worst case spills." WAC 173-  
10 181-040(4).

11 Ecology has interpreted this to mean that all plans must show that an oil spill can be  
12 removed in a timely manner and that any damage to the environment, whether wildlife, water or  
13 land, can be minimized by that rapid response. This goes for all sizes of spills. Some questions  
14 that must be answered prior to plan approval are: Is the plan designed to insure prompt and  
15 proper removal of oil and to minimize environmental damages? Does the plan identify enough  
16 equipment and personnel to promptly and properly remove oil and minimize environmental  
17 damage? Is there enough containment boom and recovery equipment available to the plan holder  
18 to protect the environment from potential spills? Are there enough field response and  
19 management personnel to handle a spill situation? Have they been properly trained to use the  
20 plan and to control a spill situation? Does the plan accurately portray the plan holder's  
21 capabilities, and do these capabilities meet the plan requirements?

22 Q: What are the general criteria that Ecology uses for approving a contingency plan?

23 A: It is a multi-step process and includes consideration of the following criteria:

24 (1) To the maximum extent practicable, provide for prompt and proper response to,  
25 and the cleanup of, a variety of spills, including small chronic spills, and worst  
26 case spills;

- 1 (2) To the maximum extent practicable, provide for prompt and proper protection of  
the environment from oil spills;
- 2
- 3 (3) Provide for immediate notification and mobilization of resources upon discovery  
of a spill;
- 4 (4) Provide for initial deployment of response equipment and personnel at the site of  
the spill within 1 hour of the plan holder's awareness that a spill has occurred  
5 given suitable safety conditions. - WAC 173-181-065(3).

6 Q: Overall, why are these the criteria developed by Ecology through rule?

7 A: A prompt and proper response, particularly actions taken during the first few hours of  
8 response, is critical to minimizing the overall potential spill impacts on the environment. The  
9 one-hour initial deployment standard, which I will testify to, provides one means for  
10 measurement for prompt response to oil spills.

11 Q: You are familiar with Olympic Pipeline Company?

12 A: Yes.

13 Q: How are you familiar with them?

14 A: I have been responsible for the regulation, compliance, and enforcement of their facility  
15 contingency plan for the existing North-South pipeline since 1991.

16 Q: Have you reviewed the contingency plan for the North-South pipeline?

17 A: Yes.

18 Q: How would the contingency plan for the proposed project compare in content to that plan  
19 for the North-South pipeline?

20 A: All facility contingency plans contain discussions regarding response to oil spills, the  
21 differences are in who, with what, where and how the oil spill response will be carried out. With  
22 what equipment and personnel will the oil spill be cleaned up? In what environments, rivers,  
23 streams, wetlands, and marine environments will the oil be spilled? How will the response  
24 protect sensitive areas? How will the response recover and contain the oil in a timely fashion?

25 Q: Have you worked with Olympic on efforts toward compliance with regulatory  
26 requirements on operation of the North-South pipeline, as seen through that contingency plan?

1 A: Yes.

2 Q: Do you have an opinion as to their efforts toward compliance with regulatory  
3 requirements as related to the contingency plan?

4 A: Yes.

5 Q: What is that opinion?

6 A: Olympic has been difficult to work with regarding regulatory compliance and Ecology  
7 has had to take enforcement action through an administrative order to get Olympic to submit an  
8 approvable contingency plan that complied with the requirements in the WAC. While Ecology  
9 staff recognize that the linear nature of the pipeline makes it more complicated to come into  
10 compliance with the regulatory requirements stated in the WAC, Olympic has been too slow to  
11 respond, gain compliance, and write an approvable plan. Olympic will need to show a better  
12 effort and understanding of the serious impacts that a spill can have on the state resources by  
13 writing an approvable plan in a timely manner for the proposed project.

14 Q: How about spill response efforts by Olympic? What is your opinion on those efforts for  
15 the North-South pipeline?

16 A: Olympic is generally good about spill response efforts and responds in a fairly timely  
17 manner, ramping up response efforts quickly and effectively.

18 Q: Are you able to see a difference in Olympic's capability to respond to a spill since they've  
19 come into compliance with their c-plan for the North-South pipeline?

20 A: As the c-plan has been updated yearly as required by law, Ecology has encouraged  
21 Olympic to purchase additional equipment and to pre-stage personnel in remote locations for  
22 rapid response to spills along the entire length of the pipeline. This has increased their ability to  
23 respond. However, since Olympic is a relatively small company in terms of the number of  
24 personnel, they rely more on clean-up contractors than similar companies. Another way Olympic  
25 could improve their response capabilities and response times would be by getting agreements for  
26 mutual aid with any of the existing facilities with which they have a spur line or a parallel line,

1 such as Trans Mountain Pipe Line Corporation, Equilon Refinery, Tesoro Refinery, Tosco  
2 Refinery and ARCO refinery as well as the facilities on Harbor Island in Seattle. Olympic has  
3 not established the most aggressive response organization on the existing pipeline. This concerns  
4 Ecology about the level of commitment Olympic will have towards the c-plan and aggressive  
5 response capabilities throughout the new pipeline corridor.

6 Q: What is your opinion of the oil companies or carriers having a mutual aid agreement for  
7 oil spill response?

8 A: It is an effective way to enhance the numbers of trained personnel and other response  
9 resources available to respond to a spill and thereby to protect the state resources because of  
10 quicker response times.

11 Q: Why do you believe the agreements for mutual aid between oil companies or carriers are  
12 effective?

13 A: Oil Companies which share support for spill response have more effective response time  
14 and methods during the early phases of a spill. Overall, the response time is enhanced for each  
15 company and therefore, the state resources at risk of harm are more rapidly protected.

16 Q: What is your recommendation for Olympic on their new proposed project as to a mutual  
17 aid agreement with another company, such as Trans Mountain.

18 A: Unfortunately for Olympic Pipe Line there are no other regulated facilities that share a  
19 similar corridor. For the sake of state resources, and the need to do everything possible to protect  
20 the environment, Olympic will need to enhance their own capabilities regarding personnel and  
21 equipment for response to spills along the entire length of the proposed project.

22 Q: What do you think Olympic has learned from having to do the c-plan for the North South  
23 pipeline?

24 A: It would appear that Olympic has learned that Ecology can contribute to the development  
25 of an effective contingency plan, assist with spill responses and with the development of the  
26 management system used for managing spills. Olympic recently adopted the management system

1 used by the federal and state agencies during spill responses. This change will allow Olympic to  
2 work in a “unified command” with the federal and state agencies should a spill occur.

3 Q: Let’s look at the proposed project and its contingency plan requirements. You stated that  
4 the North-South pipeline requirements are similar to the proposed project, correct?

5 A: Yes, somewhat similar. All facility contingency plans contain discussions regarding  
6 response to oil spills, the differences are in who, with what, where and how the oil spill response  
7 will be carried out. With what equipment and personnel will the oil spill be cleaned up? In what  
8 environments, rivers, streams, wetlands, and marine environments will the oil be spilled? How  
9 will the response protect sensitive areas? How will the response recover and contain the oil in a  
10 timely fashion?

11 Q: Then keeping that in mind, and drawing comparisons if and when you need to, please tell  
12 the Council what specifically Olympic will need to do to meet the “prompt and proper” language  
13 of the WAC. Olympic Pipe Line should be able to "[p]rovide for initial deployment of response  
14 equipment and personnel at the site of the spill within 1 hour of the plan holder's awareness that a  
15 spill has occurred given suitable safety conditions;" WAC 173-181-065(3)(d).

16 A: Olympic Pipe Line should "[p]rovide for initial deployment of response equipment and  
17 personnel at the site of the spill within 1 hour of the plan holder's awareness that a spill has  
18 occurred given suitable safety conditions;" WAC 173-181-065(3)(d). Olympic Pipe Line will  
19 need to purchase or contract for equipment and personnel to respond within one hour to any area  
20 that the pipeline traverses. Ecology established benchmarks for each type of facility regulated.  
21 Olympic Pipe Line must satisfy the benchmarks. The one-hour benchmark indicates that a  
22 transmission pipelines equipment capability will be evaluated on a case by case basis. The intent  
23 of the rule was that some level of prestaged equipment must be available to provide the potential  
24 for one hour deployment. Olympic Pipe Line should establish equipment staging areas so that all  
25 areas of the pipeline are reachable within one hour.

26 Q: Why is there the one-hour benchmark?

1 A: When the Oil and Hazardous Substance Bill was before the House (HB 2494), industry  
2 groups lobbied hard for Ecology to put planning and response standards in the form of guidance  
3 not in rule. In response to arguments by industry, Ecology established response benchmarks for  
4 each type of facility regulated. Olympic Pipe Line, like all of the other regulated facilities, must  
5 satisfy the benchmarks. The one-hour benchmark for transmission pipelines calls for a case-by-  
6 case evaluation of equipment capability, with some level of pre-staged equipment made available  
7 to provide the potential for one hour deployment. Since pipelines are linear in nature, the  
8 benchmarks take into consideration the difficulty of having equipment at all locations that the  
9 pipeline could impact from a spill. Nevertheless, Olympic Pipe Line should establish equipment  
10 staging areas so that the responders can reach all areas of the pipeline within one hour, and thus  
11 satisfy the WAC and the guidance in the form of the benchmarks.

12 Q: For the proposed project, how many staging areas will Olympic need to respond to spills  
13 in the inland environment?

14 A: Due to the difficult terrain that the pipeline traverses and the difficulty of reaching some  
15 of the wilderness areas, Olympic Pipe Line will probably need three or four equipment staging  
16 areas along the pipeline.

17 Q: What types of equipment will Olympic Pipe Line need to respond to spills in the inland  
18 environment?

19 A: Each staging area should have the following types of response equipment and materials:  
20 1000 feet of River boom, 1000 feet of lake boom, two shallow water portable skimmers, either a  
21 lake boat or a shallow draft river boat depending on need as determined by the waterways  
22 crossed, portable barriers to divert petroleum product, one portable tank, hoses for the pumps and  
23 skimmers, two trash pumps, five bales of sorbent pads, 40 feet of sorbent boom, one cannon and  
24 line to shoot across shallow water, personal protection equipment (“PPE”), self-contained  
25 breathing apparatus (“SCBA”), a truck and a trailer full of the above response equipment.  
26 Helicopters will probably be needed to transport personnel and equipment into remote locations

1 | where spill responses may be needed. Olympic Pipe Line must consider storing the boom and  
2 | skimmers in containers that could be slung by a helicopter if need be.

3 | Q: Will Olympic Pipe Line need to own all of the equipment you described?

4 | A: Olympic Pipe Line may contract with a primary response contractor (PRC) for the  
5 | equipment I have described. However, to date, there are no PRCs located along the pipeline  
6 | corridor with equipment that could be used for inland spill response, and arrive on scene within  
7 | one hour. If there remains no PRC at time of construction, Olympic Pipe Line must be prepared  
8 | to act as their own PRC, and be prepared to purchase and stage equipment so that it can be  
9 | deployed within one hour of notification of the spill.

10 | Q: What if Olympic has PRC resources listed in their contingency plan?

11 | A: If Olympic Pipe Line lists PRC owned resources in their contingency plan, they must be  
12 | identified by location and time to travel to various water bodies for deployment. Time must  
13 | include initial mobilization and traveling to the spill site or deployment site. PRC equipment  
14 | must be of a type that could be deployed in the various inland areas that the pipeline traverses.  
15 | Equipment such as river boom, lake boom, portable simmers, lake boats and shallow draft river  
16 | boats, portable barriers to divert the oil, portable tanks, hoses, trash pumps, cannons, PPE,  
17 | SCBA, 4x4 trucks and trailers for transportation would be effective in inland environments.

18 | Q: What other types of equipment that Olympic Pipe Line would need to respond to spills  
19 | along the pipeline corridor?

20 | A: Olympic Pipe Line must have recovery and response equipment capable of being used in  
21 | ice and snow. Most likely, this will need to be owned by Olympic Pipe Line as no other facility  
22 | in our state would need the equipment and therefore, a PRC probably would not purchase it.  
23 | Some of the equipment that would be necessary in ice and snow responses are chain saws, heat  
24 | traced portable skimmers, barriers, 4x4 vehicles, portable tanks, trash pumps and other cold  
25 | weather gear for personnel safety. This equipment would need to be put into one of the response  
26 | trailers staged in a location where ice responses could occur. This snow and ice response

1 equipment may be difficult to access in winter conditions. The passes shut down for avalanche  
2 work and the travel times over the passes increase dramatically. If Olympic were prepared to use  
3 a helicopter for responses, they may be able to enhance the time to respond to a spill in winter  
4 weather conditions.

5 Q: What about communications between Olympic located in Renton and the responders on  
6 site of a spill?

7 A: Olympic must have communication systems that are capable of working in the mountains  
8 and on the east side of the state. Olympic must demonstrate the ability to communicate with  
9 responders and the control center in Renton from all remote locations. Portable satellite  
10 receivers and transponders may be necessary. Olympic Pipe Line must have available air  
11 monitoring equipment and identify who will use it. With gasoline and diesel spills, the air  
12 around the spill can become dangerous. Before any spill response or even site entry can occur  
13 the air needs to be measured to determine if it is safe for workers and what level of protective  
14 equipment they will need to have to start a clean-up. The combustible gas indicator (“CGI”)  
15 measures the concentration of a flammable vapor or gas in the air; an O<sub>2</sub> meter determines the  
16 percentage of oxygen in the air. The CGI will indicate a lower explosive limit (“LEL”) which  
17 tells us the lowest concentration of the vapor by volume in the air that will explode or ignite if  
18 there is an ignition source. The CGI and the O<sub>2</sub> meter must be used by the first responders before  
19 site entry, as well as during the spill recovery. The first responder in many cases may be an  
20 Olympic Pipe Line employee and not the fire department. While a citizen may discover the spill,  
21 the citizen should not attempt to contain the spill. Most reports of spills are directed to the local  
22 fire department, police, or the Washington State Patrol. Ecology may be called and eventually  
23 Olympic will be called. A different scenario would take place if someone actually saw the  
24 pipeline break, and used the signage on the line to call Olympic Pipe Line.

25 Q: Have you ever seen a pipeline that has that amount of equipment available for  
26 deployment and able to do the deployment you just testified to?

1 A: Yes. Trans Mountain Pipe Line Company of Canada.

2 Q: Please describe their equipment and deployment setup.

3 A: Trans Mountain owns enough equipment that they can stage it in semi-truck trailers at  
4 locations along the 710 miles of pipeline in Canada. Trans Mountain Pipe Line has eight oil spill  
5 containment and recover units (“OSCAR”) along the pipeline that are staged approximately one  
6 and a half hours apart. In addition, Trans Mountain has access to the Western Canadian Spill  
7 Services Cooperative’s four OSCARs, as well as the Canadian Association of Petroleum  
8 Producers’ six OSCARs. Trans Mountain is also a member of Clean Sound Cooperative, Inc.  
9 based in Washington, and Burrard Clean based in Vancouver, B.C. These cooperatives provide  
10 even further assistance during a spill. Trans Mountain Pipe Line does own a helicopter. This  
11 helicopter is used to fly the pipeline once a week and to deploy equipment and personnel into  
12 remote locations.

13 Q: What is your opinion of this kind of equipment cache and deployment setup as it relates  
14 to the project proposed by Olympic?

15 A: Given the similarity between the two pipelines’ operations and risk of spill, I believe that  
16 Olympic must meet the same kind of deployment requirements and hold the same kind of  
17 equipment cache. I do not make this comparison lightly because I know the demands of storing,  
18 maintaining, and deploying equipment for a spill.

19 Q: Let’s return for a moment to the requirement of the helicopter. What is your opinion as to  
20 whether Olympic must have a helicopter for pipeline surveillance, and equipment and personnel  
21 deployment?

22 A: My strong recommendation is that Olympic Pipe Line must use helicopters for  
23 surveillance of the pipeline on a weekly bases and if spills occur for deployment of equipment  
24 and personnel and for surveillance of the spill movement. Olympic must either purchase a  
25 helicopter or have one on contract 24 hours a day, and identify pilots knowledgeable of slinging  
26 equipment into remote locations.

1 Q: What is the basis for your opinion?

2 A: The WAC requires that "Response methods covered must include: Surveillance methods  
3 used to detect and track the extent and movement of the spill" WAC 173-181-050(19)(a).

4 Much of the pipeline corridor traverses areas that have few roads for access. Even if a  
5 road for pipeline maintenance exists, a spill could travel away from the pipeline into wilderness  
6 or very rural terrain. Helicopters are preferred due to their superior visibility and  
7 maneuverability. In addition, they can fly lower than a fixed wing aircraft; they can fly in worse  
8 weather conditions than a fixed wing; and they can land in many different locations, including on  
9 the site of a spill. Moreover, helicopter surveillance of oil on the water is far superior to fixed  
10 wing surveillance. In areas of limited access, helicopters are critical for deployment of people  
11 and equipment to remote locations. This deployment of personnel and equipment takes a  
12 specially trained pilot to sling loads into specific locations without harming the recovery  
13 equipment being staged.

14 Q: Have you examined the issue of Olympic having personnel to deploy and use the  
15 equipment?

16 A: Yes.

17 Q: Please give us your opinion on this.

18 A: The WAC has specific requirements for the plan stating what personnel must be available  
19 to respond to a spill, as well as the number of personnel available to perform each type of spill  
20 response position. Pre-positioning of personnel is called staging. The staging of personnel likely  
21 will be more difficult to achieve than the staging of equipment.

22 As I testified to before, response to a spill must occur within one hour of discovering the  
23 spill. This includes actions by personnel staged along the pertinent part of the route. The  
24 contingency plan must describe initial equipment and personnel deployment activities that will  
25 accomplish the response standard of one hour, and provides an estimate of the actual execution  
26 time. It's important to understand that the term "initial deployment" was not defined in the rule

1 in order to provide flexibility to Ecology's plan reviewer given the variety of products and areas  
2 involved. However, Ecology uses several principles as guidance.

3 First, initial deployment does not mean initial mobilization. A plan must provide for  
4 some type of direct containment or diversion within the first hour. A plan that simply provides  
5 for bringing equipment to the spill site or unloading boom within one hour is not adequate.  
6 Deployed does not mean under way to the spill site. Deployment means at the site or  
7 downstream of the site and deploying equipment. Therefore, personnel must be staged in a close  
8 proximity to both potential spill sources and equipment.

9 Because the equipment must be deployed within one hour of notification of a spill, there  
10 must be enough personnel available to deploy the equipment initially and then to sustain the  
11 response until backup support is available. Olympic Pipe Line must have dedicated employees  
12 for response along the pipeline. Generally stated, Olympic must be able to respond within one  
13 hour and sustain an aggressive response until additional help arrives.

14 One option for Olympic Pipe Line is to contract with various local fire departments and  
15 labor pools for assistance if a spill should occur. If Olympic Pipe Line intends to use contract  
16 employees they should be on call and available to respond 24 hours a day, the same as an  
17 Olympic Pipe Line employee would. Olympic Pipe Line must indicate how rapidly these contract  
18 employees will mobilize to respond to a spill. Mobilization is the time it takes to get underway  
19 to the spill site including gathering resources and personnel. If the contract employees take too  
20 long to mobilize, they would not be able to meet the one-hour deployment standard. PRC  
21 employees may be counted towards the one-hour deployment if they, in fact, can reach the site in  
22 one hour. Most PRC's have a mobilization time of one hour. This includes their travel from their  
23 home to the company shop and gathering equipment. What this means is that by definition most  
24 PRC's could not meet the one-hour deployment standard. Olympic Pipe Line must consider this  
25 in the time equation.  
26

1 Q: You have spent some of your testimony describing the importance of a rapid response.  
2 How should Olympic determine response times in order to meet regulatory requirements for the  
3 new contingency plan?

4 A: Olympic Pipe Line should determine travel times to reach the spill location for dry  
5 condition, wet condition and snow or ice condition. The travel times should include the time to  
6 get to the spill site on various rivers and streams. This travel time should identify the start  
7 location and the point along the pipeline that the specific personnel could reach and begin  
8 deployment within one hour of spill notification.

9 Q: Do you have an opinion on whether Olympic Pipe Line should count on the assistance of  
10 the local fire departments for site safety and air monitoring?

11 A: Olympic Pipe Line should not rely on many of the local fire departments along the  
12 proposed pipeline corridor. This is because in the rural and mountainous regions that the  
13 pipeline traverses, many of the local fire departments may be made up of only volunteers with no  
14 full-time staff. Olympic should not rely on volunteers to respond quickly to the scene of a spill  
15 and determine air quality and evacuation perimeters. In order to determine who will be  
16 conducting air monitoring and site safety, as well as establishing evacuation perimeters, Olympic  
17 Pipe Line will need to determine the location of the various local fire departments along the  
18 pipeline route and identify their areas of responsibility and response coverage.

19 Q: Why is site safety and air monitoring important during response to a spill?

20 A: In general, site safety and air monitoring are critical to the safety of the employees of  
21 Olympic Pipe Line and any other personnel that may come into contact with the spilled  
22 petroleum product. More specifically, the Washington Industrial Safety and Health  
23 Administration requires employers to protect their employees by assessing the potential health  
24 and safety hazards at spill sites. Site safety includes looking at general site dangers such as slip,  
25 trip and fall hazards, as well as drowning, hypothermia and heat stress, and specific hazards  
26 associated with the product spilled; the potential for explosion, and lack of oxygen due to the

1 product vapors. Site safety extends to the general population when the product moves beyond  
2 the initial spill site and impacts private or public areas. Evacuations may need to occur if the  
3 product is moving towards a population center and the vapors are still dangerous to human  
4 health.

5 Q: You have testified mostly about Olympics' role in the spill scenario. However, are there  
6 other persons that Olympic would need to notify besides the regulatory community in case of a  
7 spill from the pipeline?

8 A: Notification Protocols for local citizens should include fish hatcheries, water users, tribes,  
9 and landowners. If a spill is in a particular waterway, all of the potential waterusers should be  
10 identified and notified. Petroleum products in a fish hatchery would probably cause significant  
11 damage to the juvenile fish. Petroleum in the drinking water or irrigation water could also cause  
12 significant damage. The tribes may or may not allow access across their lands for response, so  
13 notification is vital to planning their response strategies. Landowner notification may aid in  
14 gaining access to land adjacent to a spill site. If the landowner is unwilling to allow access many  
15 counties have emergency access ordinances that can be activated. However, it is always  
16 preferable to attempt to gain access through the landowner. All of this should be part of the  
17 approved contingency plan.

18 Q: You have testified to the personnel and equipment required in order to be able to respond  
19 rapidly and effectively. Why do we care, other than meeting legal requirements that Olympic  
20 perform as the law requires?

21 A: The purpose or policy of responding with all of the personnel and equipment in a timely  
22 and effective manner is to protect human health and the environment. In this proposed project,  
23 the pipeline may impact many unique and sensitive areas. These include many rivers and  
24 streams home to critical salmon habitat, public resources (such as the Gingko petroglyphs, and  
25 the John Wayne Trail), water intakes, drinking water supplies and other public lands.

26 Q: Do you rely on parts of the WAC to support this policy?

1 A: Yes. The WAC specifically requires that the contingency plan identify and provide  
2 protection strategies for public resources including public beaches, water intakes, drinking water  
3 supplies, and marinas. Each plan must describe how environmental protection will be achieved  
4 including protection of sensitive shoreline and habitat by diverting or blocking oil movement.  
5 Olympic Pipe Line should address this requirement in terms of developing and implementing the  
6 appropriate collection, and deflection strategies to protect the resources identified. Olympic Pipe  
7 Line must also address the amount and type of boom necessary to accomplish the proscribed  
8 strategies and its availability to implement the appropriate protection for sensitive resources.

9 Q: If a spill occurs in a waterway, are there requirements for determining what part of the  
10 waterway is the highest priority for protection from the spill?

11 A: Yes. Olympic will need to develop as part of the contingency plan a series of Geographic  
12 Response Plans (“GRPs”). These GRPs will establish the environmental protection strategies  
13 and response priorities for each waterway, as approved by the Department of Ecology. The  
14 WAC requires that the plan include priorities for sensitive area protection in the geographic area  
15 covered by the plan. The Department of Ecology, the United States Coast Guard and the  
16 Environmental Protection Agency have developed GRPs for marine and some inland waterways.

17 Q: How does Olympic determine what the response priorities are in a given waterway?

18 A: Much of the area that the project traverses does not have established GRPs and thus,  
19 Olympic will need to develop the response priorities and get them approved by the Department  
20 of Ecology as part of the contingency plan approval process. Olympic Pipe Line will need to  
21 determine response priorities for each river, lake and stream including downstream locations for  
22 clean-up in all weather conditions and product types. These response priorities will need to be  
23 developed by Olympic Pipe Line and approved by the Department of Ecology and the other  
24 resource trustee agencies with jurisdiction on the pipeline corridor. Olympic Pipe Line will also  
25 need to include in the plan a list of the environmental variables within the geographic area  
26 covered by the plan, including natural resources. Under the WAC, natural resources are defined

1 to include coastal and aquatic habitat types and sensitivity by season, breeding sites, presence of  
2 endangered or threatened species, and presence of commercial and recreational species.

3 A few special needs issues for Olympic Pipe Line to address are:

- 4 (1) identification of salmon habitat locations and protection strategies for each of  
5 those locations as well as the worst case spill volumes for all product types that  
6 could impact the specific habitats;
- 7 (2) determination of the worst case spill volumes for all product types at Ginkgo State  
8 Park, as well as response strategies and potential for recovery and remediation  
9 strategies; and
- 10 (3) determination of the worst case spill volumes for all product types that could spill  
11 in the Snoqualmie Tunnel on the John Wayne Trail, as well as response strategies  
12 and potential for recovery and remediation strategies.

13 Q: How detailed does Olympic Pipe Line need to be in their discussion of how they intend to  
14 recover and contain the spilled oil?

15 A: Very detailed. The WAC requires that "[e]ach plan shall describe, in detail, methods to  
16 contain spilled oil and remove it from the environment." WAC 173-181-050(19). "Methods to  
17 contain and remove oil in near-shore waters, including shoreline protection procedures and oil  
18 diversion/pooling procedures." WAC 173-181-050(19)(c). Olympic Pipe Line must describe the  
19 protection and recovery strategies within the scope of the facility plan as well as the equipment  
20 and personnel available to accomplish those strategies. Response strategies for all rivers, lakes  
21 and streams that the pipeline crosses must be developed by Olympic Pipe Line and approved by  
22 the Department of Ecology.

23 Q: Will the strategies to recover and contain oil spilled need to consider geographic features  
24 and accessibility?

25 A: Yes. The WAC requires inclusion of "[p]hysical geographic features, including relative  
26 isolation of coastal regions, beach types, and other geological characteristics." WAC 173-181-  
050(30)(c). The purpose of this information is to guide allocation of spill response resources.  
The plan should briefly describe the geographic layout of the planning area, such as access to  
rivers, quantity of shoreline, and presence of wetlands. If certain regions within the plan area are

1 inaccessible by land or water, this should be in the plan. Access and staging areas must be  
2 considered in the description of the protection and recovery strategies. Accessibility to spill  
3 impact areas during freezing conditions must be included. Access points to lakes, rivers and  
4 streams, downstream of a potential spill site for deployment of response equipment must be  
5 included in the discussion of response times and response strategies.

6 Q: Will Olympic Pipe Line provide a detailed map of the pipeline to aid in response to oil  
7 spills?

8 A: Yes. Olympic Pipe Line will need to submit a map of the geographic area covered by the  
9 plan including a "written description and map indicating site topography, stormwater and other  
10 drainage systems, mooring areas, pipelines, tanks, and other oil processing, storage, and transfer  
11 sites and operations." WAC 173-181-050(29). This map will be very large, but will prove  
12 invaluable during spill responses. The creeks and rivers and lakes and their outfalls should be  
13 shown in enough detail to show access and staging areas in order to help facilitate a spill  
14 response.

15 Q: What information will be needed regarding the seasonal climatic environment of the  
16 pipeline?

17 A: The WAC requires that "[s]easonal hydrographic and climatic conditions" be included in  
18 the plan. WAC 173-181-050(30)(c). Plans must provide information for each season on  
19 maximums, minimums, and averages for wind speed and direction, visibility and day length,  
20 current speed and direction, and tidal fluctuations. This information may be general for the  
21 planning area, but for the navigable waters immediately adjacent to a facility, specific  
22 information should be available. The purpose of this information is to allow for a rough estimate  
23 of oil movement and cleanup feasibility given a discharge in a certain season. Speed and water  
24 level in high and low season of all rivers and streams should be included, as well as seasonal  
25 water levels of all of the lakes that could be impacted by the pipeline. In addition, Olympic Pipe  
26 Line must include the winter freezing potential of all lakes, wetlands, rivers and streams that

1 could be impacted by the pipeline. Typical weather, including wind direction, inches of rain,  
2 inches of snow and temperature seasonally for each area that the pipeline crosses as defined by  
3 type, (e.g., mountain, desert, low lands, uplands, park lands) should be included in the plan.

4 Q: How should Olympic Pipe Line determine the Worst Case spill volume for the pipeline?

5 A: While the WAC does not define the worst-case spill volume for an oil pipeline, Ecology  
6 has informally adopted the U.S. Department of Transportation, Office of Pipeline Safety  
7 (“USDOT”) method for determining worst-case spill volume determination. Ecology adopted  
8 the USDOT method to remain as consistent as possible with another agency that regulates the  
9 same pipelines. USDOT defines the worst-case discharge volume as the largest volume  
10 determined from three different methods: 1) the pipelines maximum release time plus the  
11 maximum shutdown response time multiplied by the maximum flow rate per hour, plus the  
12 largest line drainage volume after shutdown; 2) the maximum historic discharge from the  
13 pipeline; and 3) the largest single breakout tank or battery of breakout tanks without a single  
14 secondary containment system.

15 Q: Where will Olympic Pipe Line manage the spill response?

16 A: As required by rule, Olympic will manage the spill response from a command post. The  
17 WAC requires that the contingency plan include “a central command post.” WAC 173-181-  
18 050(15)(a). Olympic Pipe Line must identify command post locations and capabilities including  
19 space, telephone access, food and lodging for management staff and response workers along the  
20 pipeline route. Management of a spill is very difficult and may be nearly impossible if the  
21 command post is not located in the same vicinity as the spill site. An incident command post  
22 (“ICP”) is necessary for every incident or event. This is the location that supports all core  
23 response activities and is where the incident commander/unified command oversees all incident  
24 objectives. When determining the location criteria or the location for the ICP or central  
25 command post Olympic Pipe Line will need to determine whether the location is capable of  
26 handling numerous response personnel, the media, citizen groups, and communications needs,

1 such as multiple phone lines, as well as computer modems and radio capabilities. This site  
2 should be located near the source of the spill.

3 Q: Did you review the spill scenarios submitted by Olympic in the application?

4 A: Yes.

5 Q: Did you find those scenarios accurate for determining spill volume or spill response  
6 capabilities along the new project route?

7 A: No. The scenarios do not contain the information required by the WAC, nor do they  
8 realistically portray Olympic's current capabilities in spill response.

9 Q: Generally, what information do spill scenarios contain?

10 A: Each plan must describe detailed, plausible, step-by-step response scenarios for a small  
11 oil spill less than five hundred gallons and a worst case spill (with the volume determination  
12 using USDOT guidelines described earlier). Each scenario description shall include the  
13 following:

- 14 (1) the circumstances surrounding the spill, including size, type, location, the climatic  
15 and hydrographic conditions, time and cause;
- 16 (2) an estimate of oil movement during the first seventy-two hours, including likely  
17 shoreline contact points; and
- 18 (3) an estimate of response time and percent recovery for each major phase of the  
19 operation.

20 Q: How would you compare these requirements with the scenario information Olympic has  
21 put into the application for the project?

22 A: Generally, the scenarios were lacking or incorrect in the information regarding  
23 equipment, personnel, and methods of deployment. Specific examples include:

- 24 (1) The scenarios were lacking in terms of timely response. Olympic arrived on scene  
25 from 1-6 hours after notification. In most of the scenarios, arrival time was  
26 approximately 1-1/2 hours after notification. As I indicated in my earlier  
testimony, arrival on scene is not the same as beginning to deploy response  
equipment within one hour.

- 1 (2) Air monitoring was generally conducted by local fire departments. This may not  
2 be realistic given the rural and wilderness areas that the pipeline traverses.  
3 Olympic needs to verify which fire departments have air monitoring capabilities  
4 along the pipeline route.
- 4 (3) The worst case spill volumes were not determined using the USDOT method I  
5 testified about earlier.
- 6 (4) The ownership or existence of the response equipment deployed was not  
7 established. The personnel used to deploy the equipment were not identified. The  
8 initial location of the contractor personnel and equipment were not identified. No  
9 actual mobilization and arrival times for equipment and personnel were  
10 established. Olympic would need to identify specific PRCs available to respond  
11 inland rather than presuming that the capability to respond exists. Olympic should  
12 be willing to act as their own PRC if needed, increasing staff and purchasing the  
13 necessary response equipment.
- 11 (5) Many of the actions taken in the scenarios were not plausible. For example, in  
12 one gasoline spill the spilled product is recovered using a skimmer. This is highly  
13 unlikely given the explosive nature of gasoline. In many of the scenarios, Olympic  
14 allowed much of the product to evaporate. This may not be the most appropriate  
15 action to be taken. Allowing the product to evaporate merely removes it from the  
16 water and puts it into the air, whereas removing the product from water allows for  
17 the possibility of reuse, recycling or proper disposal. Ecology would recommend  
18 using absorbent pads on gasoline whenever it is safe to do so rather than merely  
19 allowing the product to evaporate. In most of the gasoline scenarios Olympic was  
20 trenching and berming the soil around the spill site to prevent further  
21 contamination off site. This might be acceptable, however, air monitoring must  
22 have occurred. Olympic has the local fire department clearing the site for  
23 workers' safety, and, as discussed earlier, this may not occur in many of the areas  
24 where the pipeline may spill.
- 20 (6) For any of the scenarios, Olympic did not describe the 72 hour oil movement  
21 including shoreline impacts and sensitive area impacts. This is critical in  
22 determining how much response equipment is necessary to protect the valuable  
23 environment of Washington State.
- 23 (7) Lastly, Olympic did not include recovery estimates for the various phases of the  
24 spill response. This information is critical when determining whether the type and  
25 kind of recovery devices are appropriate for the types of environments that the  
26 facility could impact from a spill.

Q: What do the scenarios that Olympic submitted in the application lead you to believe?

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A: That Olympic does not recognize the need for an aggressive response to inland spills. Olympic in nearly all of the scenarios indicated that they would not even be on scene within one hour. In many cases, arrival on scene did not occur for 2-6 hours. Olympic must establish a more aggressive response organization capable of beginning deployment of spill response equipment within the one-hour response standard. If they pre-stage personnel and equipment along the pipeline and used helicopters for deployment they will be able to make a good faith effort to comply with the requirements of the WAC.

DATED this \_\_\_\_\_ day of March, 1999.

\_\_\_\_\_  
ELIN A. STOREY