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June 1, 2023

Oregon Department of Energy
ATTN: Christopher Clark, Senior Siting Analyst
550 Capitol Street NE
Salem, OR 97301

Sent via email to: christopher.clark@energy.oregon.gov

Re: Cascade Renewable Transmission System: Comments on Notice of Intent

Dear Christopher:

Thank you for the opportunity to submit comments on the Cascade Renewable Transmission System proposal, which would lay a 100-mile transmission cable under the Columbia River from The Dalles to Portland. For all energy projects, Columbia Riverkeeper needs to understand how development will impact Tribal Nations and all people that rely on the Columbia River for salmon, clean water, and beyond. As an organization committed to environmental justice, Columbia Riverkeeper aims to ensure that, if this novel proposal moves forward, tribal governments' Treaty rights are honored and the Columbia River's iconic salmon will not suffer. The information provided in the Notice of Intent (NOI) does not allow us to reach that conclusion. We have many remaining questions and concerns, as detailed below. Many of these require additional studies to fully understand how this project could impact the Columbia River, specifically.

Columbia Riverkeeper supports the comments submitted by the Columbia River Inter-Tribal Fish Commission and Friends of the Columbia Gorge and incorporates those comments by reference.

I. Fish and Wildlife Impacts

The NOI does not demonstrate that the construction or operation of the project will avoid impacts to fish and wildlife, including threatened and endangered species,[1] and their habitats. Additional studies are needed to determine the effects of this project on Columbia River species, specifically. Columbia Riverkeeper is concerned that this project will negatively impact the following species and their habitats:

- Columbia River salmon: chinook, coho, sockeye, and steelhead
- Bull trout and cutthroat trout
- Pacific Lamprey
- Green and white sturgeon
- Pacific smelt

[1] OAR 345-022-0070.

A. Electromagnetic Field (EMF)

Many aquatic species rely on electromagnetic cues for survival. Underwater transmission cables emit EMF that can disrupt species' ability to detect naturally occuring EMFs. Based on currently available data, it is incorrect to assume that impacts from the project's electric and magnetic fields will be "minimal." Research on the effects of similar underwater cable infrastructure on aquatic species point to behavioral differences in studied aquatic species due to EMF exposure. Although these studies focus on saltwater rather than freshwater environments,[2] and in some cases use different species as research subjects, their findings serve to reinforce our concern that the project may harm Columbia River fish. In particular, the applicants should review the following studies:

- Hutchison et al. (2020) looked at EMF effects of the Cross Sound Cable, between Connecticut and Long Island, and the Neptune Cable, by this same developer, from New York to New Jersey found a striking increase in exploratory/foraging behavior in skates in response to EMF and a more subtle exploratory response in lobsters. It also found an unexpected AC (magnetic and electric field).

- Wyman et al. (2008) study of EMF effects of the Transbay cable in San Francisco Bay looked at Late Fall Chinook Salmon smolts and found that "cable activity appears to have mixed effects on migration behavior" and concluded that "additional study years would be required to more confidently address the question of how high-voltage direct-current cables may potentially impact salmonid migrations."

There is no data on the long term effects of EMF on salmonids. This information is necessary to determine any potential project impacts to Columbia River salmon. The applicant should commission specific studies of Columbia River species and river habitats to ensure that this cable does not disrupt the behavior and/or lifecycle stages of fish, including salmon migration, before proceeding with the project.

B. Habitat

Based on the information provided in the NOI, Columbia Riverkeeper is concerned that the project will have major impacts on important habitat in the Columbia River, including that of state and federally listed species. Impacts are likely to occur during all project stages, including installation (both for buried cable and atop bedrock), operation, and maintenance. The applicant must provide additional evidence to demonstrate that habitat impacts will not harm Columbia River species.[3] For example, the applicant should provide:

- Clear mapping of the project area and critical habitat for listed species
- Detailed plans for habitat restoration in disturbed areas, including sampling before, during, and after installation
- Analysis of species that rely on bedrock for habitat

[2] The effects of the project's EMF on Columbia River fish would likely be greater than those experienced by the research subject species. In ocean settings, species are able to avoid EMF differently than is possible in a river environment.
[3] OAR 345-022-0060.

- Procedures to prevent habitat disruption during maintenance and repairs
- Data on the effects of EMF on freshwater river habitat
- Recent studies on heat from underwater transmission cables and potential impacts to salmon[4]

C. Impacts to Individuals and Smaller Populations

In addition to studies on impacts to species, more data is needed to understand effects on individuals and smaller populations. The following should be considered:

- EMF impacts to individuals and small populations, especially considering declining populations and longevity of the cable
- Effects of habitat disruption to individuals and small populations
- Cumulative effects of this project and other planned or ongoing developments that could potentially impact species and individuals
- Data on volume of species that exist in the project area (not just a list of what species are present)

II. Tribal Engagement and Alignment

The applicant's presentation lays out several key values and commitments for moving forward with the project. Among these, they pledge to "engage openly, honestly, and respectfully with . . . tribal governments." They promise to go "above and beyond," by "meet[ing] or *exceed[ing]* all permitting and regulatory requirements," and to "partner with local residents and communities to support organizations and causes to advance the environmental, social, and economic interests of the region."[5] The project also vows to "respect and be responsive to Tribal Nation concerns."[6] It is imperative that these commitments are honored.

Truly being responsive to the Tribes means respecting their input on the project beyond the required Section 106 consultation. It also takes into consideration the type of communication and outreach done to engage tribal governments, and doing research to align the project with the Tribes' Energy Vision. Additionally, the project plan should have clear protocols in place for any inadvertent discovery of cultural resources.

A. Communication and Outreach

Despite claims that the applicant has already engaged the Tribes, it is not apparent that this has been done meaningfully. To ensure meaningful communication and outreach with Tribes,[7] the applicant should make actual efforts to do the following:

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[4] *See* Cascade Renewable Transmission, Notice of Intent to Apply for Site Certification (hereinafter "Notice of Intent") at 34 (March 6, 2023) (providing extremely limited discussion of heat impacts).
[5] Cascade Renewable Transmission, Presentation to EFSC at 19.
[6] *Id.* at 14.
[7] The applicant should consult with the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Confederated Tribes and Bands of the Yakama Nation.

- Direct outreach to appropriate channels: both Natural Resources staff and Cultural Resources personnel
- Follow-up and ensure that outreach is received
- Ask for and follow input on project specifics
- Undertake any studies requested to ensure minimal impacts to resources
- Be willing to change or forfeit the project based on the Tribes' concerns

B. Columbia River Inter-Tribal Fish Commission's Energy Vision

A necessary starting point for the project to "respect and be responsive to Tribal Nation concerns" is the Columbia River Inter-Tribal Fish Commission's 2022 Energy Vision.[8] In addition to reading the entire report and analyzing the project within the Energy Vision's framework, the applicant should particularly focus on the following:

- Section 2.1: The Columbia Basin Salmon Crisis[9]

- Section 3.6: Develop a Comprehensive Plan for Strategically Siting Renewable Resources and Transmission[10]
    - "Areas to avoid in siting renewable energy resources and transmission development:
        - Sites that would involve direct disturbance of tribal First Foods, including:
            - Water
            - Salmon and culturally significant fish species bearing watersheds (*e.g.,* Pacific Lamprey, suckers, white mountain trout, etc.)"[11]

- Section 3.14: Stop Cryptocurrency Production in the Northwest[12]
    - The applicant should ensure that the transmission line is not used to benefit energy-intensive cryptocurrency mining operations.

- Section 3.15: Climate Change Effects[13]
    - The applicant should review potential impacts through the lens of climate change and understand that effects will be amplified due to warming temperatures.

- Appendix A: Background[14]

- Appendix C: Healthy and Harvestable Fish Population and Columbia River Hydroelectric System Configuration and Operations[15]

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[8] Columbia River Inter-Tribal Fish Commission, Energy Vision for the Columbia River Basin (hereinafter "Energy Vision") (2022) available at https://critfc.org/wp-content/uploads/2022/09/CRITFC-Energy-Vision-Full-Report.pdf.
[9] *Id.* at 29-33.
[10] *Id.* at 94-99.
[11] *Id.* at 98.
[12] *Id.* at 111-112.
[13] *Id.* at 110-114.
[14] *Id.* at 119-120.
[15] *Id.* at 135-153.

C. Cultural Resources and Inadvertent Discovery

The applicant must develop a robust plan to respect and avoid impacts to historic, cultural, and archaeological resources.[16] Further, there should be protocol in place for potential inadvertent discovery. These plans should include:

- Buffer zones around cultural resources
- Protocol to confirm maps/locations with Tribes
- Protocol informed by Tribes' needs and requests

III. Water Quality Impacts

This project could result in severe water quality impacts. Additional studies and monitoring are necessary to understand the extent and persistence of water quality impacts from installation, maintenance, and removal of the transmission line. Particularly, disturbing the substrate could release toxins such as PCBs in both the Columbia and Willamette Rivers. This contamination would affect drinking water,[17] fish, and those who consume fish.

The applicant should conduct studies on how disruption of the beds of these particular water bodies[18] can impact drinking water and include these considerations under OAR 345-02-0011(1)(k) (Community Service Impacts). This should include a list of potential toxins and pollutants present in the sediment. Additionally, the applicant should identify any locations where drinking water is sourced near the project site and commit to monitoring during construction and operation. More detail is needed regarding the cable's interaction with the Portland Harbor superfund site and capped sediments.

The applicant should provide more information about the potential water quality impacts coming from the cable itself. For instance, will the cable contain dielectric fluid for insulation? If so, what procedures will be in place to clean up that oil product in the event of a spill? More information about the type of materials present in the cable is necessary to ensure that water quality impacts are not overlooked.[19]

IV. Additions, Maintenance, and End-of-Life Removal

The applicant must address plans for maintenance, end-of-life decommissioning and removal, or possible additions to the project. There should be clear protocols in place for maintenance of the transmission line in the event of an anchor strike or other potential damage. In addition to describing what maintenance and repairs would consist of generally, these protocols should address at least the following:

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[16] OAR 345-022-0090.
[17] OAR 345-022-0110.
[18] U.S. Dep't of Commerce, NOAA, Columbia River Estuary: Dredging and In-Water Disposal Handbook at 1, December 1989 ("[T]he Columbia River Estuary is a large and dynamic estuary. The aquatic environment in the Columbia River Estuary is significantly different from other marine and estuarine environments, and would be expected to respond differently to sediment quality problems.").
[19] *See e.g.*, Gregory Thomas, *Pac Bell Will Remove Old Lead-Leaching Phone Cables from Lake Tahoe*, San Francisco Chronicle (Nov. 10, 2021) https://archive.ph/Hevsd.

- Identification: How will the applicant promptly identify the location of a disruption on the transmission line? How long will this take?
- Access: An accident could happen anywhere along the transmission line. How will the applicant ensure it will have access to every part of the line for maintenance or repairs in the event of an accident?
- Sensitive areas: How will the applicant conduct maintenance or repairs in sensitive areas?
- Work windows: What work windows will be established to ensure maintenance and repairs do not interfere with fish, wildlife, and their habitats?
- Timing: How will the applicant navigate work windows during a critical transmission period?
- Seismic considerations: Has the applicant produced a study on the effects of seismic events on a cable in this particular area?
- Vessel traffic: Ensure that any permit is reviewed by persons with local knowledge of anticipated deep draft vessel traffic and navigation routes.
- Monitoring: Any future permit language should require the permittee to monitor the cable and carry out appropriate maintenance and repairs in a timely fashion.
- Procedure for future additions: What notifications and procedures will exist if the applicant later requests additional substations or other connected facilities?

Additionally, there should be clear, binding protocols and financial assurances in place for end-of-life removal of the transmission line. When asked what would be done at the end of the cable's 40-year life, and the possibility of replacement with another cable, Chris Hocker of PowerBridge, answered "that would be someone else's decision."[20] Given the Columbia River Tribes' stewardship since time immemorial, it is insufficient to suggest that after a mere 40 years, that decommissioning will simply be someone else's problem. Tribes and wildlife should not bear the burdens of a project designed to benefit the developer. Abandoning a transmission cable underwater in this location also likely violates the Clean Water Act and the Resource Conservation and Recovery Act. A serious, sound proposal must include binding financial assurances for decommissioning and end-of-life removal of the transmission line and detailed plans for post-removal habitat restoration.[21]

Finally, because the proposal is for a "renewable" transmission line, it should include binding assurance that transmission will not be used for fossil energy, even under future ownership.

V. Alternatives

The alternatives presented in the NOI are not comprehensive. The applicant does not explain "the basis for selecting the proposed corridor(s)"[22] and concludes that the two alternatives chosen are not feasible, without explaining why other alternatives were not considered. For a project of this scale and novelty, serious thought should be given to whether this is truly the best solution for transmission needs. Ideally, a study should be conducted to understand the breadth of potential solutions available to serve Western Oregon and Washington's energy transmission needs. The following alternatives should be considered:

[20] Cascade Renewable Transmission System Public Information Meeting, May 3, 2023 at 1:37.
[21] OAR 345-022-0050.
[22] OAR 345-020-0011(1)(d).

- Above-ground transmission
- Transmission along rail ROW
- Transmission on Washington side of Columbia River (only Oregon-side alternatives considered)
- Growth of community-based and larger-scale solar in Western Oregon and Washington
- Offshore wind development
- Energy efficiency and conservation projects
- Alternatives based on recommendations in the Energy Vision

VI. Other Considerations

A. Credibility Based on Other Projects

The applicant points to two completed projects as evidence of success and minimal environmental impacts: the Neptune and Hudson projects. However, the existence of these two projects does not alleviate concerns about this proposal.[23] The following aspects of the Neptune and Hudson projects undermine their credibility with respect to the current proposal:

- The existing cables run under the sea or tidal estuaries, not entirely in freshwater, and therefore do not deal with the same issues in terms of EMF avoidance.
- The existing cables encounter different species than those present in the Columbia River.
- The existing cables are not nearly as long as what is proposed here. What new risks are presented with a cable of this length? What is the transmission loss in this cable?
- The existing cables have lower wattage than what is proposed here. More data is needed to determine impacts of higher wattage.

Additionally, the applicant should provide detailed information about its other[24] ongoing, proposed, or forfeited projects for complete transparency.

B. Public Participation

Because this is a long-term project involving various state and federal agencies, public participation should be conducted carefully and thoughtfully. We present the following public participation recommendations:

- Extended comment periods to allow interested parties enough time to weigh in
- Established procedure to re-open comment periods if plans or design changes during the process
- Comment periods for ownership transfers and project additions
- Site designs, studies, and other materials should be located in one place for easy access
- Stakeholder meetings that include Tribes, environmental, and community groups

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[23] OAR 345-022-0010(1).

[24] Matthew L. Wald, *Underwater Cable an Alternative to Electrical Towers*, NY Times (Mar. 16, 2010) https://www.nytimes.com/2010/03/17/business/energy-environment/17power.html ("PowerBridge is now considering two renewable energy projects, however. One cable would connect proposed wind farms on the Hawaiian islands of Molokai and Lanai to the urban center on Oahu, and another would bring wind power from Maine along the Atlantic coast to Boston.").

- Regular public meetings for Washington, Oregon, and federal agencies to ensure each agency and the public is receiving consistent information
- Provide presentations, executive summaries, and other materials in Spanish; provide Spanish language translators at public meetings

C. Miscellaneous

Finally, the applicant should provide more information for EFSC to evaluate the following considerations:

- Noise impacts: Impacts from converter stations to communities and wildlife
- Impacts to end users and ratepayers: Need more details about who will buy the energy and how this project will affect ratepayers. Who will determine rates for the energy?
- Siting and land use: What is the applicant's plan to secure the site in Portland?

Conclusion

The Columbia River should not bear the burdens of infrastructure designed without careful attention to long-term consequences, as we have seen time and time again. The Columbia River salmon are more than iconic—they are a lifeblood.[25] The president and CEO of PowerBridge, Edward Stern, claims that "The fish don't vote."[26] To the contrary—in the Pacific Northwest, they do.

Sincerely,

Audrey Leonard
Staff Attorney, Columbia Riverkeeper

[25] *See generally,* U.S. Env't Protection Agency, Final Determination of the U.S. Environmental Protection Agency Pursuant to Section 404(c) of the Clean Water Act: Pebble Deposit Area, Southwest Alaska (January 2023) (prohibiting mining activities that would impact wild salmon populations).
[26] Matthew L. Wald, *Underwater Cable an Alternative to Electrical Towers*, NY Times (Mar. 16, 2010) https://www.nytimes.com/2010/03/17/business/energy-environment/17power.html.