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5 BEFORE THE STATE OF WASHINGTON
6 ENERGY FACILITY SITE EVALUATION COUNCIL
7

8
9 IN RE APPLICATION NO. 2002-01

EXHIBIT 28.0 (ADE- T)

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11 BP WEST COAST PRODUCTS, LLC

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15 BP CHERRY POINT COGENERATION
16 PROJECT
17
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21 **APPLICANT'S PREFILED DIRECT TESTIMONY**

22
23 **A. DAVID EVERY, Ph.D.**

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26
27 **Q. Please state your name and business address.**

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29 A. A. David Every. My address is URS Corporation, 1501 – 4th Avenue, Suite 1400,
30 Seattle, WA 98101.
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35 **Q. What topics will you address in your testimony?**

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37 A. My testimony will address the following topics:

- 38
39 1. My background, experience and role in connection with this project.
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41 2. The project's impacts on wetlands.
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43 3. The wetland mitigation proposal.
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45 4. The implementation and monitoring of the mitigation proposal.
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EXHIBIT 28.0 (ADE-T)
A. DAVID EVERY
DIRECT TESTIMONY - 1
[SL032580243.DOC]

PERKINS COIE LLP
1201 Third Avenue, Suite 4800
Seattle, Washington 98101-3099
(206) 583-8888

Background and Experience

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3 **Q. What is your position at URS Corporation?**

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5 A. My title is Principal Ecologist. I manage the biologists in the Seattle office.
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7 Collectively, we conduct studies and write the documents needed to address wetland
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9 regulation requirements (delineation reports, mitigation plans and permit
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11 applications), Endangered Species Act consultation (biological assessments), various
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13 permit requirements, and biological impact assessments for SEPA and NEPA. I
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15 often serve as a project or task manager, and provide senior review of my staff's
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17 work.

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21 **Q. Could you describe your background and experience?**

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23 A. I received a bachelor's degree in zoology and a master's degree in botany from the
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25 University of Utah. My Ph.D. is in botany from the University of Washington. I
26
27 have worked as an environmental consultant for more than 25 years, and have
28
29 focused on wetland issues since 1988. I have had one to six staff members working
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31 directly with me on wetland matters during that time. We have conducted hundreds
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33 of wetlands studies, including delineations and delineation reports, permit
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35 applications, mitigation plans, monitoring and monitoring plans, inventories, and
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37 negotiated agreements. I have worked on projects ranging from small residential or
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39 commercial developments to municipal utilities, roads, pipelines, transmission lines,
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41 mines and electric power plants.

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45 A copy of my resume is attached as **Exhibit 28.1** (ADE-1)

1 **Q. Have you provided expert testimony regarding wetlands before?**

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3 A. Yes. I have provided expert testimony in three previous EFSEC proceedings, and in
4 several other proceedings in state and federal court and before local land use
5 councils and boards.
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10 **Q. Can you explain your role in connection with the BP Cogeneration Project?**

11 A. My work on the BP Cogeneration Project began in 2001, soon after Golder
12 Associates started the studies for the EFSEC application. BP retained URS to
13 review Golder's work on the wetland permits, and to develop a wetland mitigation
14 plan. I have been the task leader for URS. In this role, I have reviewed Golder's
15 wetland delineation reports, alternatives analysis, biological evaluation, and other
16 interim products and have provided comments. I attended meetings with regulatory
17 agencies, including field meetings for verification of wetland delineations. I
18 supervised and directly contributed to URS' mitigation plan activities and
19 documents, including the search for and justification of the selected mitigation areas,
20 the delineation reports documenting existing wetlands on the mitigation area, and
21 each draft of the mitigation plan.
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Impacts to Wetlands

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3 **Q. Can you explain the impacts to wetlands that would result from the**
4 **construction and operation of the BP Cogeneration Project?**
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7 A. Yes. The Cogeneration Project will impact wetlands at both the Project site and the
8 Laydown Areas. Some of the impacts are temporary, and others are permanent fills.
9 Both the Project site and the Laydown Areas are shown on **Exhibit 28.2** (ADE-2).
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14 The Cogeneration Project site itself, including access roads, is 33.17 acres in size.
15 According to the delineation performed by Golder, 11.91 acres of the project site are
16 wetlands, and construction of the project would require the permanent fill of those
17 wetlands.
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24 The Project will also require 36 acres for construction staging and materials storage,
25 which are identified as Laydown Areas 1, 2, 3 and 4. Taken together, the Laydown
26 Areas will result in temporary impacts to 4.86 acres of wetlands, and the permanent
27 fill of 18.6 acres of wetlands. Specifically, Laydown areas 1 and 3 contain about 9.9
28 acres of wetlands that will be permanently filled. Laydown area 2 contains 13.4
29 acres of wetlands, 8.75 of which will be permanently filled and 4.66 of which will be
30 restored following construction. Laydown area 4 contains 0.2 acre of wetlands,
31 which will be temporarily disturbed during construction but then restored and
32 enhanced.
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1 The total wetland impacts are summarized in the following table:

2 **TABLE 1**
3 **EXPECTED WETLAND IMPACTS**

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5 Project Area	6 Area of Permanent Wetland Fill (acres)	7 Area of Temporary Wetland Fill (acres)
8 Cogeneration Facility ¹	9 11.91	10 0
11 Lay-Down Area 1	12 4.39	13 0
14 Lay-Down Area 2 ²	15 8.75 ³	16 4.66
17 Lay-Down Area 3	18 5.46	19 0
20 Lay-Down Area 4	21 0	22 0.20
23 Total	24 30.51	25 4.86

26 ¹ This area includes the power plant, Detention Pond 1, the two access roads, and the northernmost 300 feet of the maintenance road.

27 ² The area for Lay-Down Area 2 includes Detention Pond 2.

28 ³ The permanent wetland impact area includes the walking path that will traverse the West Restoration Area.

29 **Q. What types of wetlands will be impacted by the project?**

30 A. The wetlands impacted by the project are low quality, historically degraded
31 wetlands. Most are fallow pasture dominated by grasses and grass-like plants and
32 therefore called palustrine emergent wetlands. Approximately 1.69 acres are
33 considered palustrine forested wetland, dominated by hybrid poplars that BP planted
34 to harvest as a fiber crop. All of the affected wetlands have been farmed in the past,
35 and the natural hydrology has been disrupted by historic drainage ditches installed
36 for agricultural purposes and roads. Most of the wetlands are now dominated by
37 non-native pasture grasses such as, tall fescue, colonial bent grass, velvet grass, and
38 reed canary grass.
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1 **Q. Using the Department of Ecology's rating system, what "category" are the**
2 **wetlands that will be impacted by the project?**
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5 A. The Department of Ecology uses a rating system with four categories of wetlands.
6 Under the system, Category I wetlands are considered the most valuable, and
7 Category IV are considered the least valuable. All of the wetlands affected by the
8 Cogeneration Project are Category III wetlands.
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14 **Q. Can you describe the value of the wetlands that are impacted?**

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16 A. I would describe the wetlands that are impacted by the project as low quality
17 wetlands that have a long history of being disturbed and manipulated by farming
18 activities. Although they perform some wetland functions, that performance occurs
19 at fairly low levels. In particular, many of these wetlands are dominated by
20 monoculture patches of invasive non-native vegetation, which provides relatively
21 poor habitat, and the natural hydrologic pattern has been significantly disrupted by
22 drainage ditches and roads.
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33 **Mitigation Proposal**

34 **Q. How was the mitigation plan developed?**

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36 A. The mitigation plan was developed in cooperation with the Corps of Engineers, the
37 Washington Department of Ecology, the Whatcom County Planning Department,
38 and EFSEC staff and its consultant Shapiro & Associates. The impact and
39 mitigation areas were viewed together in the field and mitigation approaches were
40 discussed. Several drafts of the mitigation plan were reviewed by the agencies, and
41 then modified to incorporate the suggestions provided by the agencies. During the
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1 process, URS and Golder Associates performed additional analysis and generated
2 several additional reports to address a variety of questions and issues.
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6 **Q. Can you describe the wetland mitigation proposal?**
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9 A. The mitigation plan includes the restoration and enhancement of approximately 4.86
10 acres of wetlands that will be temporarily impacted by construction, and the
11 rehabilitation and enhancement of approximately 110 acres of wetlands and
12 adjoining upland buffers in two Compensatory Mitigation Areas. These areas are
13 shown on **Exhibits 28.3** (ADE-3), **28.4** (ADE-4) and **28.5**.
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21 4.86 acres of wetlands impacted in Laydown Areas 2 and 4 will be restored and
22 enhanced following the completion of construction. Wetland hydrology will be
23 reestablished, and a variety of forested, scrub-shrub and emergent plant communities
24 will be established.
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31 The mitigation plan also includes two Compensatory Mitigation Areas (CMA 1 and
32 CMA 2) located north of Grandview Road. The natural hydrology of these areas
33 will be re-established by plugging historic drainage ditches, routing stormwater to
34 this area and spreading it out over a large area where it will return to historic
35 drainage ways. Habitat will be improved by removing and suppressing non-native
36 invasive plants, and establishing a variety of forested, scrub-shrub and emergent
37 plant communities. The mitigation areas will also be connected to other ecologically
38 important areas located nearby. It will create a forested corridor between the Terrell
39 Creek riparian forest and the mature upland forest north of Grandview Road, and
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1 further connect the areas to the wetland mitigation site initiated a few years earlier.
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3 The mitigation proposal also includes the creation of a small amount of new wetland
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5 along with the enhancement of approximately 28 acres of wetland buffers.
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9 **Q. In your opinion, will the mitigation proposal result in an improvement in**
10 **overall wetland function?**
11

12 A. Yes. As I've explained, the wetlands that will be impacted by the Cogeneration
13
14 Project are low quality wetlands that provide a relatively low level of wetland
15
16 functions. The mitigation plan will result in a clear increase in overall functional
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18 performance compared with the loss in functions from the project. In particular,
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20 there will be a significant increase in habitat diversity and structure.
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24 **Q. Could you explain the improvement in wetland functions in more detail?**
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26 A. Yes. In general, one can divide wetland functions into two groups: hydrologic
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28 functions and habitat functions.
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32 Hydrologic functions include storage of rainfall/runoff, interception of precipitation
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34 and evapotranspiration of a portion of it back to the atmosphere, slowing of the rate
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36 of runoff by the vegetation and microtopography, thus desynchronizing peak flows
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38 in downstream areas, and filtration of sediment or other pollutants through the
39
40 vegetation. As explained in more detail in the Golder Associates Functions and
41
42 Values Assessment report (Application Appendix H-3) and the Mitigation Plan
43
44 document (Application Appendix H-7), the wetlands on the Cogeneration Project
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46 site and mitigation areas do not currently perform these functions very well. The
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1 runoff that currently comes off the cogeneration site and the upper part of the
2
3 subbasin that includes it is diverted by a drainage ditch away from its historical route
4
5 and conveyed straight north along Blaine Road to Terrell Creek.
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9 The proposed mitigation plan will route some of the water from the site to the
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11 mitigation area, where it will make its way, aided by the plugging of ditches in the
12
13 mitigation area, to the historical outlet to Terrell Creek further downstream. By
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15 diverting water to the mitigation area and spreading it out over more land, the
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17 hydrologic functions will be transferred from the plant site to the mitigation area or
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19 further downgradient. The storage function will occur in the uplands along the edges
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21 of wetlands, in microtopographic low spots, and in areas with a shallow sandy
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23 subsoil. The interception and evapotranspiration will be higher in the wetlands and
24
25 adjacent uplands because many trees and shrubs will be planted, which have a much
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27 higher capacity for these functions than herbaceous vegetation like will be lost in the
28
29 impacted area. The filtration function will be higher because the water will travel a
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31 longer route through vegetation, and the added trees and shrubs will increase the
32
33 capacity in some areas.
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37 The second group of wetland functions are habitat functions, which include habitat
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39 suitability for invertebrates, amphibians, fish, birds and mammals. The mitigation
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41 plan will result in a significant improvement in habitat functions. The Cogeneration
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43 Project site and laydown areas currently have very little diversity of habitat. More
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45 than 95 percent of the wetlands are dominated by herbaceous vegetation, and a
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47 substantial area is dominated by monoculture patches of reed canarygrass, which

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have low utilization by most wildlife. The project site and laydown areas are also largely lacking connections to other areas of high habitat value. The mitigation plan will establish multiple layers of habitat structure including tree and shrub cover in the mitigation areas. The reed canarygrass will be replaced with native species with higher habitat value. The mitigation area plantings (including upland buffers) will also improve the connectivity of habitat blocks, increasing the value of the habitat for a number of wildlife species.

Q. Can you quantify this assessment of functional values under the Washington State Wetland Functional Assessment Method?

A. The table below compares gains and losses in functional performance and demonstrates the overall improvement in functional performance expected to occur.

EXPECTED GROSS AND NET GAINS AND LOSSES OF ACRE-POINTS

Hydrologic Functions				Habitat Functions			
Function	Gains from Mitigation	Losses from Construction	Expected Net Gain or Loss (+ or -)	Function	Gains from Mitigation	Losses from Construction	Expected Net Gain or Loss (+ or -)
Potential for Removing Sediment	4.66	116.18	-111.52	General Habitat Suitability	307.2	55.02	+252.18
Potential for Removing Nutrients	9.32	79.7	-70.38	Habitat Suitability for Invertebrates	278.12	31.63	+246.49
Potential for Removing Heavy Metals and Toxic Organics	-107.06	121.27	-228.33	Habitat Suitability for Amphibians	166.4	43.53	+122.87
Potential for Reducing Peak Flows	4.66	93.77	-89.11	Habitat Suitability for Anadromous Fish	N/A	N/A	N/A
Potential for Decreasing Downstream Erosion	154.78	115.83	+38.95	Habitat Suitability for Resident Fish	N/A	N/A	N/A
Potential for Recharging Groundwater	64.0	132.78	-68.78	Habitat Suitability for Wetland-Associated Birds	132.66	85.49	+47.17
				Habitat Suitability for Wetland-Associated Mammals	102.4	46.12	+56.28
				Native Plant Richness	346.78	10.29	+336.49
				Primary Production and Export	107.06	199.33	-92.27

1 **Q. You indicated that there would be an improvement in both habitat and**
2 **hydrological functions, but the above table seems to show an improvement in**
3 **habitat functions but a degradation of hydrological functions. Can you explain**
4 **this?**
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9 A. This quantitative model for assessing wetland functions has several limitations. In
10 this case, some of the hydrologic functions provided by the wetlands in the region
11 around the project, such as water storage and evapotranspiration, are not considered
12 by the model. The model also overstates the function served by the existing
13 wetlands. For example, it gives the groundwater recharge function for the existing
14 wetlands a higher score than appropriate, given the low permeability of the substrate.
15 It also gives the existing wetlands a higher score for removal of heavy metals and
16 toxic organics than appropriate when there is no source of pollutants to be filtered
17 out. When these factors are considered, losses in hydrologic functions will be
18 outweighed by the gains in the mitigation areas.
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31 **Q. How does the wetland mitigation proposal compare to the mitigation ratios**
32 **recommended by the Washington Department of Ecology?**
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35 A. The goal for wetland mitigation projects is to replace the lost wetland functions
36 through restoration, enhancement or creation of wetlands. In guidance documents,
37 the Department of Ecology has recommended some ratios for different types of
38 impacts and mitigation, but Ecology emphasizes that these ratios are "general
39 guidelines" and can be adjusted up or down depending upon the circumstances.
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The overall mitigation ratio for the project is more than 3:1, with a 110-acre mitigation area and approximately 30 acres of permanent wetland impacts. The following table provides more detail on the ratio for specific types of impacts and mitigation.

**SUMMARY OF COMPENSATORY MITIGATION ACRES,
RATIOS, AND CREDITS**

Type of Compensatory Mitigation	Size of Proposed Compensatory Mitigation Areas (acres)	Proposed Mitigation Ratio	Mitigation Credit (acres)¹
Enhancement of existing degraded wetlands to compensate for temporary impacts to PEM wetlands	4.86	1:1	4.86
Enhancement of existing degraded wetlands to compensate for impacts to PFO wetland	7.61	4.5:1	1.69
Enhancement of wetland buffer areas (uplands)	28.43	-	-
Enhancement of existing degraded wetlands to compensate for permanent impacts to PEM wetlands	69.21	2.4:1	28.82
Total area	110.11	3.1:1	35.37

¹ Mitigation credit determined by dividing the acreage of each mitigation type by the proposed mitigation ratio.

Ecology recommends that temporary wetland impacts be mitigated at a ratio of 1:1. BP proposes to mitigate the temporary impacts to wetlands during construction at a 1:1 ratio, with 4.86 acres of wetland enhancement in addition to restoring them in place. This is consistent with the Ecology recommendation. For the forested wetland loss (1.69 acres), Ecology recommends a ratio for wetland enhancement of 6:1, but we have proposed a 4.5:1 ratio instead because the wetlands at issue in this case are not typical forested wetlands. They are actually an area that was planted

1 with hybrid poplars with the intention of harvesting those trees, which would return
2 the wetland to an herbaceous type. For emergent wetlands, Ecology recommends a
3 4:1 ratio for enhancement. The proposed project would use a 2.4:1 ratio because the
4 impacted wetlands have relatively low functional performance, and the plan will also
5 result in some wetland creation and enhancement to over 28 acres of wetland buffer
6 that is not included in the calculation of the mitigation ratios. In addition, the
7 hydrologic restoration benefits extend outside the mitigation area, and those have not
8 been factored into the ratios. It could be argued that the hydrologic restoration
9 component of the mitigation qualifies a large part of the mitigation as wetland
10 restoration rather than enhancement, for which Ecology recommends a lower ratio.
11 With all of these factors considered, the compensation ratio should be equivalent to
12 the recommended ratio. In addition, the wetland rating of existing wetlands barely
13 qualifies them as Category II wetlands, while the enhanced/restored wetlands will be
14 among the highest value Category II, suggesting a significant overall improvement in
15 wetland value.

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33 Overall, we believe that the function losses are fully compensated. The Corps of
34 Engineers and the Department of Ecology representatives have agreed with this
35 conclusion in recommending approval of the mitigation plan.
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41 **Q. Has the wetland mitigation plan been provided to the Corps and Ecology for**
42 **review?**

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45 A. Yes, we developed the mitigation proposal in close coordination with the Corps and
46 the Department of Ecology, and the agencies reviewed several interim drafts. The
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1 final Mitigation Plan (Application Appendix H-7) was provided to the Corps and
2 Ecology in April 2003, and at their request, we prepared an addendum containing
3 some additional information and clarifications regarding the plan. A copy of that
4 Addendum is provided as **Exhibit 28.6** (ADE-6) to my testimony. I have spoken
5 with representatives from the Corps and Ecology since then, and I understand that
6 both agencies are satisfied with the mitigation plan.
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15 **Implementation and Monitoring**

16 **Q. When does BP proposed to implement the mitigation plan?**

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18 A. BP would begin to implement the mitigation plan at the same time it begins
19 construction of the cogeneration project. The mitigation activities would be
20 implemented in stages over a period of 3 years to maximize success. Monitoring
21 will be a significant part of the implementation.
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28 **Q. Do you have any experience implementing this sort of wetland mitigation plan?**

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30 A. Yes. URS has experience implementing dozens of wetland mitigation plans
31 throughout the Pacific Northwest. In particular, four years ago, we began
32 implementing a similar mitigation project adjacent to the proposed mitigation area,
33 on 4.6 acres of BP property north of Grandview Road. To date, we have been very
34 successful in removing invasive non-native plants and establishing a mosaic of
35 native plant communities at that site.
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1 **Q. Based on your experience, do you believe that the plan can be implemented**
2 **successfully?**
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5 A. Yes. Our experience with the smaller mitigation project at Cherry Point has been
6 very successful. Monitoring has shown that approximately 90% of the trees and
7 shrubs we've planted have survived, and we've reduced the reed canary grass cover
8 by 90%. Based on our experience with that project as well as our experience with
9 other mitigation projects, we are confident that this mitigation plan can be
10 implemented successfully.
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18 **Q. Does the mitigation plan include monitoring provisions and standards for**
19 **measuring success?**
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22 A. Yes, the plan includes both performance standards and monitoring requirements.
23 We discussed appropriate performance with the Corps and Ecology, and the
24 standards we agreed upon are set forth at pages 10-12 of the Mitigation Plan
25 (Application for Site Certification, Part III, Appendix H-7).
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32 The Plan also includes a monitoring plan at pages 60-63. Monitoring will be
33 conducted immediately following the initial planting, and 1, 2, 3, 5, 7 and 10 years
34 thereafter. Monitoring wells will be installed to assess the hydrologic regime, and
35 vegetation will be surveyed.
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Conclusion

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3 **Q. Based on your experience, do you believe the wetland mitigation plan fully**
4 **compensates for the wetland impacts anticipated to result from the**
5 **Cogeneration Project?**
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9 **A. Yes. I have not seen a mitigation plan that has had stronger oversight by the**
10 **regulatory agencies or higher standards of documentation that the impacts are**
11 **covered by the mitigation.**
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16 **END OF TESTIMONY**
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