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5 **BEFORE THE WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL**

6 IN RE APPLICATION NO. 99-1
7
8 SUMAS ENERGY 2 GENERATION
9 FACILITY

PREFILED TESTIMONY OF
CURT LEIGH (WDFW)

EXHIBIT CSL-T

10 1. Q. Please state your name and business address.

11 A. Curt Leigh, Washington Department of Fish and Wildlife, 600 Capitol Way,
12 Olympia Washington.

13
14 2. Q. Where are you employed and in what capacity?

15 A. I am employed by the Washington Department of Fish and Wildlife as a Fish and
16 Wildlife Scientist, assigned to the Major Projects Division of the Habitat Program.

17
18 3. Q. What is the subject of your testimony to the Council?

19 A. My testimony will explain my background and experience, describe my on-site
20 observations of the wetlands at the facility site for the proposed Sumas 2 project, explain the
21 importance of wetlands to fish and wildlife resources, comment on the wetlands mitigation
22 proposed by Sumas 2, and make some mitigation suggestions.

23
24 4. Q. Please summarize your professional experience.

25 A. I've been employed by the Washington Department of Fish and Wildlife for
26 twenty years, primarily in the areas of habitat protection and energy development. I've

1 participated in the development and implementation of measures to protect and mitigate for
2 impacts on fish and wildlife from a wide variety of development proposals, including
3 hydroelectric dams; gas combustion facilities; wind farms; nuclear plants; gas drilling
4 operations; water, gas and oil pipelines; transmission lines; irrigation projects; dredging for
5 navigation and flood control; gold and gravel mine development; highway construction; port and
6 marina development; and private, state and federal timber management. A copy of my resume is
7 provided as Exhibit CSL-1.

8
9 5. Q. What are your current responsibilities at the Department of Fish and Wildlife?

10 A. In the Major Projects section, I represent the Department in proceedings involving
11 large-scale developments or construction projects, including energy production facilities. My
12 duties include identifying natural resources, describing development related impacts to those
13 resources, and working with project sponsors to implement mitigation measures that will reduce
14 those impacts and replace unavoidable losses to fish and wildlife and their habitat. If the
15 Department is unable to protect and mitigate for impacts to wildlife resources through negotiated
16 settlement, I represent the Department's position as an expert witness.

17
18 6. Q. Have you previously reviewed projects proposed to EFSEC?

19 A. Yes.

20
21 7. Q. Which projects did you review?

22 A. I was the lead WDFW staff representative for Energy Northwest's natural gas
23 fired Combustion Turbine which was approved for construction at Satsop, and for two crude oil
24 pipeline proposals, one proposed by the Northern Tier Pipeline Company and another proposal
25 by Trans-Mountain Pipeline Company.

1 8. Q. Did those projects include wetlands impacts and mitigation?

2 A. They all included pipeline and facility construction, with wetland impacts. For
3 various reasons the two crude oil proposals were not approved by EFSEC. For the Satsop
4 Combustion Turbine Project, WDFW negotiated and signed a stipulated agreement with Energy
5 Northwest and Department of Ecology. Mitigation measures were included in that agreement to
6 protect and restore fish and wildlife. Those measures included specific wetland mitigation and
7 replacement ratios, which supplemented the measures proposed by Energy Northwest in their
8 application to EFSEC.

9
10 9. Q. When did you become involved with the Sumas Energy 2 proposal?

11 A. I have been involved with this proceeding since February 1999, when Sumas
12 Energy 2 (SE2) filed the original Application for Site Certification Agreement with EFSEC for
13 this project.

14
15 10. Q. Have you reviewed any material regarding the proposal?

16 A. I have reviewed both the original and revised Application for Site Certification
17 Agreement, the draft Environmental Impact Statement, and the Corps of Engineers Public
18 Notice. I have also reviewed the pre-filed direct testimony of Katy Chaney and John Wong.

19
20 11. Q. Have you visited the site of the proposed project?

21 A. Yes.

22
23 12. Q. Please describe the site visit and what you observed regarding the wetlands on the
24 site.

25 A. I visited the project site, and selected locations along the pipeline and the
26 transmission line routes on April 15, 1999. The weather was clear and the area had not received

1 any measurable rainfall in more than a week. I arrived around noon and walked the entire site to
2 review the extent of the wetland habitats described in the Application submitted to EFSEC.
3 While on site I also looked for fish and wildlife habitat and any evidence of use of that habitat. I
4 was surprised by the extent of standing water on areas that had been characterized in the
5 Application as “prior converted wetlands” and not included in the calculation of wetland impacts
6 and associated mitigation.

7 I took photographs during my visit, which are provided in Exhibit CSL-2. My
8 observations can best be understood by reference to the photographs and to Exhibit CSL-3.
9 Exhibit CSL-3 is based on Exhibit KC-3, filed with Katy Chaney’s testimony, which shows the
10 wetland fill and mitigation area identified by the Applicant. I have marked in red the location
11 where I took each photograph and the direction in which the picture was taken.

12 Photograph No. 1 shows some open water on the proposed project site in an area that is
13 not identified as a wetland in the Application. The photo was taken from the west side of the site
14 looking northeasterly. The left side of the photo also shows a channel in the area that the
15 application characterized as a farmed wetland.

16 Photograph No. 2 shows a better view of the channel that runs in a generally north-south
17 orientation at the west edge of the project site. The edge of the forested wetland is also visible
18 on the left side of the photo.

19 Photograph No. 3 is a view of the channel that enters the site from the south and crosses
20 the site in a generally east-west orientation. This view is generally southwesterly. Standing
21 water is visible in the upper left portion of the photo. The standing water is approximately in the
22 location of the proposed storm water retention facility shown in the Application.

23 Photograph No. 4 shows the eastern edge of the project site. There is a shallow ditch
24 covered by grass that is oriented in a north-south direction located adjacent to the line of trees.
25 Some standing water is visible in the agricultural field on the left side of the photo.

1 Photograph No. 5 is a view from the northeastern edge of the proposed project site
2 looking southwesterly across the site. Unfortunately the photo is dark, but it does a good job of
3 showing standing water in the agricultural field. The adjacent forested wetland is visible in the
4 background. All the lighter patches are caused by the sun reflecting off of standing water.
5

6 13. Q. Is the area or size of the wetlands you observed on the project site determined by
7 the area of open water?

8 A. No. Wetland size is normally determined by a wetland delineation. There does
9 not have to be standing water for the area to be determined to be a wetland. But the standing
10 water present during mid-April, which is more than two weeks into the growing season,
11 establishes that wetlands exist on the site that, at a minimum, are as big as the open water areas.
12

13 14. Q. Did you see any wildlife using the wetland habitat during your site visit?

14 A. Yes. I saw approximately two dozen ducks, mostly mallards, using the open
15 water shown in Photograph No. 1. As I walked around on the site, they would flush into the air
16 whenever I came too close. They would circle in the air until I walked away from the open
17 water site that they were using, then they would return. This pattern occurred several times.
18

19 15. Q. What does that behavior indicate to you?

20 A. The feeding and resting behavior exhibited by the ducks when they were not
21 disturbed and their tendency to return to the site indicates that the open water habitat is both
22 desirable and important. Otherwise they would have flown away when I flushed them off the
23 water.
24
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26

1 16. Q. What would be the impact on the ducks if the open water wetland they were using
2 was filled?

3 A. The loss of suitable habitat would force them to leave the site. Immediately, they
4 would look for other suitable, unoccupied habitat. Depending on the availability of such habitat,
5 some, or all of them could die.

6
7 17. Q. Did you see any other wildlife using the wetlands?

8 A. Yes, I saw approximately 10 shorebirds, both killdeer and dunlin, using shallow
9 water wetlands located just south of the area shown in Photograph No. 4.

10
11 18. Q. Has Sumas 2 designated the wetlands shown in your photographs as wetlands?

12 A. I don't believe so. The north-south oriented ditches and the extensive ponding
13 that I found throughout the site were not identified in the SE2 material I reviewed. The
14 application submitted to EFSEC identified only 1.9 acres of wetland. The wetland areas
15 identified by SE2 are limited to a small area on the extreme northwest side of the site near the
16 forested wetland and the area within the east-west oriented ditch that crosses the site.

17
18 19. Q. How many acres do you estimate the wetlands in your photographs cover?

19 A. I did not conduct a wetland delineation, but it would be significantly more than
20 the 1.9 acres identified by the Applicant.

21
22 20. Q. Please explain generally the importance of wetlands to fish and wildlife.

23 A. One value provided by wetlands is production and maintenance of the public's
24 fish and wildlife resources. Wetlands and their buffers are essential for wildlife. The complex
25 interface of land and water is used to meet life needs by 85% of terrestrial wildlife species in
26 Washington. Wetlands and the uplands adjacent to them form a physical, hydrologic, chemical,

1 and biologic system. Native fish and wildlife populations have evolved with this system and
2 take advantage of the interactions.

3 Wetlands are a designated Washington State Priority Habitat due to their importance to a
4 variety of wildlife species including waterfowl, passerines, amphibians and reptiles during part
5 or all of their life histories. Wildlife use of wetlands includes breeding activities, reproductive
6 development, feeding, temperature regulation, and use as a secure resting location. In addition,
7 these habitat types fulfill a critical function in maintaining aquifers and groundwater quantity
8 and quality, intercepting and retaining surface runoff preventing flooding, and other vital
9 functions. Properly functioning wetlands are declining throughout the world, nationally and in
10 Washington State. In a 1990 report on Wetlands and Deepwater Habitats in the State of
11 Washington, D.D. Peters estimated a 31% loss of wetland habitat in Washington State from pre-
12 settlement conditions.

13 Wetland buffers are a vital component of wetland habitat. Native wildlife depends upon
14 plant communities and their associated physical structures both inside and adjacent to the
15 wetland. Wetland dependent wildlife such as salamander, waterfowl, beaver, and mink use the
16 adjacent uplands to meet essential life needs. They are dependent on both the wetland and the
17 adjacent uplands. The buffer zones are areas where individual animals have the necessary
18 separation and interspersions to reduce competition and maintain populations. When land use
19 changes and the buffer gets narrower, the wetland becomes more susceptible to loss of habitat
20 function and productivity. Remaining wetland wildlife are more concentrated and more
21 vulnerable to disease and predation.

22
23 21. Q. Is there anything unique about the wildlife habitats found on the site?

24 A. Wherever they are located, wetlands provide important wildlife functions, and the
25 chronic rate of conversion of wetland habitat to other uses increases the value of the remaining
26 wetlands, even those that are currently in a degraded condition. In addition, the proposed project

1 is located on what is called the Pacific Flyway. The Pacific Flyway is one of the international
2 corridors of important habitat for millions of migratory birds.

3
4 22. Q. The Applicant has not included prior converted cropland (PC wetlands) in its
5 calculation of wetlands that will be impacted by filling. Ecology does include PC wetlands.
6 (See testimony of Erik Stockdale, ECS-T.) From the perspective of value to wildlife, does it
7 matter whether wetlands are labeled “PC” or “biological wetlands”?

8 A. No. These labels have been created for regulatory purposes. The value of
9 wetlands for wildlife is viewed from a biological perspective. Open water habitat provides equal
10 value to waterfowl whether it occurs in a PC wetland or a biological wetland, and filling open
11 water habitat in either type of wetland results in the same impact.

12
13 23. Q. John Wong has testified that the farmed wetland and wetland ditch identified as
14 wetlands by the Applicant “have low value for wildlife habitat because, among other things,
15 there is not significant open water and the quality of the wetland is low.” Exhibit JW-T, p. 6.
16 Do you agree with Mr. Wong?

17 A. My observations during my site visit were that there was significant open water
18 on the site and active use of that open water by ducks and shorebirds. I agree that the quality of
19 these wetlands has been reduced, but the potential to restore or enhance the wetlands remains.
20 Restoration or enhancement is far more successful than creation of wetlands to replace these
21 once they have been filled.

22
23 24. Q. How would construction and operation of the proposed project affect the
24 wetlands?

25 A. According to the Application to EFSEC, the entire site will be filled to raise the
26 level of the power generation facility several feet to ensure that the developed site is one foot

1 above the flood level. All wetland habitats within the footprint of the facility would be filled and
2 lost.

3
4 25. Q. Has the Applicant prepared an adequate mitigation plan for impacts to wetlands?

5 A. No. First, they have failed to identify all the wetlands on the project site that
6 would be filled during construction. Second, all wetlands potentially impacted by this project
7 must have adequate protection or the Applicant must mitigate for those wetland impacts. Lastly,
8 the mitigation plan is inadequate in that it includes no commitment to address the costs of long-
9 term management of the mitigation lands or the proposed conservation easement.

10
11 26. Q. Has Sumas 2 proposed to mitigate for impacts to the wetland areas shown in your
12 photographs?

13 A. They only discussed mitigation for the 1.9 acres of wetland habitat impact that
14 they identified in the application.

15
16 27 Q What can be done about the impacts to the wetlands?

17 A. For all development projects WDFW recommends the use of the principles of
18 impact assessment and mitigation. In descending order of preference, those principles can
19 generally be stated as follows: 1) Avoid the impact wherever possible; 2) Minimize the impact;
20 3) Provide on-site, in-kind replacement mitigation; 4) Provide off-site compensatory mitigation.

21 From our perspective a successful project will include the following components:

- 22 1. Identification and implementation of measures to protect fish and wildlife and their
23 habitat including measures to fully restore or replace resources that experience
24 unavoidable impacts.

1 2. Application of monitoring techniques and adaptive management measures to ensure
2 that natural resource protection and enhancement measures are retained over time and
3 continue to provide the intended benefits.
4

5 28. Q. Should EFSEC require Sumas 2 to adhere to these principles in assessing impacts
6 and providing mitigation for those impacts?

7 A. Yes.
8

9 29. Q. Are there similar concerns for protection and mitigation for wetlands along the
10 gas pipeline and the transmission lines?

11 A. Yes, we propose that Sumas 2 apply the above identified principles of impact
12 assessment and mitigation to the wetland habitats located on the pipeline and transmission line
13 right of ways. Our objective is to ensure that fish and wildlife impacts caused by major
14 development projects are identified and avoided or minimized. To the extent impacts do occur,
15 the Applicant should provide replacement or compensatory mitigation. The overall goal is to
16 ensure that priority habitats are protected and restored. Some of our concerns with the pipeline
17 and transmission line impacts were resolved in the stipulated agreement already filed with
18 EFSEC. For example, the agreement precludes all placement of excavated material in wetlands
19 and riparian areas, specifies stream crossing construction methods, and defines the seasons in
20 which work would occur in wet areas.
21

22 30. Q. What plant species should be included in the restoration and enhancement plans
23 for wetland habitats in and near the project site?

24 A. Suggested native plant species for revegetation, restoration or enhancement of
25 wetland habitats in the Sumas area include: Black cottonwood, Red alder, Salmonberry, Scouler
26 willow, Pacific willow, Red-osier dogwood, Slough sedge, and Tall mannagrass. Native plant

1 species suggested for use in emergent wetlands include: Slough sedge, Beaked sedge, Spike
2 bentgrass, Bluejoint reedgrass, and Northern mannagrass. Native plant species suggested for use
3 in wetland buffers includes: Western hemlock, Western red cedar, Black cottonwood, Red alder,
4 Vine maple, Wild rose, Salmonberry, Scouler willow, Bearded fescue, Hair bentgrass, and
5 Native bluegrass (*Poa nervosa*).

6
7 31. Q. If sufficient area does not exist on the proposed site to mitigate for unavoidable
8 wetland impacts, are there other suitable locations for wetland restoration and enhancement
9 activities?

10 A. In addition to wetland enhancement efforts on the undeveloped portion of the
11 property and permanent preservation of the forested wetland, we would suggest that restoration
12 and enhancement measures be implemented in areas near the impact site that can be permanently
13 protected. One possible example involves the existing channel that crosses the site and directs
14 water into a culvert on the east side of the site. That culvert passes under an adjacent industrial
15 site and under a railroad line. It then flows in a channel across an undeveloped field and into
16 Sumas and Johnson Creeks. The water conveyance channel located between the end of the
17 culvert on the east side of the railroad and the confluence with Johnson creek provides an area
18 that could be suitable to implement an off site wetland mitigation plan.

19
20 32. Q. According to the testimony of John Wong, the Applicant, at the request of EPA,
21 redesigned the stormwater detention pond to incorporate wetland features. (JW-T, p. 13). Have
22 you analyzed the redesigned stormwater detention pond to determine whether it is preferable to
23 the original design with respect to fish and wildlife?

24 A. Not completely. Although the Applicant has provided a schematic drawing of the
25 redesign, I was not provided with any analysis of the effect of the redesigned stormwater
26 detention pond on the water quality of the discharge from the pond nor the ability of the structure

1 to retain water for permanent open water habitat for wildlife. What I do know from the
2 information provided is that the redesigned stormwater detention pond will result in more
3 wetlands being filled thus increasing the impacts to wetlands and the mitigation required.

4 DATED this 23rd day of June, 2000.

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6 CURT LEIGH
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