



## City of Seattle

Paul Schell, Mayor

Seattle Public Utilities  
Diana Gale, Director

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September 4, 2001

Seattle Public Utilities  
Dexter Horton Building, 10<sup>th</sup> Floor  
710 Second Avenue  
Seattle, Washington 98104

Lou Driessen, Project Manager  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

**SUBJECT: Comments for the Draft Environmental Impact Statement (DEIS) for the Kangley-Echo Lake Transmission Project**

Send via e-mail to: [comment@bpa.gov](mailto:comment@bpa.gov)

Dear Mr. Driessen:

Seattle Public Utilities (SPU) is responsible for providing drinking water to 1.3 million customers in the urbanized areas of western King County and southern portion of Snohomish County. SPU takes approximately two-thirds of its drinking water from the Cedar River. SPU owns the 90,546-acre Cedar River Municipal Watershed (CRW) and manages its land and aquatic resources for water supply, the protection and restoration of fish and wildlife habitat, and the protection of cultural resources. SPU's companion utility, Seattle City Light, owns and operates a hydroelectric facility and associated transmission lines in the watershed. City Light will provide comments on the DEIS under separate cover.

This letter provides Seattle Public Utilities' (SPU) comments on the Draft EIS for the Kangley-Echo Lake Transmission Project. SPU provided comments during the scoping for this project in letters to BPA dated April 28 and October 2, 2000. Because the DEIS fails to address SPU's scoping comments, these are repeated in the appropriate sections of this letter. All of SPU's comments should be understood in the proper context: the CRW is a unique and vital resource for the citizens of Seattle and the region. This area is currently being managed to protect a safe, unfiltered source of drinking water and to protect numerous wildlife species and their habitat.

SPU considers this DEIS to be inadequate because it: 1) contains significant NEPA-procedural deficiencies, including what appears to be a lack of full-disclosure of environmental impacts; 2) fails to include important Endangered Species Act (ESA)-related analysis, coordination, and mitigation; 3) lacks commitments to compensatory mitigation; 4) fails to acknowledge the unique long-term habitat protection status provided by the HCP and to recognize the increasing regional biodiversity value of the habitats it proposes to impact; and 5) fails to appropriately acknowledge the significance of the CRW as the water

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Watershed Management Division, 19901 Cedar Falls Rd. S.E., North Bend, WA, 98045  
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supply for 1.3 million people. We request that BPA issue a Supplemental DEIS (along with the associated public comment period) that corrects these serious flaws, clearly and accurately assesses the true environmental impacts of this project, and is compliant with NEPA regulations and guidance.

SPU has the following comments on the DEIS. Five separate attachments to this cover letter are included in this submittal. The first attachment contains general comments on the DEIS followed by specific comments on the DEIS. Each of the subsequent four attachments provide comments on each of the four BPA DEIS technical appendices (A, Fisheries; B, Wildlife; C, Vegetation; and D, Wetlands). Because the DEIS is largely a distillation of its technical appendices, SPU's comments on the technical appendices will also apply to the DEIS. In addition, there is much boilerplated text used in the DEIS and its appendices. To minimize redundancy, SPU has attempted to comment only once in such cases, but those comments would apply to other documents for which the comments are relevant.

If you have questions or require further information, please contact Jim Erckmann at (206) 233-1512 or Clay Antieau at (206) 233-3711. Regarding cultural resources, please contact SPU's staff archaeologist, Tom Minichillo at (206) 233-0032.

Sincerely,

SIGNATURE

Suzanne Flagor  
Director  
Watershed Management Division  
Seattle Public Utilities

Attachments:

- 1) SPU comments on BPA DEIS
- 2) SPU comments on BPA DEIS Appendix A (Fisheries)
- 3) SPU comments on BPA DEIS Appendix B (Wildlife)
- 4) SPU comments on BPA DEIS Appendix C (Vegetation)
- 5) SPU comments on BPA DEIS Appendix D (Wetlands)

cc: Dennis Anderson, Muckleshoot Indian Tribe  
Maria Cantwell, U.S. Senate  
Craig Hansen, USFWS  
Hardev Juj, Seattle City Light  
Steve Landino, NMFS  
Patty Murray, U.S. Senate  
Seattle Mayor Paul Schell  
King County Executive Ron Sims  
Val Varney, EPA

## *Kangley-Echo Lake Transmission Line Project DEIS*

Seattle Public Utilities' Response  
August 30, 2001

### GENERAL COMMENTS (GC)

#### GC-1: The "purpose and need" for the proposed project is neither substantiated nor clearly defined.

There is no explanation of the electrical transmission system serving the King County area that supports the necessity of the proposed line. Instead, the DEIS asserts without substantiation that this specific line is necessary to maintain system reliability. At a minimum, system plans or a regional analysis should be referenced, along with a description of other improvements BPA is considering in the near and distant future so the reader can understand why this specific (and relatively small) link in a much larger system is necessary. In SPU's conversations with BPA staff, it has also been unclear if the need to construct a redundant transmission line for system reliability and the relative location of that line are legal requirements or policy choices. The legal and policy contexts of the project should be clearly distinguished in the DEIS.

Furthermore, the "purpose and need" is the basis for defining alternatives. NEPA only requires that reasonable alternatives be considered. "Reasonable alternatives," however, include those alternatives that can meet the objectives (as defined by the purpose and need) of the proposal. Without a clearly defined purpose and need, the range of reasonable alternatives is very large—much larger than the range of alternatives considered in the DEIS (see General Comment 2, below).

#### GC-2: The range of alternatives evaluated in detail is too narrow.

The DEIS does not provide sufficient analysis of alternatives outside of the Cedar River Watershed to support their elimination without detailed evaluation. The DEIS cites impacts to "developed land and people living in the area." The potential for these impacts is obvious, but without further explanation there is no support for dismissing these alternatives just because they would have impacts. All of the alternatives included in the DEIS also have impacts, and yet they were not dropped from consideration. Without criteria and explanation, there is no justification for dropping certain alternatives and narrowly limiting the range of alternatives considered in the DEIS. The DEIS should evaluate the range of reasonable alternatives. This type of comparison of alternatives and impacts to the built and natural environments is precisely what an EIS is supposed to provide. Dropping certain alternatives due to cost concerns needs to be supported by detailed cost justifications presented in the DEIS.

Further, NEPA requires that federal agencies consider alternatives that can accomplish the objectives of the proposal, but at a lower environmental cost. This includes considering mitigation measures that could avoid or reduce impacts of the proposed action. The DEIS is silent on the most common types of mitigation measures that could address some of the high and significant impacts that would result from the proposed action (see General Comment 9).

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GC-3: The description of alternatives is insufficient to support evaluation of impacts or mitigation measures.

Several key aspects of the proposed transmission line are not described in sufficient detail to support an evaluation of impacts, even though these details may have been known at the time of the issuance of the DEIS (as evidenced by the issuance of BPA's Final Biological Assessment for this project during the public comment period for the DEIS). For example, the DEIS description of clearing requirements, tower locations, and access roads is general and vague. This information is critical to understanding potential impacts because in many aspects the alternatives are reported to have very similar impacts. For example, the difference in vegetation affected by the alternatives 1 and 2 is less than two percent. Given the uncertainty regarding the project, the difference may or may not actually exist. The importance of clearing is supported by the DEIS, which describes removal of trees on the Cedar River as "high" impact (p. 4-36).

Failure to adequately describe the project compounds the vagueness of proposed mitigation measures, making it impossible to evaluate the effectiveness of mitigation. The net result is a level of uncertainty of the proposal's impacts that significantly reduces the usefulness of the DEIS to reviewers and decision-makers. The fact that specific, known design information for the proposed action was omitted from the DEIS indicates this DEIS does not fully disclose environmental impacts. The fact that BPA issued a Final Biological Assessment (BA) for this project during the public comment period for the DEIS indicates that BPA failed to provide full-disclosure of project impacts. The BA contains specific, known design information (for the proposed action) that is not included in the DEIS. SPU does not expect a proposed action to be fully designed for purposes of environmental impact assessment. However an EIS either needs to commit to specific project details or evaluate all reasonable approaches to those components of the proposed action.

The landowner most affected by this project is the City of Seattle, and the impacts of the project are potentially greatest and certainly most complex for the Cedar River Municipal Watershed (CRW), especially considering 1) the area is the region's major drinking water supply, and 2) the land is being managed under a complex Habitat Conservation Plan (HCP) and associated legal commitments to the federal government. However, BPA's proposed actions and their impacts are described so minimally that it is not possible for the City or the public to evaluate project impacts. Simply stated, the DEIS does not fully disclose environmental impacts. In addition, the DEIS contains numerous inconsistencies among analysis assumptions, as described elsewhere in this comment letter. The reader is not able to effectively evaluate impacts of the proposed actions for all disciplines because sufficient project information is missing, the DEIS contains conflicting analysis assumptions, and BPA does not commit to specific design/construction specifications.

GC-4: Specific information related to project impacts will only be provided in the Final EIS and therefore not subject to public review and comment.

Information on clearing requirements in the CRW (p. 2-6) and access roads (p. 2-7) is not provided in the DEIS, but instead notes the information will be available for the Final EIS. This information is critical to evaluating project impacts and mitigation measures and therefore should be provided as part of the DEIS. Also, the DEIS does not describe tower locations, which would have substantial impacts. Again, the fact that specific, known design information for the Proposed Alternative was omitted from the DEIS indicates this DEIS does not fully disclose environmental impacts. Again, the Final BA for this project contains specific, known design information (for the proposed action) that is not included in the DEIS. The fact that specific, known design information for the proposed action was omitted from the DEIS indicates this DEIS does not fully disclose environmental impacts. The fact that BPA issued a Final BA

for this project during the public comment period for the DEIS suggests BPA could have provided more complete disclosure of project impacts.

GC-5: The DEIS does not discuss consistency with federal, state, and local regulations and policies.

NEPA regulations require that an EIS discuss possible conflicts between the proposed action and the objectives of federal, state, and local land use plans, policies and controls. Where inconsistency exists (as for example regarding King County's sensitive areas and Shoreline Management provisions), the statement should describe the extent to which the agency would reconcile its proposed action with the plan or law [40 CFR 1506.2(d)].

In its scoping letter, SPU identified the need for BPA to address effects of the project on the federally sanctioned and approved HCP. BPA indicates that USFWS [and NMFS] will have to "decide if the transmission line facilities require any change to the existing Habitat Conservation Plan...." The DEIS does not discuss the proposed action's impacts on the CRW HCP. SPU is stating its position clearly: 1) SPU will not accept any need to modify the HCP as a consequence of BPA's activities; and 2) BPA must provide mitigation for any impacts that reduce the conservation value of the City's HCP that, at a minimum, compensates for that reduction in value.

BPA also failed to coordinate with federal agencies on Endangered Species Act prior to releasing the DEIS. The DEIS fails to fully assess impacts on endangered and threatened species such as Chinook salmon, coho salmon, and marbled murrelet (see specific comments elsewhere in this comment letter).

GC-6: The DEIS does not disclose whether or not impacts are significant.

The DEIS is largely silent regarding any determination of the significance of impacts. The DEIS uses the terms "low, medium, and high" to describe impacts. This assists making relative comparisons among the alternatives considered, but it avoids identifying whether or not these impacts are "significant." Based on the NEPA regulations definition of "significant," many of the impacts identified in the DEIS would qualify. However, the DEIS fails to disclose this information. Thus, the public and other agencies, as well as decision-makers, do not have adequate information to review. Because of the importance of "significant impacts" in the NEPA process, failure to disclose this information undermines the very intent of NEPA itself.

GC-7: The DEIS fails to discuss the Decision-making Process

The DEIS says very little about the decision-making process regarding this proposed action. It says almost nothing about the decision BPA has already made regarding narrowing the range of alternatives and the currently preferred alternative (including who made these decisions, when, how, and why). This is important because NEPA regulations prohibit federal agencies from limiting the choice of reasonable alternatives until a Record of Decision (ROD) has been issued [40 CFR 1506.1(a)]. The fact that specific, known design information for the Proposed Alternative has been developed (and was omitted from the DEIS) suggests that BPA has limited the choice of reasonable alternatives prior to the ROD, and indicates this DEIS does not fully disclose environmental impacts.

The DEIS also says very little about the remainder of the process. What happens after the DEIS, and what criteria will be used? For example, will BPA confirm a preferred alternative after the DEIS? Will all of the alternatives be reviewed in greater detail in the FEIS, or will it just cover the preferred alternative? When will BPA take final action? How will that decision be made?

GC-8: Scoping comments from the City of Seattle were not addressed in the DEIS.

Scoping letters from SPU and SCL (October 2, 2000) raised several specific points that are not addressed in the DEIS. These issues include the purpose and need for the project, alternatives outside of the CRW, effects on the drinking water supply during construction, and effects of the proposed transmission line on the HCP, among others. Such omission is contrary to CEQ guidance that states “Every issue that is raised as a priority matter during scoping should be addressed in some manner in the EIS, either by in-depth analysis, or at least a short explanation showing that the issue was examined, but not considered significant for one or more reasons” (CEQ 1981).

GC-9: The DEIS lacks mitigation for unavoidable impacts.

“Mitigation measures” cited in the DEIS are actually standard best management practices (BMPs) and not really project mitigation measures. That is, they do not offset, reverse, or rectify the impacts of constructing the proposed action. Mitigation measures cited in the DEIS never include proposed compensatory mitigation. If “maintaining environmental quality” (p. S-2) was, in fact, one of BPA’s purposes in developing this project, then compensatory mitigation would have been integral to that purpose. For example, although the DEIS states that impacts on ESA-listed species of fish are “high,” BPA fails to commit to any mitigation that would offset those impacts.

GC-10: Although impacts to cultural resources could be substantial, the DEIS describes no mitigation.

Some areas in the project area and within the CRW have a high likelihood of containing cultural resources or Traditional Cultural Properties, and thus potential for significant impacts. The DEIS omits specific results of archaeological and CMT surveys that have been conducted for this project. Survey results should have been considered in the DEIS. The technical report for this discipline should have been included in the DEIS. The DEIS should have included proposed mitigation actions for any identified sites (if any). Also, the DEIS should recognize that SPU has archaeological standards for the CRW that need to be (and were) followed.

The DEIS’s assertion that impacts will be “low” for the proposed action are unsupported by the existence of substantial uncertainty regarding impacts on archaeological resources or Traditional Cultural Properties, for which no assessment has been completed. Given the location of the project, these impacts could be significant. The DEIS should explain this uncertainty, qualify the description of impacts, and provide the needed information for public review.

GC-11: The DEIS does not address regulatory requirements related to drinking water.

In general, the DEIS seems to largely ignore the fact that the Cedar River Watershed is a high quality, unfiltered source of water for 1.3 million people in the Puget Sound region. A casual reader would obtain the impression the CRW is primarily a nature reserve, with a secondary, incidental role as a municipal water supply source.

The DEIS fails to adequately describe potential impacts to the drinking water supply for 1.3 million people. Incidents such as turbidity plumes and diversion shut-downs are critical and significant events in the management of SPU’s water supply systems in the CRW. The DEIS needs to address the regulatory requirements related to drinking water and the potential environmental impacts of their proposed action on the drinking water supply.

GC-12: BPA failed to provide public notice to that group of citizens most affected by the proposed action: the people who rely on the CRW for their drinking water.

Public notices and public meetings related to the NEPA scoping and DEIS comment periods have not been directed to the most affected group of citizens: the 1.3 million people who rely on the CRW for their drinking water. This is a violation of NEPA guidance and regulation.

## **SPECIFIC TECHNICAL COMMENTS ON THE DEIS**

**NOTE: Regarding the remaining comments in this comment letter and its attachments, SPU does not expect a proposed action to be fully designed for purposes of environmental impact assessment. However an EIS either needs to commit to specific project details or evaluate all reasonable approaches to those components of the proposed action.**

### **SUMMARY**

- S2.1.3 The DEIS is not clear why all “woody vegetation” would need to be cleared on the ROW. Also, failing to estimate the area of clearing outside the new (150-ft) ROW results in an understatement of impacts. The DEIS is also inconsistent as to the clearing zone width, as described elsewhere in SPU’s comment letter. Further, in conversations with SPU, BPA said they would need to clear an average of 200 ft.
- S2.1.5 See comment below under 2.1.1.8.
- S2.1.4 BPA says that new roads may cross rivers and streams, but that no new bridges will be built. If a road crosses a river, a bridge would be required. For SPU and the public to evaluate potential impacts, BPA must specify which rivers and streams will be crossed and what type of structure will be constructed at each crossing.
- S3.8 The DEIS consistently fails to clarify potential for impacts from vegetation clearing outside the 150 ft ROW.
- S3.10.1 The DEIS should state explicitly that some of the areas in the project area and in the CRW have a high likelihood of containing cultural resources or Traditional Cultural Properties and thus a strong potential for significant impacts.
- S.4.2 Transportation impacts should include the impacts of hauling timber and moving equipment and materials to and from the project area, unless those impacts are clearly addressed elsewhere, which does not seem to be the case.
- S.4.6 In its DEIS scoping letter, SPU identified the need for BPA to address effects of the project on the drinking water supply. The DEIS fails to adequately discuss the risks to the drinking water supply during project construction for any of the alternatives. These risks include the risk of spills that could contaminate the water and the risk of turbidity events that could have very serious regulatory and public health consequences for SPU.

Also, the DEIS neglects to reveal potentially significant impacts on water temperature, which is inconsistent with the conclusion on page 4-30 that impacts on listed fish species would be “high” a result, in part, of unavoidable, increased water temperature in streams and wetlands.

- S.4.10 The area to be cleared for the stated 150 ft ROW should be about 160 acres (for the 9-mile length), not counting trees cleared beyond the ROW, yet BPA states that 152 acres will be cleared. BPA indicates on page 2-5 that trees may be cut as far as 200 ft from the edge of the ROW. Further, BPA has informed SPU that an average of 200 ft will be cleared for the proposed action. The DEIS fails to reveal the actual amount of clearing that will occur for the project. Also, the DEIS mentions that a high impact from noxious weeds could be mitigated, but does not indicate how this will be done.
- S.4.11 The DEIS concludes that impacts to wetlands would be moderate to low and that impacts to forested wetlands would be moderate are not supported. SPU disagrees. Clearing vegetation and operating equipment in wetlands will produce significant and unavoidable impacts, and clearing trees in a forested wetland destroys its normal ecological functioning. Furthermore, the DEIS proposes no compensatory mitigation, which violates the intent of state and local sensitive areas provisions (such as the King County Sensitive Areas Ordinance). The DEIS needs to correctly state that impacts to wetland resources will be significant.
- S.4.16 The DEIS fails to identify potentially significant impacts on public health as a result of potential effects on the drinking water supply during construction and operation (see comments on S.4.6 above, and elsewhere in this comment letter).

#### **PURPOSE AND NEED (Chapter 1)**

*1.1 Paragraph 2: "Anticipated peak use could now exceed existing system capacity as soon as the winter of 2002-2003."*

*1.3 "... a new 500-kV transmission line and other transmission equipment would be required by the 2002-2003 winter season...."*

These and other statements are not substantiated by citation of data, studies, or other information. The DEIS needs to explicitly provide or cite the data and assumptions on which these claims are based.

#### **PROPOSED ACTION AND ALTERNATIVES (Chapter 2)**

Route variations described in this section warrant a detailed discussion in terms of how BPA intends to use these variations to address short-, medium-, and long-term regional power transmission needs. For example, if BPA plans to build a new 50-kV line from Stampede Pass in the future (which could serve the subject project's present-day purpose and need), the cost savings of doing so now may negate the simplistic current-dollar cost difference between that variation and the Proposed Action. In this regard, the DEIS needs to present a complete cost justification (which would include cost analyses of BPA's future transmission line projects) if cost is the main justification for distinguishing among alternatives. Such analyses should include full consideration of opportunity costs and the inflated costs of building these variations in the future. In addition, it appears BPA does not include all foreseeable or projected costs in their cost estimate of the proposed action, which biases their cost comparisons among possible alternatives. Not all project planning costs are included in this analysis, nor are costs for adequate mitigation of unavoidable adverse impacts from the proposed action. For example, there is no discussion of the nature or cost of the mitigation for stormwater runoff quality or quantity that federal agencies would likely require (under regional implementation of the ESA) for the 1.5+ mile of new impervious road surfaces BPA is proposing.

#### **2.1.1.1 Transmission Structures**

To minimize impacts of tower construction, the DEIS should commit to using helicopters to the extent possible for delivering and assembling the towers.

#### **2.1.1.4 Right-of-way Clearing**

*...danger trees could be taken as far as 200 ft from the ROW....*

This is not consistent with Table 2-1 (page 2-6), which indicates clearing distances of 153 ft (horizontal distance) and 163 ft (slope distance) from the edge of the 150 ft ROW. Also, there is no mention of the temporary 50 ft construction easement BPA previously mentioned in conversations with SPU. The DEIS, its technical appendices, and associated permitting documents need to present a complete, accurate, and consistent description of the proposed action and its environmental impacts.

Also, based on Table 2-1, BPA would clear an additional 90 ft beyond the 150 ft ROW where trees are about 120 ft tall (as in the CRW). This calculation indicates that the DEIS significantly underestimates the acreage to be cleared. Apparently, 145 acres or more would be cleared in the CRW alone, making the total figure of 152 acres for the 9-mile ROW in the CRW impossibly low.

The DEIS refers to the possibility of developing and using different criteria for tree removal in the CRW that would reduce the number of trees to be removed, stating that the decision will be in the FEIS. The DEIS should provide information on those criteria for public comment prior to releasing the FEIS. The DEIS, its technical appendices, and associated permitting documents need to present a complete, accurate, and consistent description of the proposed action and its environmental impacts.

Also, see comments on S.4.10 above.

#### **2.1.1.5 Access Roads**

The DEIS fails to present sufficiently detailed road plans or data, making evaluation of the DEIS impossible. If such data are expected to be included in the FEIS, they should have been included in the DEIS.

*"A disturbance width of 20 feet was used to calculate disturbance acreages."*

Also, this section indicates new road ROWs will be 50 ft and that disturbance widths between 36 and 40 feet will be routine. Disturbance acreages in the DEIS should have been calculated using accurate and worst-case widths (i.e., 40 ft for temporary and permanent roads within and outside of the ROW, not 20 ft). Also, it is unclear from this discussion if impacts from temporary roads and permanent and temporary staging areas were considered in the analysis of impacts from access roads.

In addition, the DEIS fails to mention or assess new roads in the context of their being new impervious surfaces, which has important ESA implications. In fact, it is our understanding all new impervious surface (such as is proposed in the proposed action) inside the region of critical habitat for Chinook and coho is required to be mitigated for stormwater runoff quantity and stormwater runoff quality before the federal Services are able to consider a project such as this one to be in compliance with the ESA. The DEIS needs to discuss this situation and address the required and appropriate mitigation for new impervious surfaces, as mandated by the ESA and its regional implementation. The DEIS should assess the impacts caused by construction and operation of required mitigation facilities.

### **2.1.1.6 Stream Crossings**

Omission of information here and in Section 4.6.2.2 renders evaluation of impacts resulting from new stream crossings impossible. This is a significant and fatal flaw in the DEIS. The DEIS should provide specific information on where new crossings will be constructed, what structures will be used, and how such construction could proceed.

### **2.1.1.8 Staging Areas**

The DEIS refers to staging areas for construction, but does not specify where those might be located. Staging within the CRW would pose substantial risks to the drinking water supply and would have significant and complex impacts, and the magnitude and nature of those risks and impacts will depend on the location of those areas. To protect the municipal water supply, SPU has “no-tolerance” objectives for spills or leaks of hazardous materials in the CRW. Staging areas in the CRW are not consistent with these objectives.

It is unclear if the staging areas were considered in the analysis of impacts (such as the clearing analysis). The DEIS should be explicit if staging areas were included in the impact analyses.

### **2.1.4 Cost Estimate**

The DEIS should include pertinent details of the cost estimates for the proposed project and all other alternatives (including those that were eliminated), particularly if costs were the basis for dropping certain alternatives. In addition, the DEIS should include citations of where fully detailed cost estimates and analyses may be obtained. All project alternatives (included those that were eliminated) need to be evaluated on the same projected cost bases.

### **2.3.2 Local Generation**

The DEIS fails to mention several local hydroelectric projects that have recently connected to the power grid, or that are being built in partnership with Puget Sound Energy. These projects include Black Creek (rated 3700 kW at 1247 ft), Calligan Creek (rated 5500 kW at 1045 ft), and Hancock Creek (rated 6300 kW at 1129 ft). The DEIS needs to present a detailed discussion of how these power sources fit into regional power planning and how they were considered in the BPA decision-making process regarding the proposed project’s purpose and need.

#### **Table 2-2**

SPU has the following comments on this table and related DEIS sections:

Land use: The DEIS neglects to mention effects on HCP.

Transportation: The DEIS should include discussion of access roads

Water quality: The DEIS neglects impacts during construction regarding drinking water supply (see comments above)

Fisheries: The DEIS should include assessment in Chapter 4 that impacts to listed fish species would be potentially high. Failing to mention this here fails full public disclosure.

Wetlands: Impacts are much greater than stated, especially to extensive forested wetlands in the CRW.

Cultural Resources: Potential for impacts to archaeological resources or Traditional Cultural Properties are uncertain but could be substantial.

Public health and safety: The DEIS fails to mention potential public health issues associated with impacts on the drinking water supply during construction and operation.

## **CHAPTER 3—AFFECTED ENVIRONMENT**

### **3.1 Land Use**

The DEIS should disclose that land use impacts would be “high” in the CRW, as the proposed project would substantially reduce conservation measures in the City’s HCP, which is a primary land-use commitment in the project area.

Also, the DEIS does not adequately describe project details for (and subsequently, potential impacts of) road construction and maintenance, rock source, and construction staging. Clearly, there will be impacts to the transportation system in the CRW; most CRW roads and transportation structures are not adequately constructed to carry large volumes of timber or construction equipment and materials. For example, the DEIS does not identify haul routes for rock or timber; rock source for roads; location of new access roads; location of upgrades to existing roads for bridge crossings, turning radii, width, slope (and other geometry), and surface; location of staging areas; and compensatory mitigation for unavoidable adverse impacts caused by these facilities and activities. The DEIS does not mention the new DNR rules for road BMPs. Also, the DEIS does not address who will bear the cost of on-going maintenance of new access roads and transportation structures (such as bridges and gates). Also, SPU has important safety concerns with drilling, shooting, and transport of explosives in the CRW; these proposed activities are not adequately described. The DEIS also fails to specify timber haul routes, yet selection of routes will have a major influence on the magnitude and nature of impacts both in the CRW (on habitats and species) and outside the CRW (on public roadways).

#### **3.1.2 Cedar River Watershed**

*“...Seattle owns title to all but a small portion of the Cedar River Watershed.”*

This is stated ambiguously. The City of Seattle owns only that portion of the Cedar River watershed that lies upstream of Landsburg. The DEIS should state this unambiguously.

#### **3.4.8 King County**

The DEIS should acknowledge that the Taylor Mountain site (Manke Property) is used by hikers and equestrians.

**NOTE: In general, most of the subsequent sections in Chapters 3 and 4 pertaining to fisheries, wildlife, vegetation, and wetlands were condensed versions of the text in the corresponding Technical Reports. Thus, all SPU comments on appendices A, B, C, and D (which see) can be considered to apply to sections in these Chapters as well. Statements from the DEIS are shown in**

**italics. SPU comments are shown in normal font below the subject DEIS statement (if any). Typically, SPU's comments pertain only to those lands owned and managed by the City of Seattle within the project area.**

### ***3.6.3 Groundwater***

The DEIS fails to mention the groundwater influence on the lower Cedar River mainstem and its relationship to the water supply system.

### ***3.6.4 Water Quality***

The DEIS fails to address the protection of drinking water. This section also seems to imply that, because there are currently no water quality problems in the Cedar River Watershed, that some degradation of the water quality would be acceptable. This is not correct. Also, the DEIS fails to mention that Washington State classifies the Cedar River above Landsburg as being in a special category where no waste discharges are permitted. The DEIS should correct these deficiencies.

BPA may not be aware of how the regulation of drinking water supplies has increased over the last few decades. The existing BPA transmission line through CRW was constructed at a time when regulation of drinking water supplies was much less strict. This is especially true of the regulation of supplies from unfiltered surface supplies, such as at CRW. Therefore, construction of the proposed action would occur in a much different regulatory environment than existed at the time the first line was constructed.

This regulatory environment results from the federal Safe Drinking Water Act and its amendments, and is defined by detailed regulations adopted by EPA and Washington Department of Health (WDOH). Supplies with unfiltered sources must show adequate source protection through development and implementation of a Watershed Control Program (WCP) that has been approved by WDOH. To remain compliant with WDOH regulations, the WCP would have to be modified to address the construction of the proposed action. On previous construction projects in the watershed, this has been accomplished through a Water Quality Control Plan (WQCP) specific to the project.

Development and implementation of an effective WQCP for a construction project of this magnitude is not a trivial matter. It must identify detailed management practices specific to the methods, materials, and equipment likely to be used on the project, and these practices must be integrated into the plans and specifications given to the construction contractor. The dispersed nature of the construction and its relative proximity to the intake make a WQCP critically important.

The DEIS should acknowledge and discuss this regulatory environment for the protection of drinking water supplies (including Safe Drinking Water Act and Surface Water Treatment Rule). A spill contingency plan is mentioned as mitigation for fisheries on page 4-34, but such plans must expressly deal with drinking water as well.

### ***3.7 Fisheries***

The DEIS incorrectly assumes that Chinook and coho salmon will not likely be present for any of the alternatives. The Cedar River will have Chinook salmon in the future. Coho salmon are likely to be in Rock Creek in the future. The Cedar River and its tributaries in the project area are tributary to waters that do support Chinook and coho salmon. The DEIS should address this circumstance. The DEIS should also address potential impacts of permanent and temporary habitat modifications on federally listed fish species. Under the Endangered Species Act and Northwest Power Act, BPA has important

responsibilities as part of the effort to protect, mitigate, and enhance regional salmon runs. However, it appears (as evidenced in the fisheries technical report and Section 2.1.15) this proposed action's adverse impacts on salmon and their habitats are not adequately mitigated. Also, the DEIS should discuss potential impacts to steelhead (an HCP species) beyond the very limited and inadequate discussion presented.

*"The fish resources in the study area include resident and anadromous species."*

This is a correct but imprecise statement. In the CRW, not all of the tributaries are inhabited by both resident and anadromous species. Also, neither the mainstem Cedar River nor its tributaries currently have anadromous species, but are expected to in coming years. Only basins or tributaries that do not contribute water to the water supply system currently are inhabited by anadromous species (e.g., Walsh Lake Drainage Basin).

**Map 8 (and other if appropriate)**

Upper Williams Creek and Steele Creek should be shown as potential anadromous fish habitat.

**3.7.2.1 Proposed Action**

*"...cross nine fish-bearing (Type 1, 2, or 3) streams and an unknown number of non-fish-bearing (Type 4 or 5) streams."*

Type 4 streams should no longer be considered non-fish-bearing unless extensive sampling has been conducted to determine if that is the case.

**Segment C**

The DEIS should include a discussion of steelhead trout at the end of this section along with Chinook and coho salmon.

**Segment D**

*"...is used by cutthroat trout and, where it joins with the Walsh Lake diversion ditch,...."*

This statement is incorrect and misleading. The Walsh Lake Diversion Ditch does not join Rock Creek except under emergency overflow conditions, which occur rarely during peak flow events. The relationship between Walsh Ditch and Rock Creek needs to be clarified in the DEIS; more detail for overflow conditions and operation needs to be presented in the DEIS.

*"...the river and its floodplain are wide enough that the existing forest can provide only about 10 percent riparian shade, so that riparian shade is not a primary control on stream temperature in this reach."*  
(page 3-23)

and

*"...the river and its floodplain are wide enough that the existing forest can provide only about 20 percent riparian shade, so that riparian shade is not a primary control on stream temperature in this reach."*  
(page 3-23)

SPU disagrees with these unsupported statements. The DEIS should present data that support this contentions.

*"Once passage around the Landsburg Diversion Dam has been established (scheduled for 2002 or 2003), it is likely..."* (page 3-23 and 3-25)

This statement is incorrect. This reach will support anadromous fish now prevented from upstream migration by the Landsburg Diversion Dam, including Chinook and coho, and excepting sockeye. The environmental analysis in the DEIS needs to be based on correct assumptions.

### **3.7.2.3 Alternative 3**

*"...Taylor Creek is known to contain resident rainbow trout...."*

SPU data indicate Taylor Creek has predominately cutthroat trout. Relatively small numbers of rainbow trout are also present.

### **3.8 Wildlife**

The "project area" as defined in the DEIS is an area within 0.25 mile of the ROW. This is too small for the scale of home range sizes and dispersal capabilities of many wildlife species of concern (for example, spotted owl, pileated woodpecker, northern goshawk, marten, and fisher). Also, several wildlife species were eliminated from analysis because habitat is not currently present within 0.25 mile. This limit is arbitrary, especially considering the large home ranges of many species. The DEIS should be based on a wildlife analysis that uses larger areas such that wide-ranging species with large home ranges are included.

Also, the DEIS incorrectly states that marbled murrelet is not expected to occur in the project area. In fact, murrelets have been detected in the upper watershed, where they are possibly breeding. Murrelets are known to fly along major water courses (like the Cedar River) as they travel between marine feeding sites and their terrestrial nest sites. Murrelets can be expected to fly along the Cedar River—through the project area—to and from these areas. Thus, this species is at risk from additional power lines. The DEIS should address the impacts to this ESA-listed species.

#### **3.8.2.1 Forest Community Dependent Species**

*"... merlins, pileated woodpeckers, and Vaux's swifts are also unlikely to nest within the project area (see Appendix B.)"*

Pileated woodpeckers are known to forage regularly in the riparian zone of the Cedar River in the watershed. Suitable nesting habitat is also available in the riparian zone.

#### **Table 3-7**

Peregrine falcons nest in the Cedar River Watershed within approximately 5 miles of the proposed ROW corridor.

### **3.9.3 Vegetation Cover Types**

#### **3.9.4.1 Proposed Action**

The DEIS needs to describe the age and size of affected trees in Cedar River riparian zone in the Watershed, especially the Sitka spruce and their history.

#### **3.10.1 Regional Overview (wetlands)**

*"A total of 23 wetlands were identified within the ROWs of the alternatives." and  
"Wetland buffers were generally intact and forested."*

These statements are misleading. Wetland buffers may be intact within the proposed ROW alternatives. In the existing ROW, wetland buffers are not "intact and forested."

*"Wetland buffers provide....."*

The DEIS needs to discuss the positive effects of intact stream and wetland buffers on water quality and the water supply, as well as a discussion of the positive effects of intact stream buffers on stream temperature, bank stability, etc., and the associated benefits for fish, amphibians, and other species.

### **CHAPTER 4—ENVIRONMENTAL CONSEQUENCES**

#### **4.4. Geology and Soils**

DNR's Watershed Analysis procedures suggest that all alternatives go through High and Moderate Landslide Potential areas (for example, inner gorges). However, the DEIS contains no discussion about this or the ancient, deep-seated landslide in the Rock Creek/Steel Creek basins, or the project's potential for causing mass-wasting events and the associated catastrophic channel disturbances. The DEIS should include this. Also, the DEIS should include discussion or analysis of soil erodibility and soil erosion BMPs.

#### **4.5.2 Water Quality**

The DEIS fails to address the protection of drinking water. The DEIS should acknowledge this regulatory environment for the protection of drinking water supplies (see comments under Section 3.6.4). A spill contingency plan is mentioned as mitigation for fisheries on page 4-34, but such plans must expressly deal with drinking water as well.

*"the City of Seattle and some surrounding water districts"*

The DEIS should replace this phrase with "about 1.3 million people in the City of Seattle and 27 suburban cities and water districts."

#### **4.5.2.1 Proposed Action**

*"...it is possible that surface water runoff containing fuel spills, herbicide runoff and other contaminants could reach the main stream..."*

The DEIS mentions here the Proposed Action could result in herbicides entering the Cedar River. This is inconsistent with statements elsewhere in the DEIS that herbicides will not be used in the Cedar

Watershed. Also, to protect the municipal water supply, SPU has “no-tolerance” objectives for spills or leaks of hazardous materials in the CRW. The DEIS should indicate how all spills would be prevented in the CRW.

#### **4.6 Fisheries**

The DEIS needs to describe environmental impacts of long-term, repeated maintenance activities.

##### **4.6.1 Impact Levels**

*“Construction, operation, and maintenance of transmission facilities could impact fish and their habitat as a result of.”*

The DEIS should describe the effect of long-term and cumulative effects of maintenance activities (e.g., repeated vegetation clearing) on soil disturbance and stream temperature regimes.

##### **4.6.2 Proposed Action**

The DEIS should describe potentials for dispersal of non-native and noxious weed species.

###### **4.6.2.1 Removal of Riparian Vegetation**

*“...Transmission towers are typically sited on higher ground, and they generally span drainages and associated riparian areas. This siting requirement would minimize potential impacts from riparian clearing because topography facilitates placement of structures that span drainages and increases the likelihood that conductors would be above many riparian areas and require only limited removal of danger trees. Construction of the transmission line, particularly clearing riparian vegetation, has the potential for high impacts on fish. However, BPA would prepare a clearing plan as part of the design of the project to minimize this impact. This plan would evaluate areas to be cleared and the permissible height of existing vegetation that could remain. BPA would site facilities to minimize clearing of riparian areas.”*

SPU believes these claims can not be made without knowing the specific tower locations and associated infrastructure. Also, this statement suggests very little clearing of riparian vegetation would occur, which is not consistent with the Fisheries Technical Report. According to that Technical Report, even the Cedar River may need riparian clearing. The DEIS needs to identify which stream crossings would span drainages and which would require vegetation removal. The DEIS, its technical appendices, and associated permitting documents need to present a complete, accurate, and consistent description of the proposed action.

###### **4.6.2.1 Removal of Riparian Vegetation**

*“Construction of the transmission line, .....”*

SPU will require an approved vegetation removal plan for areas in the CRW. The DEIS and technical appendix should commit to ensuring all pertinent plans would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

Information from the HCP in this table is incorrect. Thus DEIS comments related to this table are also incorrect. The table appears to be based on the Draft HCP, not the final, but, even so, is simply wrong. For example, buffers are not an element of the Final HCP (2000). This table and any other references to the HCP should be revised, updated, and clarified throughout the DEIS and its technical appendices to reflect content of the final version of the HCP (2000).

*"...features would be installed where needed in accordance with the Washington State Forest Practices Rules" (WSFPR)*

SPU standards will be required if they exceed WSFPR. The DEIS and technical appendix should commit to ensuring all pertinent plans would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

#### **4.6.2.2 Culvert Installation**

SPU believes some culverts on BPA's access roads for the existing transmission line may be fish and flow passage barriers. The DEIS should disclose this situation, indicate which of those culverts are fish and flow passage barriers, and describe the methods BPA will use to correct these problem culverts as part of their construction of the proposed action. The DEIS and technical appendix should commit to ensuring all pertinent plans would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW. SPU standards will be required if these exceed WSFPR.

*"....(as with a hung culvert)."*

This statement should include "hung/perched" to describe a physical barrier.

*"BPA would comply with guidelines for fish passage....."*

SPU standards will be required if these exceed WSFPR. The DEIS and technical appendix should commit to ensuring all pertinent plans (such as all road and culvert-related plans) would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

*"...and using effective sediment and erosion control methods."*

The DEIS needs to specifically describe these methods.

#### **4.6.2.6 Accidental Spills of Hazardous Materials**

*"BPA would prepare a Spill Prevention and Contingency Plan..."*

Because of the potential effects on water quality and drinking water supply, any spill of hazardous materials in the CRW is not acceptable to SPU. The DEIS should include a discussion of how BPA proposes to avoid possibility of any spill. [SPU would require BPA to develop a project-specific Water Quality Control Program (WQCP) that will need to be approved by SPU and DOH.]

#### **4.6.2.7 Species Listed and Proposed for Listing under the Endangered Species Act**

*"The Proposed Action could potentially impact chinook salmon, bull trout, and coho salmon. ...The level of these potential impacts would be high for the following reasons. First, the loss of LWD recruitment would be permanent and would affect streams that, by and large, already contain insufficient LWD."*

*Second, in view of the low project area elevation, potential thermal effects could harm fish by causing thermal stress during low flows. Third, there would be little opportunity to mitigate these impacts, although impacts would be less for some streams than for others because in some settings relatively little vegetation clearing would be required."*

The DEIS concludes that the impacts are **high** but can not be mitigated. This is significant considering BPA's important responsibilities and commitments under the Endangered Species Act and Northwest Power Act to protect, mitigate, and enhance regional salmon runs. This conclusion also suggests the proposed action is unable to be compliant with the ESA and its regional implementation. The DEIS should disclose this situation and its associated consequences.

*"... all streams in the project area are too warm to support bull trout spawning habitat."*

The DEIS should provide data or appropriate reference to support this contention.

#### **4.6.2.12 Cumulative Impacts**

*"Cumulative impacts on fish and other aquatic resources are those impacts that act not only on the local area where the impact occurs, but at every point downstream that is influenced by the impact."*

This is an incorrect definition of cumulative impacts. The DEIS is describing indirect effects, not cumulative impacts. Cumulative effects are those effects from any number of sources within an area or watershed that are additive. One significant omission in this analysis, as mentioned in the review of the Fisheries Technical Report, is the lack of consideration of cumulative effects connected to the existing transmission ROW and the proposed ROW.

*"Fine Sediment Load —...The sensitivity of a watershed to the cumulative effects of additional sediment load depends on the distribution of resources sensitive to fine sediment inputs, such as spawning beds, as well as the quantity and location of fine sediment sources, soils, slopes, vegetation cover, and flow regime. If the Proposed Action were implemented, fine sediment production would continue to be low."*

In general, most of Chapters 3 and 4 pertaining to fisheries, wildlife, vegetation, and wetlands are condensed versions of the text in the corresponding technical reports. This DEIS statement is an example of how condensing material for the DEIS from the Fisheries Technical Report resulted in an inadequate discussion of the issue. The first sentence fragment in this citation above describes the potential generic effects; the second concludes, with no supporting analysis presented, that the effects are low. In addition, as discussed in SPU's review of the Fisheries Technical Report, the analysis of sediment impacts is deficient.

#### **LWD Recruitment**

*"... (which do not spawn in such warm streams)."*

The DEIS should provide data or an appropriate citation to support this contention.

#### **Table 4-4**

This table contains incorrect information. For example, based on data provided in Burton (1999), the earliest confirmed sighting of Chinook salmon in the Cedar River is August 18. Based on data in Burton (1997), the latest recorded steelhead spawning is June 11, and the latest date of completion of steelhead

spawning is August 11. The DEIS and its environmental analyses should be based on correct information on the affected natural resources. This table should be revised to include correct information. Also, this or another table should address lamprey species in the same manner. (Burton, Karl. 1997. Cedar River steelhead monitoring program annual report. Seattle Public Utilities.) (Burton, Karl. 1999. Temporal and spatial distributions of Cedar River Chinook salmon spawning activity. Seattle Public Utilities.)

#### ***Section 4.7 Wildlife***

##### ***4.7.1 Impact Levels***

The DEIS and its technical appendix should address impacts from changes in behavior of species (e.g., travel barriers, dispersal barriers).

##### ***4.7.2.3. Bird Collision***

Though the incidence of electrocution on transmission lines is low, it should be discussed and thoroughly evaluated. The DEIS should commit to a monitoring and adaptive management program to evaluate bird mortality by both collision and electrocution. The DEIS and technical appendix should commit to ensuring all pertinent plans would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

##### ***Table 4.5 Aquatic Communities***

Totals do not match the values listed. Values given for wetlands are inconsistent with the values presented in Table 5 of Appendix B. The DEIS, its technical appendices, and associated permit documents need to present a complete, accurate, coherent, and consistent description of the proposed action.

##### ***4.7.2.5 Forest Community Dependent Species***

*"... both hand-tailed pigeon and blue grouse...."*

Ruffed grouse nesting and foraging habitat would be more impacted in most of the project area at such low elevations than that of blue grouse. Elevation range use needs to be checked and clarified for these species and a correct analysis presented in the DEIS.

##### ***4.7.2.13 Mitigation***

Though most of the impacts to wildlife were described as moderate, mitigation proposed was generally simply minimization of the impact. This is insufficient mitigation for moderate levels of impact. Compensatory mitigation should also be included.

##### ***Bird Collision***

*"Provide bird marking in known flight corridors."*

The DEIS presents insufficient information for reviewers to effectively evaluate this method. The DEIS should disclose known flight corridors, and needs to add compensatory mitigation actions for mortality.

Several raptor species utilize ROW corridors. The DEIS should commit to the use of all available types of structural modification(s) for lines and towers that prevent and/or minimize negative impacts to any avian species over the full extent of the ROW (inside and outside of the CRW).

#### *Forest Community Dependent Species*

The DEIS should commit to including snag-creation mitigation along the edges of the cleared ROW to create nesting and foraging habitat for snag-dependent forest species.

#### *Riparian Community Dependent Species*

*"Span riparian corridors to the extent possible..."*

The DEIS should identify streams on which this is possible, so reviewers can evaluate potential impacts.

#### **4.7.2.14 Cumulative Impacts**

The DEIS classifies cumulative impacts as "low," with little or no data to support this conclusion. The DEIS should present data and a complete analysis of cumulative impacts.

*"The HCP also outlines plans to close certain roads within the CRW..."*

It is inappropriate for BPA to be allowed "mitigation credit" for road decommissioning contained in the HCP and accomplished by the City of Seattle. See additional comments elsewhere in this comment letter.

#### **4.8 Vegetation**

*"BPA is collecting data and analyzing the feasibility of using a different clearing criteria within the CRW that would take fewer trees..."*

This evaluation should be completed and included within the DEIS so reviewers can evaluate the actual impacts of tree removal and habitat conversion within CRW, rather than simply in the final EIS. . Further, the criteria used for evaluation should be made explicit so that review of how tree removal would occur could be technically evaluated.

#### *Tables 4-6 and 4-7*

The relationship between the acreage shown in these tables is not clear. For example, mid-seral was defined as in the range of 15 to 35 years, but the total mid-seral acreage for the proposed action in Table 4-7 (26 ac), is not equivalent to the 10-35 year age category in table 4-6 (0 ac). The DEIS, its technical appendices, and associated permit documents need to present a complete, accurate, coherent, and consistent description of the proposed action and its impacts.

#### **4.8.2.3 Operation and Maintenance Impacts**

*"This is a low impact because it could be mitigated."*

The DEIS should describe how this impact will be mitigated.

#### **4.8.2.4 Mitigation**

*“BPA would consult with the DNR, SPU, and other ....”*

This list should include the U.S. Forest Service.

*“Management practices regarding noxious weed control... have been defined in the BPA Transmission System Vegetation Management Program.”*

Given that the DEIS acknowledges the current ROW has extensive invasion and occupation by noxious weeds, the current policies and procedures appear to be inadequate. See additional comments on noxious weed management elsewhere in this comment letter.

*“Areas would be maintained using a combination of manual methods and herbicides.... No herbicides would be used in the CRW.”*

The DEIS should present much more detail on how BPA intends to eradicate noxious weeds in CRW. See additional comments on noxious weed management elsewhere in this comment letter. Data on the success or failure of the proposed methods in other areas should be included so reviewers can adequately evaluate the proposal and its likelihood of success.

*“The Muckleshoot Tribe would like the opportunity to salvage or relocate plants before construction.”*

Is this a commitment to allowing the Muckleshoot Tribe to do this? What, if any, limitations would be placed on this? Would entire trees be given to the tribe? What input would the landowner have? The DEIS should explicitly describe these activities.

*“These are also measures that the Muckleshoot Tribe would like in included as mitigation:”*

Is this a commitment to include these proposals as mitigation? The DEIS should explicitly describe these measures and be clear regarding BPA’s commitment to use them as mitigation.

#### **Section 4.9 Wetlands**

##### **4.9.2 Proposed Action**

*“BPA would avoid crossing wetlands where possible, and where impacts are unavoidable, BPA would use best management practices to minimize destruction or denigration of the wetland to the maximum extent practicable.”*

This is a misleading statement. The alternatives were not chosen to avoid wetlands, and any wetlands in the path of these ROWs could not reasonably be avoided. The DEIS should acknowledge that this was the case, and should properly evaluate realistic potentials for avoiding wetlands and riparian zones. The DEIS statement that BMPs would be used to minimize wetland impacts is not adequate for effective evaluation of the proposed action.

*Table 4-10*

Acres in this table do not agree with those in the corresponding Table 2 in the Wetlands Technical Report. The DEIS, its technical appendices, and associated permitting documents need to present a complete, accurate, coherent, and consistent description of the proposed action.

*"Construction would include clearing shrubs, trees, and herbaceous vegetation from wetlands and wetland buffers."*

The DEIS should describe the justification and/or reason for clearing all shrubs and herbaceous vegetation from wetlands and wetland buffers, as is indicated by this statement.

*"Wetland Vegetation Impacts—Overall impact on wetland vegetation would be moderate."*

As pointed out in the SPU comments on the Wetlands Technical Report, conversion of forested wetlands to scrub-shrub or emergent wetlands constitutes a **high** impact, according to definitions used for analysis (impairment of ecological integrity). The DEIS and its analysis should be corrected to reflect this.

*Wildlife Impacts*

The DEIS should address impacts to amphibians.

**4.9.2.4 Mitigation**

*"Standard mitigation measures to minimize wetland impacts include the following:"*

That is a true statement, but the DEIS should commit to implementing even these minimal mitigation measures. These measures alone cannot mitigate for the unavoidable impacts to wetlands that will occur.

**4.12 Cultural Resources**

Some areas in the project area and within the CRW have a high likelihood of containing cultural resources or Traditional Cultural Properties, and thus potential for significant impacts. The DEIS omits specific results of archaeological and CMT surveys that have been conducted for this project. Survey results should have been considered in the DEIS. The technical report for this discipline should have been included in the DEIS. The DEIS should have included proposed mitigation actions for any identified sites (if any). Also, the DEIS should recognize that SPU has archaeological standards for the CRW that need to be (and were) followed.

The DEIS's assertion that impacts will be "low" for the proposed action are unsupported by the existence of substantial uncertainty regarding impacts on archaeological resources or Traditional Cultural Properties, for which no assessment has been completed. Given the location of the project, these impacts could be significant. The DEIS should explain this uncertainty, qualify the description of impacts, and provide the needed information for public review.

**4.13 Noise, Public Health, and Safety**

The DEIS does not address the impact of anticipated increases in noise on wildlife populations. Also, the DEIS needs to discuss how the new transmission line will interfere with CRW staff radio usage and reception.

In its scoping letter, SPU identified the need for BPA to address effects of the project on the drinking water supply. The DEIS completely fails to discuss the risks to the drinking water supply during project construction for any of the alternatives. These risks include the risk of spills that could contaminate the water and the risk of turbidity events that could have serious regulatory and public health consequences for SPU. See also SPU's comment under Environmental Consultation, Review, and Permit Requirements, immediately below.

## ***CHAPTER 5—CONSULTATION, REVIEW AND PERMIT REQUIREMENTS***

The DEIS should include a new section on the Washington Department of Health (DOH) Rules for Group A Public Water System (246-290 WAC). This section would summarize the federal Safe Drinking Water Act and subsequent regulations that require a high level of protection for a source of unfiltered drinking water such as the Cedar River. Because SPU's Cedar River source is unfiltered, SPU is required to control the watershed in accordance with a DOH-approved control program. Obviously, the currently approved control program does not address BPA's proposed project. For previous construction by SPU and SCL in the watershed, SPU required development of a project-specific Water Quality Control Program (WQCP) that could be approved by DOH as a supplement to the permanent control program. Typically, the program was prepared by a specialty sub-consultant in the consultant design team. SPU would require BPA to produce a WQCP for this project that would be acceptable to SPU and DOH.

### ***5.2.1 Federal list***

The DEIS incorrectly states that marbled murrelet is not expected to occur in the project area. Murrelets have been detected in the upper watershed, where they are possibly breeding, and can be expected to fly along the Cedar River to these areas. Thus, this species is at risk of colliding with power lines in the CRW. The DEIS should acknowledge this and provide a suitable analysis of impacts.

### ***5.4 Heritage Conservation***

The DEIS states that no culturally modified trees were found in the project area, but SPU believes that the Muckleshoot Tribe may have observed some of these in the project area. [Contact Tom Minichillo.]

### ***5.5 Federal, State, Areawide, and Local Plan and Program Consistency***

As previously mentioned, the DEIS fails to mention how BPA intends to meet the intent of local sensitive areas regulation such as King County Sensitive Areas Ordinance. BPA is required to meet the standards in this ordinance, which would not occur under measures describe in the DEIS. The DEIS should acknowledge this requirement and indicate how it will so meet the intent of such local and state regulations.

### ***5.5.9 City of Seattle Cedar River Watershed Habitat Conservation Plan***

The DEIS should acknowledge this proposed action is not a "covered activity" under the HCP (the primary land management document/direction in the project area) and then commit to not diminishing the conservation commitments in the HCP. The DEIS should explicitly describe how it intends to avoid diminishing HCP conservation commitments (for example, by committing to providing appropriate and effective compensatory mitigation).

### ***5.17 Underground Injection Permits under the Safe Drinking Water Act***

*"none of the alternatives would...adversely affect any surface water supplies"*

This statement ignores the role of CRW in providing drinking water for 1.3 million people. The DEIS should correct this section to reflect this reality.

# Kangley-Echo Lake Transmission Line Project DEIS

## Appendix A – Final Fisheries Technical Report

### Summary of Major Comments to Appendix A – Final Fisheries Technical Report Seattle Public Utilities September 4, 2001

#### GENERAL COMMENTS

1. The analysis in the DEIS and technical appendix is inadequate due to:
  - lack of assessment of Type 4 and 5 streams;
  - factual errors
  - lack of thorough erosion assessment
  - scant site-specific information on streams and no quantification of impacts by stream crossing
  - lack of disclosure as to the extent of clearing in riparian areas, which effectively precludes an evaluation of project effects
2. The DEIS and technical appendix should commit to compensatory mitigation in acknowledgment of the project's moderate to high impacts to fish habitat.
3. The DEIS and technical appendix should thoroughly address cumulative effects of creating additional ROW adjacent to the existing ROW.
4. The DEIS and technical appendix should discuss steelhead trout in greater detail throughout.

#### SPECIFIC COMMENTS

*DEIS Appendix citations in italics; SPU comments in normal font.*

##### *1.0 Executive Summary*

*"This report describes the existing conditions and potential impacts on vegetation ....."*

This is the fisheries technical report.

*"This report serves as the primary basis for the vegetation ....."*

This is the fisheries technical report.

##### *1.1.1.2 Clearing*

*"Non-merchantable timber may or may not be burned ...."*

This statement conflicts with the project's Biological Assessment (BA), which claims there will be no burning. The DEIS, its technical appendices, and associated permitting documents need to present a complete and consistent description of the proposed action.

This activity, if allowed within Cedar River Watershed (CRW), would be with the approval of SPU relative to scheduling and methods. The DEIS and technical appendix should commit to ensuring all methods proposed in this section would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

*"... (BMPs) for timberland would also be used."*

The DEIS and technical appendix should commit to ensuring all methods proposed in this section would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

*"Trees would be cleared within the ROW as well as outside of the ROW to prevent trees from falling on the lines."*

SPU is unable to comment effectively without more specific tree removal plans. Also, there is no mention of the temporary 50 ft construction easement BPA previously mentioned in this technical appendix (but which is not mentioned in the DEIS). The DEIS and technical appendices need to speak consistently on the nature of project features.

*"Additional BMPs for timberland would also be used."*

What BMPs will be used? The DEIS and the technical appendices need to present a complete and accurate analysis of fisheries and potential impacts, which is related, in part to the disclosure of the BMPs to be used.

*"Total amount of clearing [for towers] for this project is unknown at this time."*

*"An additional amount of land would be cleared for roads that are needed off the ROW and for roads to be in poor condition and requiring upgrading by BPA"*

SPU can not comment effectively without more specific information about grading plans. As evidenced by information presented in the project's BA, BPA has identified locations for towers and new roads and so should be able (in the DEIS and its technical appendices) to estimate the total amount of clearing for the proposed action. The DEIS and the technical appendices need to present a complete and accurate environmental analysis, which includes the disclosure of such known project characteristics. Also, The DEIS and technical appendices should commit to ensuring all methods proposed in this section would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

#### ***1.1.1.3 Access Road Construction and Improvement***

The DEIS and technical appendix should commit to ensuring all methods proposed in this section would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

*"Access roads would be 16 ft wide, with additional road widths of up to 20 ft for curves."*

SPU believes these road widths are excessive. The DEIS should explain and justify these road prism dimensions. SPU can not comment effectively without more specific information about road plans. As evidenced by information presented in the project's BA, BPA has identified locations for new roads and so should be able (in the DEIS and its technical appendices) to firmly estimate the total amount of clearing/road-building for the proposed action.

The DEIS and the technical appendix fail to present a complete and accurate environmental analysis because they fail to disclose such known project characteristics as location and kinds of roads. Road locations depicted in the BA are often distant from the proposed action. The DEIS and technical appendix should explain and justify the location of these roads. The DEIS and the technical appendix should acknowledge that all road plans affecting the CRW would be subject to SPU review and approvals.

*"...roads would be constructed and used outside the ROW."*

*"Where temporary roads are used...."*

SPU can not comment effectively without more specific information on road plans. As evidenced by information presented in the project's BA, BPA has identified locations for towers and new permanent and temporary roads and so should be able to firmly estimate the total amount of clearing for the proposed action.

The DEIS and the technical appendix need to present a complete and accurate environmental analysis, which includes the disclosure of such known project characteristics as location and types of roads.

#### ***1.1.1.4 Storage, Assembly, and Refueling Areas***

The DEIS and technical appendix should address the locations for these facilities as well as related clearing/land-disturbance impacts, their adjacency to sensitive areas, and containment and fire safety design. The DEIS provides no descriptions or specifications for refueling or hazardous materials storage areas, which prevents effective review of the proposed action.

All refueling and hazardous material usage/storage facilities would be required by SPU to be outside the CRW boundary. To protect the municipal water supply, SPU has “no-tolerance” objectives for spills or leaks of hazardous materials in the CRW. The DEIS and technical appendix should indicate how all spills would be prevented in the CRW.

#### ***1.1.1.5 Tower Site Preparation***

*“BMPs would be used during clearing and construction to reduce impacts.”*

The DEIS and technical appendix should describe what these BMPs include. The DEIS and technical appendix should commit to ensuring all methods proposed in this section would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

*“An average area of 30,000 sq. ft. would be disturbed at each tower site. Additional areas that could be disturbed could include the site where the conductor is strung and pulled. These disturbances could be as large as 370 ft radius from the tower center.”*

The DEIS and technical appendix should disclose estimates of where grading will occur and how much area will be graded. The DEIS, its technical appendices, and associated permitting documents need to present a complete and consistent description of the proposed action.

*“...construction crews would remove selected trees in a 50 to 60 ft wide area on each side of the ROW. (i.e. to compensate for or anticipate resulting blowdown after initial ROW clearing”*

The DEIS and technical appendix should describe volume or number estimates for tree removal in this 50 to 60 ft zone. The DEIS and its technical appendix need to present a complete description of the proposed action.

*“...four footings been placed in holes that have been excavated, augured, or blasted.”*

Use of blasting is a concern in the CRW. The DEIS and technical appendix should describe the likely blasting plan and evaluate the impacts of blasting on stream and fish resources. The DEIS and its technical appendix need to present a complete description of the proposed action.

*“Noise and dust would be generated....”*

The DEIS and its technical appendix need to evaluate the impact of noise and dust generation on the affected fish populations. The DEIS needs to present a complete description of the proposed action.

#### ***1.1.1.9 Site Restoration and Clean-up***

*"..... pull site locations would be reshaped and ..."*

The DEIS and technical appendix should describe what "reshaping" will include. Reshaping should include considerations for proper drainage.

*".... Access roads would be repaired."*

The DEIS and technical appendix should describe what "repair" means.

*"... reseeded with grass or an appropriate seed mixture ..."*

The DEIS and technical appendix should commit to ensuring all methods proposed in this section would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW. Seed mixes should be composed of native seed species (i.e., grasses and shrubs) and meet SPU approval.

#### ***1.1.2.6 No Action Alternative***

The DEIS and technical appendix should provide data and/or references documenting how this conclusion was reached.

#### ***1.2 Key Issues for Fisheries***

The DEIS and technical appendix should address adverse impacts on habitat for coho salmon.

*"Under the HCP, all forest clearing is prohibited except for purposes of habitat restoration."*

This statement is incorrect. The DEIS and technical appendix should restate and clarify this concept relative to the final version of the HCP (2000).

#### ***1.3 Major Conclusions***

*"All action alternatives would have similar impacts to fish and their habitat. All action alternatives would require removal of riparian forest vegetation in an area where such activity has previously been determined to cause adverse effects to fish species listed as threatened under the ESA. Although some measures could be taken to minimize vegetation clearing in riparian areas, the residual impacts would persist throughout the life of the project."*

This comment and the statement on page 23 (paragraph 5) of the technical appendix indicate impacts to ESA-listed fish species would be high. Despite these adverse impacts to listed fish, the DEIS and its technical appendix contain no substantive commitment to compensatory mitigation. Is BPA's conclusion, then, that there are no mitigation actions available that would reduce adverse effects of riparian vegetation clearing on ESA-listed fish to negligible levels? The DEIS and technical appendix should fully disclose this conclusion.

The DEIS and technical appendix should define what measures "could be taken" and what "methods are available."

#### ***2.1 Data Sources and Study Methods***

*"The CRW HCP (City of Seattle 1998)"*

In section 1.2 above, City of Seattle 2000 is referenced, but it is not included in this list. This section and any other references to the HCP should be revised, updated, and clarified throughout the DEIS and its technical appendices to reflect content of the final version of the HCP (2000).

*"The impact assessment for this analysis relied upon remote methods to identify potential fish-bearing streams...."*

The known distribution of fish in the project area should be used in the analysis wherever it confirms a greater distribution than the remotely sensed data indicates. Some stream reaches that contain fish are not indicated as such in the analysis. Consultation with SPU Cedar Falls biologists may be beneficial. The DEIS and the technical appendix need to present a complete and accurate analysis of fisheries and potential impacts.

*"The GIS database was not found to include any non-fish-bearing streams, so these streams were not inventoried. It is assumed that the project area contains at least twice as many non-fish-bearing streams as fish-bearing streams."*

It is well-known that non-fish bearing streams (Types 4 and 5) have a water quality impact on downstream reaches that are fish-bearing. The CRW HCP has a standard of 150 ft buffer for clearing on Type 4 and 100 ft for Type 5. Lack of inventory of Type 4 and 5 streams and lack of impact analysis on these streams are significant deficiencies in the DEIS and this technical appendix. The DEIS and technical appendix should inventory Type 4 and 5 streams and consider the potential impacts of the proposed action on these stream and fish resources. The DEIS and the technical appendix need to present a complete and accurate analysis of fisheries and potential impacts.

*"Color aerial photographs were reviewed to collect information about the size and species composition of riparian vegetation, and the existing riparian shade, along all potentially affected streams. This review used methods established for watershed analysis in Washington (WFPB 1998). Field studies were undertaken to visit representative examples of fish-bearing streams, observe channel geomorphology and fish habitat, and ground-truth the aerial photograph assessment."*

Color aerial photographs were 1:24,000 scale. It is questionable whether this scale is adequate for Washington Watershed Analysis methodology. The DEIS and technical appendix should describe what Washington watershed methodologies were used (that is, which modules were used).

*"For the impact assessment, it was assumed that the action alternatives would require clearing vegetation over a 150 ft wide corridor along the entire project area. This assumption is conservative because BPA would seek to minimize vegetation clearing in riparian areas by not placing towers in riparian areas."*

The statement conflicts with other statements in the DEIS and its technical appendices. The ROW would be 150 ft with or without towers; the DEIS indicates that clearing could occur in an area as wide as 400 ft. The DEIS and technical appendices need to speak consistently on the nature of project features (number location, width, etc.) of the proposed action.

*"...it was assumed that the action alternative would require clearing vegetation over a 150 ft wide corridor...."*

This assumption is incorrect based on conflicting information provided in sections 1.1.1.2 and 1.1.1.5. The DEIS and technical appendices need to speak consistently on the nature of features of the proposed action.

### **3.2.1 Cedar River Watershed Habitat Conservation Plan**

Any reference to "ecological reserve" in this or any other section of the DEIS or its technical appendices is incorrect. The "ecological reserve" as a "conservation strategy" is not included in the final signed version of

the HCP (2000). This section and any other references to the HCP should be revised, updated, and clarified throughout the DEIS and its technical appendices to reflect content of the final version of the HCP (2000).

### **3.2.1 CRW HCP**

*"...principal water supply for the City of Seattle..."*

The Cedar River Watershed is not the principal water supply just for the citizens of Seattle, but numerous other communities as well (27 additional purveyors and communities), totaling 1.3 million people. The DEIS and technical appendix should accurately describe the role of the Cedar River Watershed.

### **3.4.1 Alternative 1**

The DEIS and the technical appendix need to present a complete and accurate analysis of fisheries and potential impacts. Several errors in this section suggest the environmental analysis for the CRW portion of the proposed action was not thorough. These errors include:

#### **Segment C –**

*"...the floodplain (of the Cedar River) is not confined... (where it crosses the proposed ROW)"*

The river is actually moderately confined within a glacial fluvial terrace.

*"Currently, this reach of the Cedar River supports rainbow and cutthroat trout."*

The Cedar River also contains non-salmonid species.

*"Currently, this reach of the Cedar River supports rainbow and cutthroat trout."*

Although this statement is true, it is misleading insofar as these two species occur in a ratio of approximately 99 to 1 (rainbow to cutthroat). The DEIS and technical appendix should state this clearly so as to not be misleading. The same clarification should be made in all other sections where similar statements occur.

*"Once passage around the Landsburg Diversion Dam has been established (in September 2002), it is likely that this reach would support all anadromous species now prevented from upstream migration by the Landsburg Diversion Dam, including chinook, coho salmon, and steelhead."*

Sockeye will be prevented from passage beyond Landsburg even with the new passage facility. The DEIS and technical appendix should correct this statement in all sections in which it occurs in error.

#### **Segment D –**

*"The affected streams have a pool-riffle morphology..."*

As described in the paragraph above, many streams in this segment flow down relatively steep slopes (20 to 40 percent). Stream gradients on these slopes are generally too high to support pool-riffle morphology and are more commonly step-pool or cascade channel types.

*"Rock Creek, downstream of this segment, is known to be used by cutthroat trout and, where it joins with the Walsh Lake diversion ditch, by coho salmon and Walsh Lake kokanee."*

Rock Creek does not join with the Walsh Lake diversion ditch. It flows directly to the Cedar River and is not connected to the ditch. The DEIS and the technical appendix need to present a complete and accurate analysis of fisheries and potential impacts.

### **3.4.2 Alternative 2**

#### **Segment G**

*"Currently, this reach of the Cedar River supports rainbow and cutthroat trout."*

Non-salmonid species are also present there. See comment re: ratio in comment above. The DEIS and the technical appendix need to present a complete and accurate analysis of fisheries and potential impacts.

*"Once passage around the Landsburg Diversion Dam has been established in September 2002, it is likely that this reach would support all anadromous species now prevented from upstream migration by the dam, including chinook, coho and sockeye salmon, and steelhead."*

Not all anadromous species will be allowed passage. See comments above. The DEIS and the technical appendix need to present a complete and accurate analysis of fisheries and potential impacts.

### **3.4.3 Alternative 3**

Another error/omission: Taylor Creek also has resident cutthroat trout. See the more detailed comment in SPU's review of the DEIS. The DEIS and the technical appendix need to present a complete and accurate analysis of fisheries and potential impacts.

#### **Segment J**

*"Within the project area, Taylor Creek is known to contain resident rainbow trout, but a natural falls near its mouth renders the stream inaccessible to anadromous fish."*

Non-salmonid species are also present. SPU data indicate that Taylor Creek has predominately cutthroat trout and perhaps relatively small numbers of rainbow trout. The DEIS and the technical appendix need to present a complete and accurate analysis of fisheries and potential impacts.

*"Currently, this reach of the Cedar River supports rainbow and cutthroat trout."*

Non-salmonid species are also present. See previous comment on ratio. The DEIS and the technical appendix need to present a complete and accurate analysis of fisheries and potential impacts.

### **3.5 Access Roads**

*"All new access roads would that have the potential to affect fish-bearing streams would be situated within the alternative ROW's...."*

This statement appears to be inconsistent with information provided in Section 1.1.1.3. Also, it appears the effects of temporary roads and construction of the 50 ft temporary construction easement previously mentioned by BPA (but not mentioned in the DEIS) are not considered at all in this environmental analysis.

### **4.0 Environmental Consequences**

*"All of these are recognized as common impacts to fish populations and habitat as a result of timber harvest and associated activities in mountainous terrain in the Pacific Northwest (WFPB 1998, City of Seattle 1998). It is largely incidental that timber harvest would be followed by installation of a transmission line for the proposed project."*

This statement appears to suggest: "the proposed action is no different than a timber harvest, it just happens that BPA will be putting in a transmission line after the trees are cut." This statement obscures the point that

timber harvest would not happen if the transmission line was not constructed. It also fails to acknowledge the notion that impacts of the proposed vegetation clearing in the ROW would be long-term and on-going—much longer and more disruptive than a timber harvest. The DEIS and the technical appendix need to present an accurate description of the proposed action. More importantly, the CRW HCP provides long-term protection status to forests in the CRW. Thus, these forests will continue to age and provide increasingly unique, low elevation conifer forest habitats in the rapidly developing Puget Sound region. The DEIS and technical appendix should acknowledge the unique long-term forest protection status provided by the HCP. BPA's environmental analysis should be conducted recognizing the increasing regional biodiversity value of the forest it proposes to permanently clearcut.

*"...or toxicity or deterioration of water quality from accidental spills of hazardous materials."*

The DEIS and technical appendix should evaluate the potential of leaching of metals from the towers or lines, and the associated risks to water quality.

#### **4.1 Construction Impacts**

##### **4.1.1 Impacts Common to All Action Alternatives**

###### **4.1.1.1 Impacts**

###### ***Disturbance to Fish Habitat from Removal of Riparian Vegetation***

*"Riparian trees protect fish habitat by filtering runoff before it reaches the stream, shading the stream and reducing mid-summer temperatures, providing LWD to streams which increases habitat complexity, and providing organic matter to the stream which increases productivity in the aquatic food chain"*

Riparian trees and vegetation also provide soil stability, shoreline stabilization, and insects as food.

*"BPA would prepare a clearing plan ..."*

All methods proposed in this plan would have to meet and be conducted by SPU standards and with SPU approval for all areas within CRW.

*"... drainage features would be installed where needed in accordance with the Washington Forest Practices Rules (WSFPR).*

SPU standards would have to be followed if they exceed WSFPR and would be subject to SPU approval for areas in CRW.

###### ***Culvert or Bridge Installation—***

*"Some fish in the streams along the proposed transmission line ROW, including sensitive species such as bull trout, steelhead, and salmon, migrate upstream to spawn."*

Although it is mentioned elsewhere in the report that bull trout are not likely to be found in the project area due to warm stream temperatures, it is implied that they are here. The CRW HCP presents strong evidence that bull trout are not resident in the lower Cedar River system, but this source is not cited in this technical appendix. The DEIS and technical appendix need to present a complete and consistent analysis of fisheries and potential impacts.

*"BPA would comply with guidelines for fish passage in the design ...."*

The DEIS and technical appendix should commit to ensuring all pertinent plans would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

#### ***Fine Sediment Delivery to Streams—***

*"Clearing of the transmission line ROW, grading and placement of tower footings, and construction of new access roads and their associated stream crossing structures would expose soil to the erosive forces of wind, rain, and surface runoff during construction and until sites were revegetated. Such erosion would deliver fine sediment into streams....Construction of the transmission line would cause low impacts to fish and their habitat as a result of erosion and sedimentation... BMPs that would minimize potential impacts to fish from turbidity and sedimentation."*

This analysis of potential erosion effects does not mention that the types of soils the ROW passes through on the south slope of Brew Hill are poorly consolidated glacial sediments that easily erode. SPU has observed active erosion in the existing ROW where Rock Creek is incised into a narrow ravine. Although a note in this report mentions the existing ROW offers a good basis for predicting effects of the proposed ROW, impacts of the existing ROW to streams (such as erosion) are rarely mentioned in the analysis. Rather than acknowledging that such erosion could be an ongoing problem, the analysis states that revegetation and BMPs will readily eliminate erosional effects. This is questionable considering BPA's present level of management of its existing ROW. The DEIS and the technical appendix need to present a complete and accurate analysis of fisheries and potential impacts.

*"BPA has constructed transmission lines using a number of standard construction practices and BMPs that would minimize ...."*

The DEIS and technical appendix should commit to ensuring all pertinent plans would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

#### ***Adverse Effects to Fish from Accidental Spills of Hazardous Materials --***

*"Spill Prevention and Contingency Plan..."*

The DEIS and technical appendix should commit to ensuring all pertinent plans would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

#### ***Impacts to Species Listed and Proposed for Listing under the Endangered Species Act—***

Impacts of reduced LWD input and increased stream temperatures are described as possible impacts to listed or proposed listed species. Sedimentation, as described just above, is also a potential impact.

*"Other streams in the project area are too narrow and steep to support chinook salmon spawning habitat, and all streams in the project area are too warm to support bull trout spawning habitat."*

This is likely untrue for Steele Creek and lower Taylor Creek. The DEIS and technical appendix need to present a complete and consistent analysis of fisheries and potential impacts.

*"... all streams in the project area are too warm to support bull trout."*

The DEIS and technical appendix should provide data or appropriate references to support this contention. The DEIS and technical appendix need to present a complete and consistent analysis of fisheries and potential impacts.

#### ***4.1.1.2 Mitigation***

The term "mitigation" as used here appears to refer to methods for minimizing impacts, not actions to replace lost function. One of the most serious deficiencies in the DEIS and all of its technical appendices is the lack of compensatory mitigation for the unavoidable impacts that would occur. Impacts to fish populations and habitat (including listed species) are acknowledged in the DEIS and its technical appendices, yet no compensatory mitigation is recommended to compensate for these impacts. The DEIS and technical appendices should commit to compensatory mitigation for unavoidable impacts.

BPA is obligated to acknowledge and meet the intent of local regulations, including sensitive areas provisions. For example, King County requires other public utilities such as Puget Sound Energy to compensatorily mitigate every tree removed from wetland and riparian habitats during operation and maintenance of their transmission system. The DEIS and technical appendix should commit to similar or other adequate and appropriate compensatory mitigation to meet the intent of local sensitive areas provisions.

The DEIS and technical appendix should acknowledge that all pertinent plans, BMPs, and methods mentioned in this section would meet SPU standards and be subject to SPU approval for all areas within CRW.

*"To minimize potential impacts to fisheries habitat from clearing of vegetation:  
BPA would site the transmission line to minimize clearing of riparian vegetation..."*

Locating the proposed transmission line ROW alternatives appear to be relatively fixed. Information presented in the BA on the location of project facilities for the proposed action also suggests these features are relatively fixed. Therefore, siting the line to minimize clearing of riparian vegetation is unlikely. The DEIS, its technical appendices, and associated permitting documents need to present a complete and consistent description of the proposed action.

*"Culverted crossings in areas where fish are present would be designed to achieve appropriate flow and depth for fish passage and would be large enough to prevent clogging with debris."*

How large would these be? It seems unlikely that absolute prevention of debris clogging would be achieved. What about maintenance of culverts? The DEIS and technical appendix should describe the process for determining the size and location of culverts, and should disclose who will be responsible for maintaining roads and culverts. The DEIS and technical appendix need to present a complete and consistent analysis of fisheries and potential impacts.

*To minimize the potential for increases in fine sediment delivery to streams:  
"...In areas that could be susceptible to erosion, BPA would stabilize the site or road using a variety of methods, which may include ripraping or mulching."*

Mulching is not likely to stabilize the site or road, although it could provide some temporary reduction in sedimentation. Ripraping along waterbodies is generally not a desirable form of bank stabilization, except where absolutely necessary to protect built structures. In such cases, King County has required compensatory mitigation for the use of riprap. The DEIS and technical appendix should describe the compensatory mitigation to be implemented should riprap be used.

*"BPA would site towers and roads appropriately, use sediment and erosion control methods during construction, and minimize clearing of riparian vegetation."*

The DEIS and technical appendix should describe these project components. Information provided in the BA suggests that BPA has conducted sufficient design engineering for the proposed action as to be able to describe these components in detail. The DEIS' s "trust us" approach is not satisfactory for this proposed action.

*"BPA uses several standard methods to minimize erosion and sedimentation associated with transmission line construction."*

The DEIS and technical appendix should describe these "standard methods."

*"Except at stream crossings, roads would be constructed outside of the riparian corridors of streams,"*

Does this mean the HCP 300 ft buffer? The DEIS and technical appendix should define what is intended by "riparian corridors."

*"BPA would comply with the standards and guidelines established in the Record of Decision (ROD) for vegetation management (BPA 2000)."*

The DEIS and technical appendix should include a summary. It is not reasonable for readers to obtain and read the ROD.

*"To avoid potential impacts to fish from acoustic shock"*

Specifically, "working within WDFW windows" is missing.

#### **4.1.1.3 Cumulative Impacts**

There is no mention of cumulative impacts relative to the existing transmission line ROW. Clearing of the existing ROW has resulted in loss of LWD recruitment, reduced shading to streams, and probably increased erosion. Yet the analysis in this report does not address the cumulative effects that the proposed transmission ROW would have to these already existing impacts. This comment applies to all the Cumulative Impacts assessments in the DEIS and its technical documents.

#### **4.1.1.4 Unavoidable Effects, Irreversible, or Irrecoverable Commitment of Resources**

*"Even with BMPs to control erosion, road construction would likely cause some fine sediment to enter nearby streams. This effect could be minimized by consistent monitoring, especially during storm events, and by proper maintenance of road and stream crossings."*

No monitoring program is described anywhere in the DEIS or this technical appendix that would address sediment input to streams. Unless BPA is committed to implementing such a monitoring program, this reference should be eliminated and BPA's intent to do no such monitoring should be disclosed. However, the DEIS and technical appendix should describe commitments to avoiding, minimizing, and correcting erosion problems.

*"This effect could be minimized by consistent monitoring, especially during storm events, and by proper maintenance of road and stream crossings."*

Is BPA committing to such monitoring and maintenance?

*"..... because water temperatures are generally too high to support bull trout ..."*

The DEIS and technical appendix need to provide data or appropriate reference to support these conclusions.

#### **4.1.3 Alternative Transmission Line Impacts**

##### **4.1.3.1 Alternative 1**

##### **Impacts—**

*"Construction of Alternative 1 would result in the clearing of 33 ac. within 300 ft. of potentially fish-bearing streams, and 12 ac. within 100 ft. of potentially fish-bearing streams. About 2,900 ft. of stream would be within the cleared ROW."*

This generalized accounting of clearing includes no site-specific information. There is no information presented about how much clearing is associated with what stream crossing. The DEIS and technical appendix need to present a complete and consistent analysis of fisheries and potential impacts.

**Cumulative Impacts—**

**Stream Temperature:**

*"Proposed vegetation clearing would not comply with riparian shade protections called for by either the Washington Forest Practices Rules or the CRW HCP, and may result in local peak stream temperatures exceeding metabolic optima for salmonids. In streams only utilized by resident salmonids, this would constitute a moderate impact. In the three streams potentially utilized by threatened salmonid species (Cedar River, Raging River, and Rock Creek), this could constitute a high impact...The third stream, Rock Creek, would be crossed in a headwaters area and would be very unlikely to be utilized by chinook salmon (which avoid such narrow, high-gradient streams) or bull trout (which do not spawn in such warm streams). These considerations may result in a low impact to threatened species, but this conclusion cannot be confirmed until the extent of clearing needed in the affected areas is known."*

This section needs to disclose that Rock Creek will likely have coho salmon, a species proposed for listing. It should receive protection equivalent to listed species, and therefore rates as a **high** impact. Also, this environmental analysis is not clear with regard to the extent of clearing. The results of this analysis can not be evaluated. The DEIS and technical appendix need to assume a specific level, presumably a maximum level, of clearing for a review of the analysis to be possible. The DEIS and technical appendix need to present a complete and consistent analysis of fisheries and potential impacts.

**LWD Recruitment:**

*"Currently, LWD recruitment is protected by provisions of the Washington Forest Practices Act and the Cedar River and WDNR HCPs that ensure retention of riparian forest buffers 100 to 300 ft. wide. Proposed vegetation clearing would not comply with those protections and may result in reduced LWD recruitment and resulting adverse impacts to in-stream fish habitat."*

No attempt is made to quantify how much stream would be affected by clearing of these buffer areas. SPU has estimated that approximately 1,800 ft of Rock Creek is within 300 ft of the cleared right of way. Streams that run parallel to the ROW will have more impact. The DEIS and technical appendix need to present a complete and consistent analysis of fisheries and potential impacts.

*"Because no herbicides would be used in vegetation control within 400 ft. of streams and none would be used in the CRW, cumulative effects of toxic substances from the power line would be unlikely even when combined with other sources in the watersheds."*

Again, are there any toxics (metals) leaching off the lines or towers? The DEIS and technical appendix should evaluate the potential for such leaching, and the associated risks to water quality.

**4.1.3.2 Alternative 2**

**Impacts—**

*The Alternative 2 ROW would be 9 mi. long and cross 11 fish-bearing (Type 1, 2, or 3) streams and an unknown number of non-fish-bearing (Type 4 or 5) streams.*

Descriptions of segments E, F, and G (the difference from Alternative 1) only identify the Cedar River – yet 2 additional stream crossings are numbered here compared to Alternative 1. The DEIS and technical appendix need to present a complete and consistent analysis of fisheries and potential impacts.

*“New roads would cross two fish-bearing streams, requiring that culverts or bridges be built.”*

Where would these features be located? Previous sections have not identified them. Reviewers are unable to assess environmental impacts without knowing where these new crossings would be.

#### **4.1.3.3 Alternative 3**

##### ***Cumulative Impacts—***

###### ***Stream Temperature:***

*“The one stream potentially utilized by threatened salmonid species, the Cedar River, runs in a relatively deep canyon where little vegetation clearing may be required—in this case, a low impact would be expected for threatened species. If extensive clearing were required, however, this would result in a high impact.”*

As mentioned above, the DEIS and technical appendix need to be specific about anticipated environmental impacts. Reviewers need to know if this extensive clearing will or will not occur to be able to assess the impacts of the proposed action.

##### *Table 5*

This table contains incorrect information. For example, based on data provided in Burton (1999), the earliest confirmed sighting of Chinook salmon in the Cedar River is August 18. Based on data in Burton (1997), the latest recorded steelhead spawning is June 11, and the latest date of completion of steelhead spawning is August 11. The DEIS and its environmental analyses should be based on correct information on the affected natural resources. This table should be revised to include correct information. (Burton, Karl. 1997. Cedar River steelhead monitoring program annual report. Seattle Public Utilities.) (Burton, Karl. 1999. Temporal and spatial distributions of Cedar River Chinook salmon spawning activity. Seattle Public Utilities.)

Also, this or another table should address lamprey species in the same manner.

#### **4.1.3.6 Access Roads**

***Cumulative Impacts—****Because all roads in the project area are currently managed to avoid delivery of fine sediment to fish-bearing streams, cumulative impacts due to roads would be low under each of the action alternatives.*

This statement is unclear. Not all roads in the project area are currently designed or managed to avoid delivery of fine sediment to streams. Also, it is SPU's opinion that BPA currently does not manage the roads it uses in the CRW such that delivery of fine sediment to fish-bearing streams is avoided. Roads in the CRW are the most significant sources of sediment to streams. Adding more than 1.5 mi of new roadway and impervious surface is a clear and significant cumulative impact. The DEIS and technical appendix need to state clearly what is meant by this statement and acknowledge the significant role of roads in contributing sediment to streams. SPU believes the cumulative impacts of adding such new roads are greater than “low.”

#### **4.2 Operation and Maintenance Impacts**

##### **4.2.1 Impacts Common to All Action Alternatives**

###### **4.2.1.1 Impacts**

*“... routine monitoring of the transmission line.”*

In addition, BPA should be “on call” for response if notified of a problem or need for maintenance at any time by SPU.

*"During routine maintenance, BPA would also inspect roads, identify potential erosion problems, and correct any erosion problems identified."*

An earlier section suggested that inspections would need to be done after storms.

#### **5.3.1 CRW HCP**

The DEIS and technical appendix should clearly acknowledge that the proposed action does not comply with riparian and stream protection provisions specified in the City's HCP.

# Kangley-Echo Lake Transmission Line Project DEIS Appendix B – Final Wildlife Technical Report

Comments from Seattle Public Utilities  
September 4, 2001

*DEIS Appendix citations in italics; SPU comments in normal font.*

The term “conversion” rather than “alteration” is traditionally preferred when referring to converting one habitat type to another, either permanently or temporarily.

### *1.1.1.2 Clearing*

*“A clearing advisory would be generated...”*

An example of how the clearing advisory would work is essential to understanding how variable the area of clearing outside the ROW will be.

*“Merchantable timber purchased from private owners would be marketed and non-merchantable timber would be left lopped and scattered, piled, chipped, or would be taken off-site. Non-merchantable timber may or may not be burned because of air quality constraints... Additional best management practices (BMPs) for timberland would also be used... The total amount of clearing required for this project is unknown at this time... An additional amount of land would be cleared for roads that are needed off the ROW and for roads determined to be in poor condition and requiring upgrading by BPA.”*

SPU is not able to comment on this effectively because insufficient information is presented. How will the merchantable timber be valued, especially in light of the goals of the Cedar River Watershed (CRW) Habitat Conservation Plan (HCP)? That is, the value of the trees to SPU is not so much in their value as timber but in the habitat and water quality functions they provide. The DEIS and technical appendix should indicate how SPU will be compensated for the habitat and water quality values of the harvested trees and the associated opportunity costs that SPU will incur for this lost habitat over the lifespan of BPA’s constructed proposed action. The DEIS and its technical appendices need to present a complete and consistent description of the proposed action.

Also, the DEIS and technical appendix need to commit to regarding the disposition of non-merchantable: is it going to be left or taken, burned or not? The DEIS and technical appendix should describe the BMPs that will be implemented.

The DEIS and technical appendix should present firm estimates of the amount of land to be cleared and where clearing will occur. As evidenced by information presented in the project’s BA, BPA has sufficiently engineered the proposed action such that locations for towers and new roads have been identified. BPA should thus be able (in the DEIS and its technical appendices) to firmly estimate the total amount of clearing for the proposed action. The DEIS and the technical appendix need to present a complete and accurate environmental analysis, which includes the disclosure of such known project characteristics.

Also, the DEIS and technical appendix should state that merchantable timber would be purchased from landowners, subject to landowner approval, and should not be stated as an absolute. Some landowners may wish to retain the logs.

*“... all trees, bush and snags would be felled and stumps over 22” would be removed, including their root systems.”*

The DEIS and technical appendix should describe how far beyond the footprint of the tower will this extensive clearing extend.

#### ***1.1.1.3 Access Road Construction***

*"Clearing and construction activities for new access roads would disturb an area about 20' wide..."*

If the road itself is 20 feet wide, the disturbed area will extend beyond this. The DEIS and technical appendix should clearly indicate if this 20' is in addition to the road itself.

*"...the roadbed would be repaired and reseeded as necessary."*

The DEIS and technical appendix should specify that only native species would be used for revegetation activities in the CRW.

#### ***1.1.1.3 Storage, Assembly, and Refueling Areas***

*"...establish storage areas..."*

The DEIS and technical appendix should address the locations for these facilities as well as related clearing/land-disturbance impacts, their adjacency to sensitive areas, and containment and fire safety design. The DEIS provides no descriptions or specifications for refueling or hazardous materials storage areas, which prevents effective review of the proposed action.

All refueling and hazardous material usage/storage facilities would be required by SPU to be outside CRW boundary. To protect the municipal water supply, SPU has "no-tolerance" objectives for spills or leaks of hazardous materials in the CRW. The DEIS and technical appendix should indicate how all spills would be prevented in the CRW.

#### ***1.1.1.5 Tower Site Preparation***

*"These disturbances could be as large as 370 ft radius..."*

It is confusing to switch from an average reported total area of 30,000 square feet to a maximum radius of 370 ft, which is equivalent to 430,085 square feet. Total area should be reported in all cases so reviewers can effectively evaluate the actual impact.

*"...remove selected trees in a 50-60 foot wide area on each side of the ROW."*

This is inconsistent with the statements in Appendix C that a 75 ft removal zone would be used. The DEIS and its technical appendices need to present a complete and consistent description of the proposed action.

#### ***1.1.1.6 Tower Construction***

*"... helicopter tower erection could be used if access was not available or if sensitive resources would be encountered."*

The DEIS and the technical appendix should define "sensitive resources." Is this the same as sensitive species?

#### ***1.1.1.9 Site Restoration and Clean-up***

*"Disturbed areas would be reseeded with grass or an appropriate seed mixture to prevent erosion."*

The DEIS and technical appendix should commit to using seed mixtures free of non-native and noxious species.

*"The seed mixture would include native plant species and would be free of noxious weeds."*

The DEIS and technical appendix should commit to using mixtures made entirely of native plant species, not an unspecified proportion of native species.

### ***1.2.2 Habitat Fragmentation***

*"Construction of the proposed project would require varying amounts of vegetation clearing, depending upon the alternative selected. This would result in the removal of habitat or potential habitat for many species, potential alteration of habitat conditions for wildlife species, and possibly habitat fragmentation, increasing the amount of edge habitat within the project area."*

Habitat fragmentation is only a part of habitat loss, which is generally ignored by this section (1.2 Key Issues for Wildlife). The preferred alternative will generally result in little increase in habitat fragmentation, but will result in significant habitat loss. The DEIS and technical appendix need to distinguish those components of the project that will cause habitat loss (ROW clearing; substation construction, road-building, etc.) from those that will cause habitat fragmentation (road-building, etc.) and firmly estimate the areas of habitat loss and level of new habitat fragmentation.

### ***1.3 Major Conclusions***

*"Because the project area is not known to be a high use area for listed species, the probability of mortality of listed species from collision or electrocution should be low."*

The DEIS and technical appendix fail to supply data or references to support this statement. The project area (within 0.25 mile of ROW) is not an appropriate size to measure impacts to most raptor species, which typically have large home ranges. An unvalidated sighting of a northern spotted owl recently occurred near Rattlesnake Ridge, which also provides nesting habitat for peregrine falcons. The DEIS and technical report should provide data that supports this statement.

### ***2.1 Date Sources and Study Methods***

*"Field visits occurred on..."*

The DEIS and technical appendix should describe the field methodology, including what data were collected.

### ***2.2 Agencies Contacted***

None of the private landowners along the ROW were contacted.

### ***3.2 Regional Context***

*"The CRW is owned by the City of Seattle and is subject to Washington State law and the policies of the Seattle City Council, as well as provisions for managing lands in the watershed acquired from the federal government. An HCP has recently been signed that governs the management of the watershed for the next 50 years."*

The DEIS and technical appendix fail to mention that the primary management goal of the CRW is water quality and water production for the City of Seattle. The DEIS and technical appendix should explicitly state that the proposed action is inconsistent with the CRW HCP.

### **3.3 Study Area and Approach**

*"Wildlife species and their habitats...are discussed at two levels..."*

The DEIS and technical appendix state that the broad project vicinity will be discussed to address issues related to wide-ranging species, migratory species, and species with large home ranges. However, other than a general description of the area, there was no discussion of the impacts of the project on wide-ranging species, migratory species, and species with large home ranges and their habitats. The DEIS and technical appendix should include this analysis.

*"The project area addressed in a more focused manner includes only the area within 0.25 mi. of the proposed transmission line ROWs."*

A project area of 0.25 mile from the ROW is too small for the scale of home range sizes and dispersal capabilities of many wildlife species of concern (e.g. spotted owl, pileated woodpecker, northern goshawk, marten, fisher...). The DEIS and technical appendix should include a discussion of the fact that edge effects from the ROW will extend into the surrounding forest for at least 200 m. This should be considered in mitigation for removal of late successional habitat.

*"Within the ROWs, the predominant vegetation type is early seral in mid to late coniferous forest."*

The DEIS and technical appendix should describe what this means.

#### **3.3.1 Wildlife Habitats Within the Project Area**

*"Coniferous forest – late... CFL... Late seral second- or third-growth coniferous forest. Reaching a mature stage but not considered late-successional habitat."*

The DEIS and technical appendix should describe the difference between seral and successional. There is 50-80 year old coniferous forest along much of the ROW in the CRW, which could be defined as mid-seral, mid-successional, or mature.

#### **3.3.2 Species to be Analyzed**

*"For the purpose of this document, species that are federally-listed as threatened or endangered; federal species of concern; and Washington State listed threatened, endangered, sensitive or monitor species with the potential to occur on the west side of the Cascade Mountains were selected for analysis."*

The DEIS and technical appendix should address all species listed in the CRW HCP.

##### **3.3.2.1 Forest Community Dependent Species**

*"An historic spotted owl sighting occurred on lands owned by the Weyerhaeuser Company. This single owl reported in 1993 was over 0.5 mi. from the proposed Alternative 3 ROW and, therefore, was not within the project area."*

Spotted owls have designated home ranges in the northwest Cascade province of 1.8 miles from an activity center. The 0.5 mile threshold specified here is not appropriate. An unvalidated but reliable spotted owl sighting also occurred near Rattlesnake Lake in early 2001.

*"Northern goshawks, ...pileated woodpeckers, and Vaux's swifts are also unlikely to nest within the project area."*

Though these species are known to nest in late-seral forest, specific habitat requirements for these species may occur in the proposed ROW. Goshawks are known to nest in stands with >15' dbh trees; pileated woodpeckers nest in snags >20" dbh; and swifts nest in hollow trees >20" dbh. There are likely trees/stands with these characteristics along the ROW. The DEIS and technical appendix should include an analysis that considers there will be nesting habitat in CRW in the project area in the future, and that the ROW project will significantly impact that habitat.

*"Bats ...associated with LS or OG forest, this habitat type is not expected to occur in the project area."*

This habitat will occur in CRW in the project area under the HCP; the DEIS and technical appendix need to acknowledge and consider this circumstance.

*"...project area does not contain suitable nesting habitat for bald eagles."*

The DEIS and technical appendix should acknowledge suitable habitat will develop in the CRW under the HCP, and should discuss the possibility.

*Table 3. Species with Federal or State Status Not Expected to Occur within the Proposed Project Area*

Habitats for the marbled murrelet, Canada lynx, Johnson's hairstreak, grizzly bear, and gray wolf (along with many other species) may occur in the project area in the CRW in the future.

*Table 3: Peregrine falcon is not expected to occur in project area because of lack of suitable nesting and foraging habitat.*

There is suitable nesting habitat for peregrine falcon within the lower CRW, and the project area is within the home range and would provide foraging habitat. This wide-ranging species with a large home range should be included in the DEIS and technical appendix discussions, especially considering the issue of raptors and electrocution on powerlines.

*Table 3: Golden eagle is not expected to occur in project area (no reason given)*

The DEIS quotes a reference which states that eagles have been observed foraging in clearcuts at moderate elevation west of the Cascade crest, so it is unclear why they eliminated this species from consideration. Further data should be provided, or the species should be included in the analysis.

*"Because these characteristics are usually associated with late-successional or old-growth forest, this habitat type is not expected to occur in the project area."*

Facilitation of these habitats is a primary goal of the CRW HCP. Though these conditions do not currently exist along the ROW, they likely will in the future. The DEIS and technical appendix should consider this.

### **3.3.2.3 Aquatic Community Dependent Species**

*"Cascades frog is found... above 2,600 ft in elevation..."*

This species was found as low as 1,600 ft. elevation in the CRW. The DEIS and technical appendix analysis should be adjusted accordingly.

#### **4.1.1 Alternative Transmission Line Impacts**

*...assuming that a 150 ft ROW is cleared....*

This assumption is inconsistent with information provided in sections 1.1.1.2 and 1.1.1.5. This analysis also fails to consider impacts associated with clearing new (temporary and permanent) roads and staging areas, as well as short- and long-term impacts of the 50 ft temporary construction easement previously mentioned by BPA (but not mentioned in the DEIS). SPU believes Table 5 significantly underestimates habitat impacts. The DEIS, its technical appendices, and associated permitting documents need to present a complete, accurate, and consistent description of the proposed action.

##### **4.1.1.1 Impacts**

The DEIS and technical appendix should include a discussion of the impact of exposure to electric and magnetic fields (EMF) and the risk of decreased immune response for limited-mobility species, especially amphibians.

*"Disturbance of Wildlife – Noise from blasting would...result in a low-level impact."*

Blasting could result in moderate level impact if blasting is done during breeding season near a nest or den site. The DEIS and technical appendix need to discuss the impacts of blasting and other construction activity (and resulting noise and dust).

*"Habitat Fragmentation—Under all of the alternatives, the amount of habitat fragmentation within the project vicinity would increase, resulting in a moderate-level impact. Fragmentation would lead to an increased amount of edge habitat in the area."*

Habitat fragmentation is included here, when it should be a subset of habitat loss. Additional forest fragmentation under the preferred alternative would be small; however, habitat loss would be significant.

##### **4.1.1.2 Mitigation Common to all Alternatives**

The DEIS and technical appendix should consider all species included in the CRW HCP and should commit to compensatory mitigation designed to offset habitat loss for these species.

Most impacts were described in Section 4.1.1.1 as moderate or high, yet the mitigation proposals are primarily minimizations of impact. This is not adequate mitigation for the moderate/high impacts of permanent loss of habitat, permanent habitat fragmentation, mortality, and disturbance. The DEIS and technical appendix should acknowledge this and commit to mitigation actions that include compensatory mitigation, such as creation and protection of equivalent quality habitat of greater area than that lost due to construction of the proposed action. This needs to be habitat that would not already have occurred and/or been protected.

The fact that high quality low elevation late successional (LS) habitat will be created in CRW under HCP, and that the ROW will permanently fragment this large block of habitat needs to be addressed by the DEIS and technical appendix. Mitigation such as leaving corridors of trees maintained at a specified height through the ROW should be addressed.

##### *Impacts on Threatened, Endangered and other Sensitive Species*

Proposed mitigation would appear to be ineffective for mitigating impacts to species associated with forested and wetland/riparian habitats. Anticipated impacts will only benefit early seral-associated species.

The DEIS and technical appendix fail to include creating and leaving snags of acceptable height in cleared zones of forested riparian and wetland areas. The DEIS and technical appendix should commit to ensuring all pertinent plans would meet and be conducted by SPU standards and approval for those portions of the project constructed in the CRW.

Minimizing forest vegetation clearing is not adequate mitigation for forest habitat conversion to early successional habitat. The DEIS and technical appendix should acknowledge this and commit to compensatory mitigation that effectively offsets habitat conversion.

Commercial (or ecological) thinning will also need to be conducted. The DEIS needs to include specifics on how this would be accomplished. For example, will BPA pay for thinning on adjacent lands? How many acres? Located where?

Reviewers of the DEIS and this technical appendix need targets for coarse woody debris density (including diameter and decay class) to effectively evaluate the efficacy of this proposal. The species for which this will provide mitigation need to be included in the DEIS and technical appendix.

### ***Habitat Fragmentation***

Clearing only as much vegetation as necessary does not compensate for the habitat fragmentation created by construction of new ROW, roads, and substation—especially considering the major fragmentation the ROW will create in low elevation late successional forest in CRW in the future. The DEIS and technical appendix should acknowledge this and commit to appropriate compensatory mitigation.

Leaving coarse woody debris is unlikely to address connectivity issues for most species. Even for those species that use coarse woody debris, the microclimatic differences between a closed canopy forest environment and an open environment may prevent use. The DEIS needs to add specifics as to exactly which species will be helped by this proposal.

Leaving some areas intact will be inadequate to mitigate for the fragmentation the proposed action will create. Specific compensatory mitigation to offset this fragmentation need to be added to the DEIS and technical appendix.

### ***Bird Collision or Electrocutation***

*"...guidelines described in ...1981 report..."*

The guidelines BPA will use need to be described in the DEIS in sufficient detail for reviewers to evaluate their effectiveness. Also, more current techniques than from 1981 need to be reviewed and used to hazard-proof the lines from collision and electrocution, especially by raptors. A complete discussion of this issue needs to be included in the DEIS and technical appendix so reviewers can evaluate whether the methods will be effective.

A discussion of the possibility of placing perches in safe locations and barriers to perches in unsafe location on the towers should be included in the DEIS and technical appendix.

A complete discussion of proposed methods to minimize bird collision with ground cables should be included in the DEIS and technical appendix.

A monitoring program to evaluate the effectiveness and longevity of the techniques to minimize/avoid both electrocution and collision should be included in the DEIS and technical appendix, with adaptive management provisions to change the procedures in case of a pre-determined level of mortality.

## *Disturbance of Wildlife*

*"Prior to construction, verify that no new bald eagle nests have been constructed in the project area. If any are found, avoid construction within 2,600 feet of the nest during the nesting period."*

The project area, defined as only that area within 0.25 mile, or 1,320 feet, of the ROW, is insufficient to guarantee that no eagle nests will be disturbed by construction. A minimum of 2,600 ft on either side of the ROW will need to be surveyed for nests. The survey methodology needs to be included in the DEIS and technical report.

Nests of other species should also be considered in the DEIS and technical appendix..

*"Plan flight paths for helicopters..... do not fly over potential nesting habitat for either northern spotted owls or marbled murrelets in the project vicinity..."*

"Project vicinity" needs to be defined in the DEIS and technical appendix.. Also, species other than the three mentioned also need to be considered in this section.

### **4.1.2.1. Alternative 1**

*"...Alternative 1 would result in low-level impacts on forest community dependent species."*

Low elevation late successional habitat is extremely uncommon in the entire Puget lowlands. 86 acres of the 120 forested acres to be cut is in the "conifer forest – late" class, i.e., 18 –36 inch dbh trees. These habitat patches in CRW will likely develop late successional habitat characteristics over the term of the HCP, which will make this functional habitat for late successional/old growth dependent species. Given the paucity of late successional habitat at low elevation, this proposed habitat conversion will have a significant future impact. The impact cannot be dismissed as low-level. The DEIS and technical appendix should acknowledge this and reclassify this impact as moderate and commit to appropriate and effective compensatory mitigation.

*"Because this vegetation removal could result in a loss of productivity in adjacent aquatic habitat but could also be largely mitigated by spanning riparian corridors, this would represent a moderate to low level impact."*

This paragraph is inherently contradictory. It states that 10 ac of forested riparian habitat will be removed, yet it also says that this removal is mitigated by spanning riparian corridors. The removal of 10 ac of riparian habitat is a permanent habitat loss, for which compensatory mitigation should be required. Simply not removing all riparian vegetation is not adequate mitigation. The DEIS and technical appendix should acknowledge this and commit to effective compensatory mitigation.

### *Mitigation*

It is confusing that most of the mitigation proposals listed here are simply a repeat of those already listed in 4.1.1.2 as common to all alternatives. It would be clearer if the DEIS and technical appendix listed only additional mitigation specific to each alternative.

*"Minimize soil disturbance within or adjacent to wetlands and stream banks to the extent possible."*

The term "extent possible" should be quantified in the DEIS and technical appendix, and should include methods for minimizing soil disturbance described. In areas where soil disturbance cannot be minimized, adequate compensation mitigation should be provided and described.

*"Mitigation measures to minimize or reduce potential impacts to species dependent upon early seral habitats: Create snags along edges..."*

How many snags will be created? What diameter and height of trees will be used? What methods will be used to create the snags? The DEIS and technical appendices need to provide these specifics so reviewers can adequately evaluate the efficacy of the proposal.

#### **4.1.3.1 Access Roads Impacts**

*"A portion of this clearing would coincide with clearing for the transmission ROW and so is not additive."*

Reviewers need to know exactly how many acres will coincide with clearing the ROW and how many will be additional in order to evaluate the impact of total cleared area. In addition, habitat converted to road (impervious surface, no vegetation) is not equivalent to habitat converted to grass/forb/shrub, so needs to be compensatorily mitigated separately.

#### **4.1.3.2 Mitigation**

*"Avoid building new roads within or adjacent to wetlands."*

Is this a firm commitment to building no roads in wetlands or their buffers? If so, the DEIS and technical appendix should clarify this commitment and define buffer width. If this is not a commitment, then the area of road estimated to be built in wetlands, which wetlands will be impacted, and the appropriate compensation mitigation should be included in the DEIS and technical appendix.

#### **4.1.5 Cumulative Impacts**

*"Within the CRW, vegetation removal and thus habitat alteration is expected to be minimal, as described in the HCP (City of Seattle 1998, 2000). For this reason, clearing associated with the proposed project would be the greatest foreseeable impact in this portion of the project area. The HCP also outlines plans to close certain roads within the CRW, which could potentially mitigate impacts from proposed new access roads that would be constructed in conjunction with the proposed project."*

Habitat is dynamic and is constantly changing. The DEIS does not consider how the habitat in the CRW will change over time. The road decommissioning program in the CRW HCP can be viewed as mitigation for past road-building projects in the CRW, and should not be used as mitigation for a BPA project. BPA must mitigate for their own impacts, and cannot use commitments of landowners in parts of the project area as mitigation for BPA's actions. The DEIS and technical appendix should explicitly acknowledge this circumstance and should omit this statement.

#### **5.3.2 Cedar River Watershed Habitat Conservation Plan**

*"The CRW HCP (City of Seattle 1998, 2000) was prepared by SPU to establish a comprehensive management plan for long-term management of the CRW. The HCP includes numerous provisions intended to maintain the quality of wildlife habitat and the health of wildlife populations in the CRW. Objectives of the HCP include meeting the legal requirements of the ESA, contributing to the conservation of unlisted species as appropriate, providing a net benefit over current conditions to both listed and unlisted species, and developing conservation strategies for at-risk species and their habitats."*

The DEIS and technical appendix should explicitly acknowledge the CRW HCP regulating agencies (e.g. USFWS, NMFS) and the fact that the proposed action not a "covered activity" under the HCP.

# Kangley-Echo Lake Transmission Line Project DEIS Appendix C – Final Vegetation Technical Report

Comments from Seattle Public Utilities  
September 4, 2001

*DEIS Appendix Citations in italics; SPU comments in normal font.*

## **1.2.3 Removal of Forest within the Cedar River Watershed**

*"The HCP for the CRW proposes strict limitation of logging and other forest conversion within the watershed."*

The proposed action is not a "covered activity" under the Cedar River Watershed (CRW) Habitat Conservation Plan (HCP). The DEIS and technical appendix should clearly disclose that the proposed action is not a "covered activity" and provide an evaluation of this circumstance.

### **1.3.1 Uniformity of Vegetation Communities Between Alternatives**

*"Because most of the project area is second-growth forest that has been actively managed since around 1920, the existing forest stands are more or less uniform, with only slight variation in age and size classes between stands."*

Though forests in the project area have been harvested in the past, existing forest communities provide a high diversity of habitats for forest-dwelling species. More importantly, the CRW HCP provides long-term protection status to forests in the CRW. Thus, these forests will continue to age and provide increasingly unique, low elevation conifer forest habitats in the rapidly developing Puget Sound region. The DEIS and technical appendix should acknowledge the unique long-term forest protection status provided by the HCP. BPA's environmental analysis should be conducted recognizing the increasing regional biodiversity value of the forest it proposes to permanently clearcut.

### **2.1 Data Sources and Study Methods**

*"Washington Department of Natural Resources (WDNR) Natural Heritage Program (NHP) lists of threatened, endangered, and other special-status plant species."*

Though this database is an important resource, it relies on contributed information and should only be used as a crude guide to species distributions.

*"It was also assumed...that vegetation in an additional 75 ft zone on either side of the cleared area would be partially cleared ..."*

This is inconsistent with the statement in Appendix B and information provided in Section 1.1.1.5 of this report that indicate 50 to 60 ft would be partially cleared. The DEIS, its technical appendices, and associated permitting documents need to present a complete and consistent description of the proposed action. Such inconsistencies make this DEIS difficult to review and evaluate. In any case, if this approach applies to Alternative 1, as the text suggests, does this mean that both sides of the 300 ft total ROW will be treated in this way, resulting in a 450 ft wide managed ROW? The DEIS and technical appendage should be explicit about this.

This analysis also apparently fails to describe impacts associated with clearing new (temporary and permanent) roads and staging areas, as well as short- and long-term impacts of the 50 ft temporary

construction easement previously mentioned verbally by BPA to CRW staff (but not mentioned in the DEIS). The DEIS and its technical appendices should explicitly discuss impacts associated with temporarily disturbed areas. SPU believes Table 5 underestimates habitat impacts.

## **2.2 Agencies Contacted**

No private landowners were contacted.

## **3.1 Regional Overview**

*"The project area lies almost entirely within second-growth forests that have been maintained in timber production for most of the last 150 years."*

This is true. However, there is no mention that the CRW HCP effectively places CRW forests in long-term protection status. The DEIS and technical appendix should acknowledge the unique long-term forest protection status provided by the HCP. BPA's environmental analysis for this project should be conducted recognizing the increasing regional biodiversity value of the forest it proposes to permanently clearcut.

The DEIS and technical appendix indicate the most prevalent plant communities in the project area are TSHE/POMU and TSHE/TITR communities. However, paragraph 4 of this section indicates vegetation in the project area is dominated by PSME (Douglas-fir). The DEIS and technical appendix need to present a complete and accurate analysis of vegetation and potential impacts.

## **3.2 Regulations, Standards, and Guidelines**

*"The CRW HCP outlines proposed regulation of activities within the watershed."*

Again, there is no mention that the CRW-HCP effectively places forests in the CRW in protection status and that forest management activities in the CRW are for restoration purposes. The DEIS and technical appendix should acknowledge the unique long-term forest protection status provided by the HCP. BPA's environmental analysis for this project should be conducted recognizing the increasing regional biodiversity value of the forest it proposes to permanently clearcut.

## **3.3 Project Area and Approach**

*"The project area for vegetation is a 0.5 mi. corridor centered on the ROWs of the proposed alternatives."*

The definition of project area is inconsistent with Final Wildlife Technical Report, which describes the project area as being within 0.25 mile of the ROW. The DEIS and technical appendices need to indicate why the study area or project area for this environmental analysis varies among disciplines.

## **3.4 Transmission Line Alternatives**

*"Twelve major vegetation cover types were defined and mapped for this project (Figure 3). Their relative areas are shown in Figure 4. The 12 cover types are described below:*

- **Coniferous forested, early seral** ...generally less than 20 years old...
- **Coniferous forested, mid-seral** ...range in size from 12 to 20 in. DBH and ... generally in the range of 15 to 35 years...
- **Coniferous forested, late seral** ...tends to be 36 to 75 years old... range in size from 18 to over 36 in..."

These definitions of seral classes are not accurate. While many variables are involved in the identification of seral class, most professionals in this field would not consider a 40- or 60-year-old west-Cascadian Douglas-fir forest as late-seral. The DEIS and technical appendix should use standard definitions of seral class.

*"Forested communities within the project area have been further sorted into one of four age classes. Due to the history of timber management in the project area, the age classes chosen reflect typical rotation and/or thinning intervals in timber production."*

Timber production schedules are no longer relevant in CRW. The DEIS and technical appendix should acknowledge the unique long-term forest protection status provided by the HCP. BPA's environmental analysis for this project should be conducted recognizing the increasing regional biodiversity value of the forest it proposes to permanently clearcut, not on typical rotation or thinning intervals for timber production.

The DEIS and technical appendix fail to distinguish the distinct, regenerated forest habitat that lies in a strip adjacent to and west of the preferred option. This narrow strip of forest appears to have been cleared of vegetation during construction of the original ROW, but has been allowed to regenerate. As a result, there is an approximately 50 ft band of younger mixed forest (approximately 30 to 50 years old) immediately adjacent to roughly 60 percent of the existing ROW in the CRW. SPU can provide maps delineating this strip. This forest strip coincides with the location of the proposed preferred alternative. The forest outside this strip is generally approximately 60 to 80 years old. The DEIS and technical appendix fail to accurately describe existing conditions. BPA's environmental analysis for this project should be conducted using accurate observations of the forest resources it proposes to permanently clearcut.

### **3.7.2 Survey and Manage Species**

*"Therefore, Survey and Manage requirements are not applicable to this project."*

This is not clear. If BPA owns land "in fee," then that land is federally owned and managed. The DEIS and technical appendix should clarify why such ownership allows BPA to avoid Survey and Manage requirements?

### **3.8 Noxious Weeds...**

*"Scotch broom commonly occurs in the highly disturbed areas of clear-cuts, as well as along the existing transmission line..."*

This statement suggests BPA has actively allowed noxious weeds to invade and persist in their existing ROWs. In fact, this is the case along BPA ROW in the CRW. The DEIS and technical appendix should recognize and explain this existing management approach, and then describe exactly how BPA proposes to manage its existing and proposed ROWs for noxious weeds in the future. If BPA intends to neglect active and effective management of noxious weeds in its ROW, as it does now, then the DEIS and technical appendix need to disclose this information.

The DEIS and technical report should acknowledge that two new noxious weeds have been located in the lower portion of the CRW: yellow hawkweed (*Hieracium caespitosum*) and spotted knapweed (*Centaurea maculosa*). The environmental analysis should take these species into consideration.

## **4.0 Environmental Consequences and Mitigation**

*"Table 3" and "Table 4"*

These tables include redundant information; the numbers contained therein do not correlate between tables. The DEIS and technical appendix need to present pertinent data clearly.

### **4.1.1.1 Impacts**

*"We have used 75 ft on either side of the ROW as an assumption for the analysis."*

This number is not consistent through the DEIS. In 4.1.3.1 of this technical appendix the width is 45 ft; 50 ft was widely referenced in the DEIS. The environmental analysis used in the DEIS and its technical appendices needs to be based on complete and consistent description of the proposed action.

*"In some cases, forested stands, even within the maintained ROW, would not require clearing."*

The DEIS and technical appendix should specify where these cases occur in the CRW, especially relative to the Cedar River.

This section also fails to mention that an acre or less of wetland habitat will be permanently converted due to filling, as is described in the Final Wetland Technical Report.

#### **4.1.1.2 Mitigation**

The DEIS and technical appendix make no commitment to mitigate for the loss of forest habitat, or other vegetated habitat. While the feasibility of meaningfully mitigating for the loss of forest habitat is debatable, BPA should commit to mitigating the permanent loss of the 150 to 200 acres of long-term forest it proposes to clearcut.

*"Develop and implement aggressive vegetation management programs to limit colonization by non-native species and eradicate noxious weeds within the transmission line ROW."*

The DEIS and technical appendix should describe methods for maintaining native plants and managing noxious weed species without the use of herbicides (which are not allowed in the CRW) so reviewers can evaluate their potential efficacy. Statements indicating "an aggressive vegetation management program" will be developed and implemented are inadequate and not able to be evaluated by reviewers. The DEIS and technical appendix should describe the noxious weed management program (without herbicides) that will be implemented. A monitoring program (including adaptive management) needs to be part of that program.

Also, this statement implies BPA implements active and effective noxious weed management programs. In fact, however, the BPA ROW in (and outside of) the CRW is a significant avenue of dispersal and location of infestation for noxious weeds. The DEIS and technical appendix should recognize and explain this existing management approach, and then describe exactly how BPA proposes to manage its existing and proposed ROWs for noxious weeds in the future. If BPA intends to neglect active and effective management of noxious weeds in its ROW, as it does now, then the DEIS and technical appendix need to disclose this information.

*"Use only certified weed-free straw..."*

Weed-free straw will typically have been treated with herbicides. The DEIS and technical appendix need to address this situation, including the specific herbicides and their quantities that would be introduced to the CRW. The DEIS and technical appendix need to evaluate such contamination and the associated risks to water quality as part of this environmental analysis. Also, SPU is aware that certified weed-free straw is difficult to obtain locally. The DEIS and technical appendix should describe exactly what "certification" means in this case, who certifies that straw, and under what conditions that straw will need to have been grown to be certified.

#### **4.1.3.1 Alternative 1 Mitigation**

BPA proposes to permanently convert 118 ac of forest to early successional habitat. This forest would otherwise have been managed to achieve late successional characteristics in CRW. The DEIS and technical appendix should commit to compensatory mitigation for such conversion.

Consistently throughout the DEIS and its technical appendices, there is no acknowledgement that the CRW HCP effectively places forests in the CRW in protection status and that forest management activities in the CRW are for restoration purposes. The DEIS and technical appendix should acknowledge the unique long-term forest protection status provided by the HCP. BPA's environmental analysis for this project should be conducted recognizing the increasing regional biodiversity value of the forest it proposes to permanently clearcut.

#### **4.1.3.6 Access Roads**

*"For the purposes of assessing new access road impacts, a 20-ft road cross section was assumed. Existing access roads are generally 24 ft across, and the actual new access road width would be 16 ft."*

This information is not consistent within the DEIS. In Chapter 2 (2.1.1.5), new roads outside of the ROW would require a 50 ft easement, which includes 16-22 ft of road surface and 10 ft of drainage ditches on either side. The environmental analysis in the DEIS and its technical appendices should be based on consistent dimensions of the project features. The DEIS and technical appendices should commit to compensatory mitigation for permanently converting forest and other vegetated habitats to impervious road surfaces. The DEIS and technical appendix should also evaluate the impacts of constructing mitigation (such as stormwater ponds) for water quality and quantity that will likely be required by the National Marine Fisheries Service for constructing 1 to 2 miles of new impervious surface in basins tributary to waters that support threatened species such as Chinook and coho salmon. Also, in this section, the DEIS and technical appendix should specifically consider BMPs for preventing erosion and protecting water quality. This section also fails to discuss or account for temporary roads and staging areas.

#### **4.1.3.7 Cumulative Impacts**

Cumulative impacts are incompletely evaluated. The DEIS and technical appendix should present a complete evaluation of cumulative impacts. Commitments to compensatory mitigation should be included in that evaluation.

#### **4.2.2.1 Impacts**

*"Any such spills or leaks could kill or injure vegetation in the immediate vicinity of the spill."*

To protect the municipal water supply, SPU has "no-tolerance" objectives for spills or leaks of hazardous materials in the CRW. The DEIS and technical appendix should indicate how all spills will be prevented in the CRW.

#### **4.2.1.2 Operation and Maintenance Mitigation**

*"Mitigation ... would follow policies and procedures adopted by BPA..."*

These policies and procedures should be summarized. It is not reasonable to expect reviewers to obtain and review the EIS referenced here, especially considering the short duration of the public comment period.

#### **4.2.2.1 Access Roads Impacts**

Impacts of potential spills of hazardous materials were considered to be low to adjacent vegetation. However, any spill of a toxic substance in CRW should be considered a high impact because of the risks to water quality. To protect the municipal water supply, SPU has "no-tolerance" objectives for spills or leaks of hazardous materials in the CRW. The DEIS and technical appendix should indicate how all spills will be prevented in the CRW.

#### **5.6.1 Cedar River Watershed Habitat Conservation Plan**

*"The CRW HCP (City of Seattle 1998, 2000) was prepared by SPU to establish a comprehensive plan for long-term management of the CRW. The HCP includes numerous provisions intended to maintain the quality of fish habitat and the health of fish populations in the CRW. Many of these provisions apply to management procedures such as fish hatchery operation or manipulation of instream flows and thus are not directly relevant to this analysis. Other provisions address the effects on fish and their habitat that can result from forest removal and forest road construction and maintenance."*

With regard to forest resources, the proposed action is inconsistent with the CRW HCP. The DEIS and technical appendix should disclose that the proposed action is not consistent with the CRW HCP.

#### **5.6.4 Washington Department of Natural Resources Forest Practices Rules**

*"The WDNR Forest Practices Rules (WAC 222) describe the types of forest practices allowed under the State of Washington Forest Practices Act (RCW 76.09). They divide forest practices into four classes, based on potential impact to public resources, and outline the processes for permitting of each class."*

The DEIS and technical appendix should describe riparian buffer requirements as contained in the Forest Practice Rules.

#### **6.0 Individuals and Agencies Contacted**

This section is redundant with Section 2.2. of this technical appendix.

# Kangley-Echo Lake Transmission Line Project DEIS APPENDIX D Final Wetlands Technical Report

Comments from Seattle Public Utilities  
September 4, 2001

*DEIS Appendix Citations in italics; comments in normal font.*

## **1.1.1.9 Site Restoration and Clean-up**

*"Disturbed areas would be reseeded with grass or an appropriate seed mixture to prevent erosion. The seed mixture would include native plant species and would be free of noxious weeds."*

The DEIS needs to be more specific regarding "restoration." Restoration is more than just reseeding with an "appropriate" seed mixture. The DEIS and technical appendix should commit to restoring the native plant communities disturbed by the construction and operations. The plantings and seed mixtures should include only native plants.

## **1.3 Major Conclusions**

*"Potential fill and excavation impacts from the construction of towers and roads would be avoided by strategically locating towers and roads outside of wetland areas where possible and by spanning wetlands."*

The DEIS should provide more detailed description of these project features. Impacts to wetlands can not be evaluated until location of towers and roads are specified. Given this lack of detail and considering other constraints on tower locations (e.g., staggered location with existing towers, stream crossings, topographic constraints, spacing), it appears that placement of towers in wetlands is probable. However, as evidenced by information presented in the project's biological assessment (BA), BPA has identified locations for towers and new roads and so should be able (in the DEIS and its technical appendices) to estimate such impacts. The DEIS and the technical appendix need to present a complete and accurate environmental analysis, which includes the disclosure of such known project characteristics. The DEIS should discuss these fill impacts and the compensatory mitigation BPA proposes.

## **2.0 Study Scope and Methodology**

### **2.1 Data Sources and Study Methods**

*"A basemap of potential wetland locations was created by superimposing the transmission alternatives over the wetlands location data provided by the aforementioned data sources. This map was used to aid the field survey of wetlands within the ROWs. The wetland reconnaissance survey focused on field-verifying selected areas of the wetland basemap that may be impacted. The approximate wetland boundaries were then field-mapped on the orthophotos provided by BPA. Due to the size of the wetlands and their readily apparent signature on the aerial photographs, the boundaries were sketched on 1:24,000-scale aerial photographs and subsequently digitized..."*

This methodology fails to mention what criteria were used to identify and delineate wetlands. Presumably, Section 404 jurisdictional wetlands are the subject of interest, but this is not clear. Additionally, the remote sensing approach to wetland identification and the scale at which they were mapped (1:24,000) indicates this exercise resulted in crude approximations of wetland boundaries, not jurisdictional wetland delineations. Also, an important source of wetland information, the SCS soil survey, was not listed as one of the data sources. In contrast, SPU observed flags delineating more precise wetland boundaries in the proposed corridors, but these flags are not mentioned in the methodology and the delineated boundaries do not conform

to those presented in the technical appendix. SPU is also skeptical that signatures on the 1:24,000 aerial photographs were adequate to delineate wetland boundaries. Red alder-dominated wetlands could be evident, but conifer- (e.g., redcedar) dominated boundaries are likely to be obscurely evident. The DEIS and its technical appendix need to discuss these methodological short-comings and provide a complete discussion of the wetland methodology used to support the environmental analysis.

### **3.3 Study Area and Approach**

This section is primarily a summary of the results. This technical appendix should better describe the vegetation, soils, and hydrology of all wetlands. For example, it is never clear if PFO-dominated wetlands are dominated by deciduous or coniferous species. This technical appendix also needs to describe buffer habitats and anticipated impacts to buffers. There is no analysis or table showing impacts to wetland and buffer habitats, where temporary and permanent impacts are examined by habitat class for each alternative. The DEIS and the technical appendix need to present a complete analysis of wetlands and potential impacts.

*Table 1. Summary of Wetlands Present within the 150 ft ROW by Transmission Line Alternative*

Wetlands tributary to waters bearing Chinook and/or coho would be classified as Class 1 wetlands, not Class 2, as per the King County wetland rating system, Criterion 1a. Thus, essentially all such tributary wetlands in the project area would be considered Class 1 wetlands. Also, wetlands should be rated using the Washington State Department of Ecology Wetland Rating scheme. Rating forms should be appended to the technical appendix, and this rating added as a new column in Table 1. The "Total Acres" column in Table 1, as well as the entirety of Table 2, are not informative. Rather, the total wetland acreage that will be impacted by the proposed action is of interest; this should be broken out by temporary and permanent impacts, by Cowardin habitat class, by King County rating, and by Ecology rating—for each alternative. The DEIS and technical report need to present an organized, clear analysis of existing conditions and potential impacts to wetland habitats and their buffers.

*"Commonly these wetlands were associated with depressional areas that receive water from overland runoff and precipitation."*

This is an incorrect assumption. Many wetlands in the project area have hydrology supported by groundwater discharge. For example, most of the wetlands on the south side of Brew Hill are supported by groundwater discharge, rather than overland flow and precipitation. Pertinent environmental analyses (as should be contained in the DEIS and its technical appendix) are based on accurate field observations rather than on speculation or assumption. Sound information on natural resources in the CRW is easily obtained through consultation with SPU Cedar Falls biologists.

### **3.4 Transmission Line Alternatives**

#### **3.4.1 Alternative 1**

*"Species diversity is low within the overstory and understory. The depressional wetlands occupying the south bench area of Brew Hill provide flood storage and flood flow moderation functions and wildlife habitat."*

The standard underlying this conclusion is not stated. Species diversity is low relative to what standard? SPU observations of the wetlands in and near the ROW in the CRW indicate there is considerable diversity in these wetland areas. These wetlands also provide significant water quality and quantity functions to Rock Creek. Wetlands in the riparian area along the Cedar River are not identified in Figure 3 or in the report. The DEIS and its technical appendix present such scant site-specific information for the individual wetlands that accurate review and evaluation of BPA's conclusions is not possible. Also, the map scale is too small to verify boundaries. The DEIS and its technical appendix should contain sufficient site-specific information and specific boundary information such that an accurate and pertinent environmental analysis is possible.

### **4.0 Environmental Consequences**

“...clearing vegetation within the 150 ft wide ROW...”

This assumption is inconsistent with information provided in sections 1.1.1.2 and 1.1.1.5. This analysis also fails to consider impacts associated with clearing new (temporary and permanent) roads, as well as short- and long-term impacts of the 50 ft temporary construction easement previously mentioned by BPA (but not mentioned in the DEIS). There is no table that describes areal impacts for all these (and other) potential disturbance activities.

#### **4.1 Construction Impacts**

##### **4.1.1 Impacts Common to All Action Alternatives**

###### **4.1.1.1 Impacts**

###### **Wetland Impact Avoidance and Minimization—**

“...Criteria used by BPA to select the alternative ROW included avoiding known high-quality natural resources such as wetlands and streams. Any wetlands identified along the selected transmission line ROW would be avoided where feasible. Feasibility would be determined by land ownership, road configuration, spanning to avoid wetlands, construction costs, reducing sharp angles and bends in the ROW, and access.”

According to Chapter 2 of the DEIS, avoidance of wetlands was not a factor in selecting the alternative ROWs, although Alternative 1 does have less clearing. Given the constraints in locating a high-voltage transmission line within any of these alternatives, flexibility in location to avoid wetlands is unlikely. Careful siting of transmission towers is perhaps one way to minimize wetland impacts, but neither the DEIS or technical appendix has sufficient information to determine if this is feasible or was evaluated in the environmental analysis. The DEIS and technical appendix should have sufficient information to be able to assess the feasibility of minimizing wetland impacts by siting towers outside of wetlands.

###### *Vegetation Impacts*

This document fails to mention that these permanent alterations would be considered a **moderate** impact to wetlands, using criteria presented in Section 4.0.

###### *Hydrology Impacts and Wildlife Impacts*

The DEIS and technical appendix should describe the level of intensity characterizing these impacts, using criteria presented in Section 4.0.

###### **4.1.1.1 Mitigation**

This list of best management practices is meaningless in terms of mitigating impacts. What is BPA really committing to here? There is no discussion of compensatory mitigation.

###### **4.1.1.2 Mitigation**

This laundry list of “standard” mitigation measures is relatively meaningless, and even conflicting. What is BPA really committing to here? As with other mitigation measures recommended for this project, there is no compensatory mitigation mentioned, despite a range of impacts identified in Section 4.1.1.1. The DEIS and technical appendix should describe meaningful mitigation actions, including compensatory mitigation that will offset unavoidable impacts to wetlands and their buffers.

- *Delineate wetlands before final design and flag for avoidance during construction.*

Wetlands need to be delineated for the DEIS to assess potential impacts. Delineation of wetlands is not a mitigation measure.

- *Ensure noxious weed infestations do not become a problem in wetlands by washing all construction vehicles and conducting a weed inventory one year after construction to verify that weeds have not been introduced.*

How will BPA respond if weeds are introduced? There is no weed management plan or commitment in the DEIS. Herbicides are not allowed in the CRW, which makes weed management in the CRW particularly challenging. Considering that BPA's existing ROW is a major present-day corridor for weed dispersal and location of infestation in the CRW, SPU is obviously concerned that new or expanded weed infestations will go unchecked—as is the situation with current weed infestations in the BPA ROW.

#### **4.1.1.3 Cumulative Impacts**

*"Filling or adverse modification of wetlands .... This could be offset through mitigation and restoration of degraded wetlands within the affected watersheds."*

Because there are no unacceptably degraded or filled wetlands, there are essentially no significant opportunities for wetland creation, restoration, or enhancement in the subbasins of the CRW.

#### **4.1.3 Alternative Transmission Line Impacts**

##### **4.1.3.1 Alternative 1**

##### **Impacts—**

*"The 150-ft. wide cleared ROW would impact a total of 25 ac. of wetlands (Table 2). Wetlands surveyed within the Alternative 1 ROW consisted primarily of palustrine scrub-shrub and palustrine forested types. The majority of wetlands were low-gradient, depressional wetlands. Major streams and rivers associated with wetlands within the Alternative 1 ROW include the Raging River, Rock Creek, and Cedar River.*

*Clearing would cause a moderate-level impact to forested wetlands and their buffers. Wildlife habitat, flood flow and flood storage, and water quality functions could be degraded. Scrub-shrub and open water wetlands would experience moderate, low, or no impact assuming the wetlands could be avoided or spanned and that soils, hydrology, and vegetation were maintained."*

There is no site-specific information regarding wetland impacts in this section or those for the other alternatives, thus this impact evaluation is inadequate. Using definitions presented in the introduction to Section 4, clearing of forested wetlands would constitute a high—not a moderate—impact (impairing the ecological integrity of a wetland). These comments apply to the description of impacts for all alternatives. The DEIS and technical appendix should have a meaningful evaluation of potential impacts that is based on sufficient real information.

**Mitigation—***Mitigation measures specific to the wetland resources along Alternative 1 would include:*

*"Minimize road construction and strategically site towers to avoid wetlands 1-3 and 1-4 to minimize impacts to wetlands within the headwaters of Rock Creek."*

Wetlands 1-1 and 1-2 are also in Rock Creek headwaters and impacts to these wetlands would need to be compensatorily mitigated. Potential clearing in riparian wetlands along the Cedar River would be a significant impact, but these wetlands were not identified. However, in text two paragraphs above this section this technical appendix states: *"Major streams and rivers associated with wetlands within the Alternative 1 ROW include the ... Cedar River."* The DEIS and its technical appendices need to present a complete and consistent description of the proposed action. Also, this section lacks mention of compensatory mitigation. The DEIS and technical appendix should contain a discussion of compensatory mitigation to which BPA would commit.

#### **4.2 Operation and Maintenance Impacts**

#### **4.2.1 Impacts Common to All Action Alternatives**

##### **4.2.1.1 Impacts**

*"Moderate-level wetland impacts would also occur where the forest cover was removed and permanently maintained as scrub-shrub or emergent vegetation."*

This statement conflicts with previous statements. Conversion of forested to scrub-shrub or emergent wetlands constitutes a high wetland impact, according to definitions presented at beginning of Section 4.0.

##### **Mitigation**

As King County requires of other public utilities, such as Puget Sound Energy, BPA should commit to compensatorily mitigating every tree removed from wetland and riparian habitats during operation and maintenance activities.

##### **5.1.3 Section 404**

*"This project, with mitigation measures as stated, would meet the standards outlined by the CWA."*

This is an incorrect statement. Without compensatory mitigation "mitigation measures as stated" would not meet the standards currently used by the Army Corps of Engineers, or by King County, in mitigating for unavoidable wetland impacts. However, due to a lack of site-specific information and the subsequent inadequate impact analysis no firm conclusions can be obtained regarding where or how much wetland would be filled or otherwise impacted by any alternative. The DEIS and technical appendix should contain sufficient information about potentially impacted wetlands such that a meaningful impact analysis can be conducted, at which point these documents can then realistically evaluate the required compensatory mitigation and the project's ability to comply with federal, state, and local wetland regulations.

##### **5.2 Other Standards and Guidelines**

###### **5.2.1 Cedar River Watershed Habitat Conservation Plan**

*"Specifically, the HCP allows timber harvest and road construction within wetlands and wetland buffers only in limited circumstances. For activities in wetlands and their buffers, the City of Seattle would consult with the state and federal agencies regarding measures to minimize and mitigate the impacts."*

These statements are wrong. The HCP does not allow timber harvest or road construction in wetlands. The City of Seattle would not be responsible for mitigating impacts to wetlands and their buffers due to construction of BPA's project, nor for any consultation or financial obligation necessary thereto.