Public Meeting

1 What clearance criteria do you use over trees?

2 You should be able to figure how tall towers need to be to have adequate clearance (and) be able to keep trees in right-of-way.

3 EIS needs more detail describing where trees can be left in gorges — maybe just cutting on banks. Because in these areas, there may be adequate clearance.

1 and 2 BPA typically removes all tall-growing vegetation within the ROW during the construction process. This precludes problems during the stringing process (stringing involves connecting the conductor from tower to tower and trees left in the ROW can interfere with that process) and makes returning for vegetation maintenance unnecessary for a number of years. Tall-growing species will either resprout or seed in during that first 3–5 year period and some of those species can grow 10 feet or more per year. In certain locations, where topography is such that BPA can retain tall-growing vegetation (such as over canyons or deep ravines), the minimum clearance over these trees varies depending on the voltage of the line. In this case, where a 500-kV transmission line is proposed to be built, a minimum distance of is 20 feet plus the specific vegetative species' growth factor to the line needs to be maintained to prevent flashover.

3 The trees within the Proposed Action area are upwards to 200 feet tall. To allow trees to remain in the ROW, the towers would need to be about 350 feet high or higher, considering sag, insulators, minimum clearance to the trees, etc. Discounting the fact that these taller towers would be much more expensive to build and maintain, there are a number of reasons why taller towers are not a good idea:

- For reliability, towers of the new line must not be able to fall into the adjacent line. So the taller the structure, the farther it must be away from the existing line. For 350 foot towers, the new line must be about 350 feet away from the existing line. In addition to a large increase in costs, many more new access roads would need to be constructed. Some of these roads would need to go through sensitive areas.
- This height of towers would require a much larger "foot print" — 80 to 100 foot square — to withstand the weight of the steel. A larger "foot print" would require much more land to be disturbed and cleared around the bases, which would cause higher impacts on the environment.
- Taller towers would create a visual eyesore on the landscape since they would be approximately 150 feet above the forest canopy.
- Any transmission tower over 200 feet in height has to go through FAA registration. The FAA may require lights on the

4 BPA doesn't allow trees to grow to height within clearance limits. (Probably more economical to keep cleared.) EIS should address maintaining vegetation to clearance limit — say come in and top once a year. Weigh environmental impacts to cost. Or have taller towers to allow vegetation to grow taller.

5 I suggest you excerpt some items out of Vegetation Management EIS into this EIS, since many people don't have time to go through numerous documents.

6 Going through watershed is a special situation that calls for special measures; you can't use standard practices.

7 BPA's estimate of 1.5 miles of new access roads: Is that based on general assumptions or actual field review?

8 Are there conditions that you would use helicopters to install towers rather than driving to sites?

towers. If lights are required, a separate powerline of lesser voltage would have to be built to power those lights.

Leaving trees in the ROW can cause problems with stringing the conductor. During stringing, the conductor is connected from tower to tower. Trees interfere with this process and have caused bodily harm to workers.

4 BPA is responsible for providing low-cost electricity to the Pacific Northwest. To keep those costs low, BPA needs to find the most economically efficient and environmentally acceptable method to keep its transmission lines safe and reliable. To allow trees to grow in the ROW and continually top them would be very costly and would involve bringing in equipment to do that job since climbing smaller trees is not safe. Bringing in this specialized equipment would not only cause a safety hazard (especially if trees are maintained near the minimum clearance requirements), but would probably require additional roads to get the equipment to the trees. Bringing in additional equipment also increases the risk of accidental fuel/oil spills and the introduction of noxious weeds. Controlling vegetation in its earliest stages is the most economically efficient and environmentally acceptable way to maintain the safe and reliable operation of our transmission lines.

5 Please see Appendix K in the SDEIS for a summary of BPA's Vegetation Management EIS.

6 BPA is aware of the unique protection that the Cedar River Watershed requires and agrees with your comment. For example, during surveying of the preferred alternative, special surveying techniques were used to avoid cutting any trees over 2 inches in diameter. If BPA decides to build a transmission line, special care will be taken to protect this resource.

7 The road estimate was made prior to a field review using aerial photomaps and a general working knowledge of the local terrain. An updated estimate based on a field review is included in the SDEIS.

8 Helicopters have been used in situations where access conditions make it difficult to drive large equipment, such as

9 Purpose of the project is not substantiated in the Draft EIS.

10 There are no studies (power-flow) in the document to substantiate the need statement.

11 Can we provide the power-flow studies for review? WSCC cases.

12 Why isn't there a public meeting being held in Seattle?

13 The project hardly affects the people of Maple Valley and affects the people of Seattle much more.

14 Do we send power out of the state?

15 Agree with preferred alternative since it is the least disruption to the watershed itself. The routes avoiding the watershed are twice as long and have greater impact to residences. (Ravensdale)

16 Why doesn't the DEIS address the actual clearing anticipated? It is much too general.

cranes, to tower sites. However, helicopter construction does not totally eliminate the need for vehicle access to each tower site because foundations still need to be installed. BPA will require the construction contractor to use helicopter construction techniques if BPA decides to build the line.

9 Additional information has been added to the SDEIS to address this comment. Please see Chapter 1.

10 Please request a copy of SDEIS Appendix H, Summary of Transmission Planning Studies for more information.

11 See response to Comment 10.

12 BPA did hold public meetings in Seattle to get scoping comments for the SDEIS and to gather comments after release of the SDEIS.

13 Comment noted.

14 Yes, BPA does send power out of the state. BPA also imports power from other states and British Columbia when power is needed in the Pacific Northwest.

15 Comment noted.

16 Please see response to Comment 394-034.

17 Why do you need a new corridor? Why can't you use existing towers?

18 If the existing Kangley-Echo Lake line were taken down to rebuild a new double-circuit line, how long would it be out of service? (Answer: 6-8 months.)

19 Why can't you build the new line immediately adjacent to the existing line so you don't have to clear a whole new right-of-way?

20 NERC: Is this an advisory or regulatory group?

21 Is BPA buying replacement land for the wetlands it is impacting?

17 A new corridor is needed because the line on the existing corridor (Raver-Echo Lake No. 1 500-kV line) cannot be removed from service for the length of time (approximately 7 or 8 months) it would take to rebuild it to a double-circuit line. The system without the existing line (Raver-Echo Lake No. 1 500-kV line) will not be able to serve expected load, the return of the US-Canada Treaty power and withstand another line outage (required to meet national reliability criteria) without a high probability of uncontrolled loss of load or a system collapse in the Puget Sound Area. Also, rebuilding the existing line to a double-circuit line essentially provides no additional capacity to serve the Puget Sound load. This is because BPA must plan for an outage of the double-circuit line as required by the North American Electric Reliability Council (NERC). This in essence will not allow BPA to make use of the new line on the double-circuit towers, therefore making the investment worthless.

18 Seven to 8 months. Due to NERC rules, BPA cannot build this project on double-circuit towers.

19 BPA must maintain a safe electrical clearance between adjacent lines and to the edge of the right-of-way. The new line cannot be built on the existing right-of-way and maintain both a safe electrical distance to the existing line and edge of right-of-way. BPA also wants to make sure one tower cannot fall into the adjacent line.

20 NERC, or the North American Electric Reliability Council, was established in 1968 to promote bulk electric system reliability and security. Among other responsibilities, it establishes operating and planning standards to ensure electric system reliability. NERC is composed of ten Regional Councils including the Western Electricity Coordination Council (WECC). WECC members include 97 electric utilities, 17 affiliate members, and nine State Commission representatives. (See www.wecc.biz and www.nerc.com.) BPA and other utilities follow NERC and WECC criteria to ensure reliable electric service. The Reliability Council operates under a system of voluntary compliance. In addition, BPA and most members of WECC have agreed to mandatory compliance with certain criteria and standards.

21 BPA is studying impacts to wetlands and natural habitat for endangered species within the Cedar River Watershed. The Preferred Alternative (Alternative 1) minimizes additional rights-

22 Reducing or minimizing impacts is not adequate mitigation.

23 DEIS ignores cumulative effects of building the line through the forest and watershed.

24 You need to replace right-of-way acreage taken out of forest production. Low elevation forests are disappearing. Just because you haven't replaced acreage in the past, that's not a good enough reason not to start now.

25 Will we see, in the near future, retrofitting old double-circuits to single-circuit with greater separation between lines? That would be a huge impact.

26 As reliability standards change over time, so do mitigation requirements (replace areas permanently lost).

27 If you remove 150 acres of mature forest, you should replace with same, or multiplier of 150 acres for immature forestland.

of-way needed by paralleling the existing Raver-Echo Lake line. This alternative also uses existing access roads where possible. New towers and access roads have been located out of wetlands. Some wetlands would be converted from a timbered wetland to scrub-shrub wetlands.

BPA would also cut only those trees outside the right-of-way that are unhealthy, are leaning towards the line or are very likely to fall into the new line. This is a drastic reduction from normal practice of cutting any tree that could potentially fall into the new line. BPA would be willing to reduce reliability of the new line to cut as few trees as possible within the Watershed. In addition, trees next to the Cedar River would not be cut or if they are too tall, only topped.

In addition, BPA has purchased land for potential replacement habitat forest and wetlands. See response to Comment 340-002.

22 Mitigation measures cited do prevent, reverse, and rectify impacts during or from construction. There are impacts that are not reversible such as permanent loss of timber and access road construction. BPA is studying the possibility of replacement as an additional mitigation measure. Please see response to Comment 340-002.

23 Please see response to Comment 394-090.

24 See responses to comments 21 and 22.

25 BPA has no program to rebuild/replace existing double-circuit 500-kV towers to two single-circuit towers for reliability purposes to meet new reliability guidelines. Nevertheless, under NERC reliability guidelines, BPA is required to plan for outage of a double-circuit tower, whether that facility is new or existing. If the guidelines cannot be met, then some action is required, which could include reconfiguration, remedial action schemes or building additional lines.

When there is a need for new projects, some will be double circuit and some will be single circuit lines. When BPA sites these lines there may be a need for separation from other lines. BPA has a long history of replacing old single and double-circuit low capacity lines with very high capacity single or double-circuit 500-kV lines and thereby minimizing the environmental impact. BPA has installed two of these high

28 There are some of us who want to pay for quality and full mitigation.

29 You have eliminated alternatives outside of watershed, without providing a full analysis in the DEIS, thereby limiting your alternatives. The DEIS doesn't provide the relative impact of the off-watershed routes, it just simply states that a number of people didn't want this (Ravensdale) route.

30 Why were the alternatives for Rocky Reach-Maple Valley (rebuilt double-circuit, or new parallel line) dismissed?

31 What about the option of building new generation facilities?

capacity lines across the Cascades in the last 20 years by removing old, smaller lines.

26 See responses to Comments 21 and 22.

27 See responses to Comments 21 and 22.

28 Comment noted.

29 Please see response to Comment 382-018.

30 These two alternatives are fully analyzed in the SDEIS.

31 New generation facilities are presently being proposed and constructed all across the Northwest. However, due to the deregulation of the power industry, which allows non-utilities to construct power plants, BPA has no control over where or when these plants are built. This makes transmission planning extremely difficult because a transmission line cannot be built as fast as a generation plant and the transmission system can only be planned about 4 or 5 years into the future. Completed generation plants are incorporated in the planning studies.

32 Shouldn't the system be evaluated on efficiency rather than economics in regard to delivering power?

33 What about Echo Lake to Monroe? Do you have the same situation as for this project? (This is another example of cumulative affects.)

34 What was the purpose of alternatives 5a, 4b and 2?

32 The transmission system must be planned on a least cost basis, which incorporates efficiency. Transmission design is a very careful tradeoff between cost, needs and capacity.

33 The purpose and need for the Monroe-Echo Lake 500-kV line would be to ensure reliable service to Puget Sound Area loads and to integrate potential new generation projects. Need depends in part on the decision of generation developers. BPA is examining alternatives, including approaches that do not require transmission construction. A decision on the need has not been made.

34 No Alternative 5a was considered.

The purpose of Alternative 2 is to avoid taking two residences located next to the south end of the Proposed Action. The purpose of Alternative 3 was to meet the WECC's reliability criteria, which recommended a minimum of 2000 feet separation between transmission line rights-of-way with at least one common terminal. Separation provides increased system reliability.

Alternatives 4A and 4B avoided the two residences located next to the southern portion of Alternative 1, the Proposed Action, and also avoided a separate crossing of the Cedar River. Both of these alternatives provided for crossing the Cedar River immediately adjacent to where BPA's existing line crosses the Cedar River. Additional alternatives were added in the SDEIS.

35 You cross both Cedar and Raging rivers, plus several tributaries. (Raging river has salmon, Cedar River will have salmon.) You need to look to see how tall towers need to be to keep full riparian habitat intact along river crossings. EIS only lists 135-ft. tall towers.

36 What is minimum clearance for the 500-kV line?

37 I'm assuming the route alternatives are not going to change (east or west) of routes identified.

38 How am I going to be treated by BPA since your new line will take out my house and barn?

35 Please see response to Comment 382-038.

36 The minimum ground clearance for a BPA 500-kV line is 35 feet.

37 Please see response to Comment 382-018.

38 As stated in the Federal Highway Administration's Brochure, "Your Rights and Benefits as a Displaced Person, Under the Federal Relocation Assistance Program," government programs designed to benefit the public as a whole often result in acquisition of private property, and sometimes in the displacement of people from their residences, businesses or farms. As a means of providing uniform and equitable treatment for those persons displaced, your government passed the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970," and the "Uniform Relocation Act Amendments of 1987."

Any individual, family, business or farm displaced by a federal or federally-assisted program shall be offered relocation assistance services for the purpose of locating a suitable replacement property. Relocation services are provided by qualified personnel employed by the Agency. It is their goal and desire to be of service to you, and assist in any way possible to help you successfully relocate.

You may review the Federal Highway Administration's Web site "Your Rights and Benefits as a Displaced Person," at www.fhwa.dot.gov/realestate/rights/index.html.

39 Will the appraiser be looking at damages outside the right-of-way?

40 When you put in the new line, you will devalue my house located on the west side of the line.

41 Who will decide the final alternative?

42 Can we use superconducting conductors?

43 Are there any plans for future expansion east or west of the project area?

44 Where BPA removed lines (230-kV) on the Columbia-Covington right-of-way, would BPA ever build new lines in this right-of-way? When?

45 Could BPA's public involvement office publish in newspaper a yearly statement that BPA's rights-of-way are not public rights-of-way?

39 BPA usually only purchases the land rights that it needs. If BPA intends to acquire only a portion of the property, the Agency must state the amount to be paid for the part to be acquired. In addition, an amount will be stated separately for damages, if any, to the portion of the property you will keep. If the Agency determines that the remainder property will have little or no value or use to you, the Agency will consider this remainder to be an uneconomic remnant and will offer to purchase it. You will have the option of accepting the offer for purchase of the uneconomic remnant or of keeping the property.

40 See SDEIS Section 4.11.2.5, Community Values and Concerns, Property Value Impact.

41 Following the completion of the environmental review, the BPA Administrator will make a decision on the proposed project. The Administrator will choose the Proposed Action or one of the alternatives. BPA is expected to make a decision on the project 30 days after the release of this Final EIS.

42 No, the use of superconducting conductors is technologically infeasible at this time.

43 No, there are no plans to expand east or west of the project area.

44 This right-of-way is very valuable to BPA for future use. This statement is simply made because new rights-of-way are so difficult to acquire given the expansion of population and human activities outside of major urban areas. BPA does not have a date for this use.

45 Unfortunately, publishing ads or legal notices in all the newspapers of the Northwest would be expensive and whether the people who trespass on private property would read the notices and follow their direction is questionable. Illegal use of property is a continuing concern for BPA and property owners. Our maintenance staff would be happy to discuss your particular concern at your convenience.

46 At one time BPA put in a gate for us, but vandals cut it down repeatedly — costing BPA too much money to maintain the gate at this location.

47 Are you bringing in lines from the east, or just tapping the new line into the existing lines?

48 Where are the new towers going to be placed in relation to the existing towers?

49 The Ravensdale alternative would have affected "many more owners," but it is unfortunate that it has to affect other private individuals.

50 The preferred route has much less impact to residential properties than the Ravensdale route would have, although it is too bad that two houses and a barn are impacted.

51 It makes sense that the preferred route has less impact to timber, and requires fewer roads. Also this route would probably have less chance of having to condemn to acquire properties.

52 What about 30 years from now? Will a project like this come up again?

53 Where are the power sources that serve the power to this area?

46 Yes, there have been gates that BPA has stopped maintaining due to the high cost of maintenance. However, we work very hard with landowners to maintain the gates. Currently we are installing stronger gates in these areas to try and keep vandals out.

47 The new line would be connected to an existing line.

48 In most cases the new towers will not be placed directly opposite of the existing towers but will be offset ahead or back-on-line. The distance of offset varies, but it would be about 50 feet.

49 Comment noted.

50 Comment noted.

51 Comment noted with respect to your first point. Paralleling an existing transmission line in a wooded area does minimize the clearing that would be required because no danger trees would exist, and therefore have to be removed, on the west side of the right-of-way, since there is an existing transmission located there. Additionally, BPA would take advantage of the existing access/spur road system (to the maximum extent possible) so as to minimize the number of new roads that would be needed to serve the new line.

With respect to the second point, it is typically true that the fewer number of property owners, the less chance that any property would need to be condemned to site the line.

52 The need for additional projects in the future would depend on load growth.

53 This is not a question that can be answered with any certainty. The entire Western US electric system is interconnected. It is possible that if you are a Seattle City Light customer for example, the power Seattle City Light is buying could be coming from a power generator in El Paso, Texas or from the Centralia Coal Generating plant or any one of 1,000 other generators throughout the west. Only if the Puget Sound area were isolated from the rest of the system would it be apparent that generators in the area are serving the load.

54 How does BPA use growth-rate study information collected by boring trees?

55 The DEIS is unclear about how much area is actually being cleared of trees, 150 ft. vs. up to 400 ft.

56 Vegetation will rapidly invade areas cleared of timber. How will BPA manage the right-of- way?

57 What information do you have on wildlife kills related to transmission lines (raptors)?

58 Does BPA keep records of bird kill found along right-of-way?

59 Since groundwire can have a detrimental impact on migratory birds, can you do without ground wire on this project? (Note: overhead ground wire can be marked.)

60 I recognize the need for power, but the preferred alternative is much less traumatic than an alternative like the Ravensdale route.

61 Any way to underground the line?

62 This project affects the folks in Seattle more than it does those in Maple Valley, so why are you holding the meeting in Maple Valley instead of Seattle?

54 The information gathered from boring the trees gives us an idea of the age and the growth rate of the trees and an indication of site potential. When a new ROW is cleared, trees that previously grew within the protection of a group of trees (with relatively little exposure to wind) are now exposed making them vulnerable to wind throw. This vulnerability persists for about 3 to 5 years after clearing until the trees become used to their new environment and become more "wind firm." Because of this, BPA uses the growth information to add in a margin of safety of about 5 years to the calculations of safe heights.

55 See response to Comment 16.

56 BPA has prepared a programmatic EIS for its vegetation management program associated with transmission lines, roads, and related facilities. The EIS identifies appropriate measures to protect the environment while minimizing danger tree risks and maintaining the ROW within safe, reliable conditions. These guidelines provide for protecting water resources by using herbicide buffer zones. BPA would comply with the standards and guidelines established in this EIS and the Record of Decision for vegetation management (BPA 2000). See SDEIS Appendix K for more information.

57 BPA does not have any information about wildlife kills related to transmission lines. None have been found on the existing ROW.

58 BPA does not keep records of birds killed along the ROW.

59 We cannot do without overhead groundwire on this line. In the past, where a migratory bird path has been identified, BPA has installed bird flight diverters.

60 Comment noted.

61 Undergrounding the line was considered but eliminated because of cost. See Section 2.3.1.

62 We held the meeting at the Maple Valley Community Center in Maple Valley since that facility was the closest suitable meeting place to the proposed project. Meetings were held in Seattle for scoping of the SDEIS and to receive comments on the SDEIS.