| Lower Snake River Expansion (“LSRx”) Q&A Log |
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| # | Category | Date | Bidder Question | Date | LSRx Team Response |
| C1 | Contracts | 6/1/2023 | Would PSE require some form of exclusivity on the project as the ultimate owner off taker? | 6/9/2023 | Yes, PSE will be the off taker for all the energy produced by this project. PSE’s energy and capacity needs to decarbonize its electric supply portfolio are over 6,700 MW of nameplate. This project supplies a substantial part of that need. |
| C2 | Contracts | 6/1/2023 | Will PSE consider a project structure where the bidder does not take an ownership interest?Does PSE intend to own all or part of the project post-COD? | 6/9/2023 | Yes, PSE will consider any ownership structure that will reduce the cost of energy for its customers. PSE is open to full PSE ownership of the project at COD, joint ownership and partial PPA with the successful bidder, or a full PPA with no immediate ownership interest. That said, PSE also asks for a path to ownership in full or partial PPA scenarios. That path could be in the form of pre-negotiated future purchase terms, a right of first offer or right of first refusal on the successful bidder’s interest, or other structure leading to future ownership or an option to own. |
| C3 | Contracts | 6/1/2023 | Will PSE be providing any kind of form agreements for either PPAs or an ownership agreement as was done in the 2021 All-Source RFP? | 6/9/2023 | PSE elected not to provide form agreements for this RFP. Providing a form agreement requires each bidder to review the form agreement and submit comments to PSE with RFP responses. PSE in turn must have those comments reviewed for acceptability and the potential hurdles to reaching final agreement. With multiple potential bidders, that creates considerable effort and cost for both the bidders and for PSE before evaluation of the bids have reached any conclusion. PSE instead elected to eliminate the form agreements at the bid stage, and focus on the quantitative and qualitative evaluation. For the successful bidder, PSE can provide the first draft of transaction agreements to start negotiations. PSE and the bidder will only need to review, comment and revise, and agree one time in pursuit of a definitive agreement. |
| C4 | Contracts | 6/1/2023 | What is the scope and reach of the non-competition agreement that is referenced in the RFP? | 6/9/2023 | The goal of the non-competition agreement is to discourage bidders from taking a position with respect to landowner leases, the LGIA, public engagement, offtake agreements, or other project assets that may put the bidder in competition with PSE for the LSR expansion. PSE intends to develop this project fully and wants to make sure the project stays vested with PSE. The scope and effective period of the non-compete is being discussed with PSE’s legal staff. |
| C5 | Contracts | 6/8/2023 | Does PSE have preferred contractors, suppliers, or vendors that bidders should be aware of when preparing a proposal? Does any contractor or developer hold rights to build any part of the project? | 6/14/2023 | PSE is open to bidders using any sub-suppliers that have the experience, expertise, safety record, and capability to provide industry standard products and services that add value to the LSRx project. As such, PSE does not have a preferred suppliers list to provide to bidders. PSE has a contractual commitment to American Energy, Inc. (AEI) as its preferred contractor for engineering, procurement, and construction of LSRx transmission lines in both Columbia and Garfield Counties. Potential bidders are requested to solicit bids for transmission line contractor services from AEI and utilize AEI as its transmission line contractor if their proposal matches or provides better terms for the bidder’s specifications than those offered by other contractors. AEI can be reached at dj@ameninc.com or by calling Office: 509-382-3104 or Mobile: 509-520-6074. |
| E1 | Evaluate | 6/1/2023 | How will UTC approval impact the evaluation of this project?  | 6/9/2023 | The Washington Utilities and Transportation Commission (WUTC) does not provide pre approval for project investments by the utility. Approvals are only granted following a rate case or hearing on the prudence of such investments to determine if an investment may be included in utility rates. Thus, PSE must demonstrate that the RFP process was open and fair, and the project is needed to meet customer energy resource needs and the requirements of state law. WUTC approval will take place after the project is built. Should there be a reason that the WUTC should disallow all or part of the project investment, PSE takes that risk. |
| E2 | Evaluate | 6/1/2023 | Will LSR expansion proposals be evaluated against proposals from the 2021 All-Source RFP? | 6/9/2023 | PSE will be using analysis methodologies that are consistent with the 2021 All Source RFP, but LSR expansion proposals will not be evaluated against the All Source. Some comparison may be performed to evaluate changing market conditions, but proposals received in the All-Source RFP are several years old now. LSRx is a new RFP, and PSE will evaluate these proposals against one another. Additional comparisons may be performed with other development projects to evaluate the overall energy resource landscape. |
| F1 | Finance | 6/1/2023 | Is PSE’s intent to have the successful bidder acquire the LSR development, develop it and then sell it back? | 6/9/2023 | No, PSE is not contemplating that structure and understands that project lenders will want to see that the successful bidder has firm rights. If PSE were to sell the project assets to the successful bidder, that bidder would have to amortize that investment through a higher cost of energy over the PPA term. In a full PPA scenario, PSE would seek to provide an assignment of rights (interconnection and transmission, real estate, permits, etc.) to the successful bidder. In a joint ownership scenario, there will be an equitable assignment of rights commensurate with the ownership share between the parties. |
| F2 | Finance | 6/1/2023 | The RFP states that the successful bidder will be responsible for the cost of its LSRx responsibilities. How does PSE envision that works with a full PSE ownership (the bidder has no ownership in the final project)? | 6/9/2023 | PSE anticipates that it will continue to fund those areas of project development that are currently underway, and that the successful bidder will fund its project development activities (e.g., EPC, wind energy assessment, etc.) There are several ownership scenarios to consider:* Should the bidder propose that PSE own the full project at COD, then there would be a reimbursement mechanism plus a margin to pull those investments into PSE. The reimbursement could be structured as a pay-as-you-go or a simple buy-out at COD.
* Should the bidder propose a full PPA (with no PSE ownership share), then PSE would expect the successful bidder to recover its investment through the PPA price. In that scenario, PSE would not expect the successful bidder to reimburse PSE for its development costs. As such, the PPA price would reflect a reduced project development cost in the busbar price insofar as PSE has already paid those costs.
* Should the bidder propose a joint ownership with PSE then the split of development cost could get quite complicated, but would generally follow the percent ownership share. For example, if the proposal is for a 60% ownership share by PSE and a 40% PPA, then PSE would again retain its own project development expenditures and reimburse the successful bidder.
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| F3 | Finance | 6/1/2023 | Bidders are being asked to provide a forecast of operating and maintenance expenses for the project. If PSE is the owner, then why wouldn’t PSE provide those assumptions? | 6/9/2023 | From an evaluation and fairness perspective, PSE would prefer that O&M cost assumptions are those of the bidders rather than an assumption made by PSE. That way, it is the bidder’s cost forecast based on their proposed site layout, wind analysis, and turbine selection that is being evaluated rather than a forecast modeled by PSE.For a joint ownership proposal, recall that PSE has a local wind operations team located in Pomeroy, and has agreements in place with local service providers and/or PSE specialists for electrical and substation maintenance services. PSE also has years of experience contracting for and managing turbine services with the OEMs. However, each bidder must make its own assumption about how operations and maintenance services should be proposed in its RFP response. PSE will collaborate with the successful bidder to determine if there are benefits to PSE taking a role in the management of a jointly-owned facility. At the proposal stage, bidders must apply their own experience and cost assumptions. |
| F4 | Finance | 6/1/2023 | Does PSE have a preference on PTC vs. ITC for PSE ownership options? | 6/9/2023 | Unlike for developers, the ITC is challenging for a utility because normalization rules apply. Because of that, PSE’s preference on this project would be to use the PTC. However, if there is compelling value to using the ITC and a way to recover that value in a full PPA or joint ownership scenario, PSE would be willing to evaluate that. ITC may not be beneficial for a full PSE ownership scenario simply because of normalization. |
| F5 | Finance | 6/1/2023 | Why is it difficult for PSE to utilize a tax equity investor? | 6/9/2023 | There are two primary concerns for PSE, as a regulated utility, to utilize a tax equity investor:* One concern is structural insofar as PSE would need to create a non-regulated subsidiary entity (a Project Company outside of the utility) to enable tax equity ownership. In the past, that has proven to be very difficult for PSE to structure contractually and to submit for recovery in the current regulatory environment. Due to that experience, PSE might not receive Board approval if proposed.
* The other concern is that as part of the WUTC order authorizing the private equity purchase of all PSE’s publically traded shares, PSE made a commitment to strictly limit nonregulated subsidiaries. The WUTC was concerned about private equity owners making investments outside of the utility space in ways that may put customers at risk.

Tax equity financing is a challenge for PSE, and does not work well for the utility as a renewable asset owner. There is no such concern for PSE to purchase energy from a facility financed through a tax equity structure (as in a PPA), thus a joint ownership scenario for LSRx could include monetizing tax credits via a tax equity investor for the successful bidder’s share, and monetizing tax credits via direct use or sale for the PSE ownership share. |
| I1 | Intercon & Trans | 6/1/2023 | What is driving the project completion date of September 2027? Is it based on interconnection and transmission considerations? | 6/9/2023 | Yes, the project timeline is being driven by the expected completion date of the interconnection and transmission upgrades necessary for the addition of 640 MW. 150 MW of transmission will become available in 2024. Larger upgrades are needed to enable the remaining 490 MW and that is what determines the final COD. There are two major upgrades that BPA is making to its system (already under way) that are expected to be complete in Q3-2027. There is also an affected system study underway with Portland General Electric, although PSE has not seen the full result of that study yet. But that may or may not result in some system upgrades on their system as well. Ultimately, PSE will retain the responsibility for interconnection and transmission for LSRx. |
| I2 | Intercon & Trans | 6/14/2023 | Can PSE confirm if the interconnection voltage for the 500 MW portion of the project will be 500 kV or 230 kV like the 140 MW portion? | 6/15/2023 | The interconnection voltage for the 500 MW portion will be 230kV. |
| I3 | Intercon & Trans | 6/14/2023 | Can you confirm which queue position on the LGIA will be utilized for the 140 MW portion of the project available in 2024? | 6/15/2023 | Queue positions associated with LSR development were G0284, G285 and G286 (250 MW each) in BPA's interconnection queue for a total interconnection of 750 MW. PSE’s original LGIA under contract number 10TX-14570 was for LSR Phases I, II and III, for a total interconnection capacity of 750 MW. After the sale of LSR Phase II to Portland General Electric, 267 MW of that interconnection was transferred to PGE, and the new LGIA reflected a total 483 MW of capacity. Of the 483 MW total interconnection rights under this LGIA, 343 MW is currently energized for LSR Phase I.Therefore, 140 MW of interconnection capacity rights remain under the first LGIA for LSR Phase III, but is not necessarily associated with a particular BPA queue position. It reflects the undeveloped development rights under the current LGIA. |
| O1 | Other | 6/1/2023 | Why is the Dutch Flat wind resource area not included in the RFP? | 6/9/2023 | PSE did not include the Dutch Flat Wind Resource Area (WRA) in the RFP specifically because there is considerably more development work needed there. PSE sees Dutch Flat as a potential later phase of LSR development, so it is not out of consideration. The WRAs covered by the RFP have sufficient capacity to utilize all 640 MW of available transmission and interconnection, thus the area is not needed for this RFP. |
| O2 | Other | 6/20/2023 | The dataroom has lease documents in pdf format, but they do not include parcel numbers. Is there a shp/kmz, or an excel sheet with the leased parcels available? | 6/21/2023 | PSE’s real estate team reports that they do not have a ready resource to provide parcel locations and numbers. PSE is responsible for management of landowner leases with respect to the LSRx project and will remain so throughout the bid, evaluation, contracting, construction, and operation periods. PSE will certainly provide parcel numbers and lease locations to the successful bidder, but simply do not have that cross-reference available today. |
| P1 | Permits | 6/1/2023 | How were the permitted wind turbine corridors determined? Was that something that landowners contributed to, was that an energy consideration, or was it an environmental consideration? | 6/9/2023 | The wind development corridors are based on a turbine layout that was guided by the energy assessment analysis and landownership. Environmental and cultural studies have been performed within the permitted development corridors, although not for the entire project permit area. The results of PSE’s environmental studies may be found in the 2009 Environmental Impact Statement in the data room. The permitted corridors are identified in the Lower Snake River Garfield County and Columbia County Conditional Use Permits (CUPs).County CUP setbacks can encroach into the permitted development corridors, as a result the permitted corridors have restrictions. There are some differences in setback rules between the two counties.With regard to transmission (inter-tie/gen-tie) lines and/or collection lines, there are additional allowances. In Garfield county transmission lines can be sited outside of permitted corridors and in Columbia county both transmission lines and collection lines can be sited outside of permitted corridors; however, in both counties they need to be located within the permit project boundary (leased land). There is a permitted corridor from the Kuhl Ridge WRA that is located on the very northern end of the existing LSR1 wind farm that is available to run an inter-tie/gen-tie line to BPA’s Central Ferry substation. |
| P2 | Permits | 6/1/2023 | Has there been any engagement on the Military Training Routes and on Mica Peak with the DoD on the project? | 6/9/2023 | PSE has had conversations with the Northwest Training Range Complex liaison regarding military training routes and is scheduling meetings with the Department of Defense (DoD) to discuss the Mica Peak NORAD. |
| P3 | Permits | 6/1/2023 | What is the status of FAA permitting? | 6/9/2023 | PSE has not submitted an application to FAA yet because it is not known what turbines will be selected by PSE and the selected bidder. Once PSE starts working with the successful bidder to determine overall tip heights and turbine location for each WRA, then PSE will submit an application to the FAA. Also be aware that a new state law was recently enacted in Washington requiring Aircraft Detection Lighting Systems (ADLS) at all wind farms. That will be part of the requirements too. |
| P4 | Permits | 6/1/2023 | What bat and avian surveys have been performed or are in progress, and are there species of concern in the area? | 6/9/2023 | PSE has performed two full years of avian and bat post-construction monitoring at both Hopkins Ridge and LSR1. There is also avian and bat data from the PGE Tucannon wind farm and from the Pacific Corp Marengo wind farm. PSE will start in 2023 monitoring every single turbine, both at Hopkins Ridge and LSR1 for eagle fatalities in compliance with the recently received US Fish and Wildlife Service (FWS) Eagle Incidental Take Permit (EITP). Additional avian surveys of the WRAs are in progress using Western EcoSystems Technology (WEST, Inc.). Starting in November 2022, WEST began conducting monthly avian use surveys in the Kuhl Ridge WRA, which will continue for a two year period. In 2023 these monthly avian use surveys were expanded to include all of the WRAs that are being considered in this RFP. Year one of the avian use surveys will document small birds and all large birds (including eagles). The year two avian use survey will only focus on raptors/hawks including eagles.WEST completed aerial eagle nest surveys during the Spring of 2023 and will revisit again for all raptor nests, including eagles during the Spring of 2024.The Washington Department of Fish and Wildlife’s (WDFW) 2023 list of bird species of concern (candidate, or endangered status) identified for Garfield and/or Columbia counties include: Clark’s grebe, Golden eagle, Northern Goshawk, Upland sandpiper, Ferruginous hawk, Burrowing owl, Flammulated owl, Black-backed woodpecker, White-headed woodpecker and Sage Thrasher. The Townsend’s Big-eared bat is identified as a Washington candidate species of concern in Garfield and Columbia counties.Pre-existing bat information is available from Hopkins Ridge, LSR1 and from the nearby Marengo and Tucannon wind farms. Currently WEST is conducting a desktop review of available data to evaluate potential changes in the risk profile posed by the LSRx project relative to the risk profile used to support the original Common UNIX Printing System. WEST is also will review the previously collected acoustic bat data collected from the LSRx WRA and literature pertaining to differential impacts to bats from larger modern turbines relative to smaller turbines (1.8MW and 2.3MW).Mule deer migration from the Blue Mountains toward the Snake River is a concern that has been raised in the past by the WDFW. . We are updating literature surveys as part of our analysis. |
| P5 | Permits | 6/5/2023 | Does PSE prefer for FAA and DoD permits to be obtained by the bidder, or is that an item that PSE plans to have in their scope? | 6/13/2023 | PSE will include FAA and DoD permitting in its scope of responsibility for the project. Some additional information will be required from the successful bidder (e.g., turbine selection consistent with site conditions, and turbine layouts), but PSE will own the permitting process. |
| P6 | Permits | 6/13/2023 | Can PSE provide any information on the following?* Buildable Area Shapefiles (V163-4.5 specific - shapefile of project area with all constraints/setbacks removed)
 | 6/19/2023 | The site maps and layouts provided in the LSRx data room incorporate the constraints and setbacks that are known in the wind resource area. The shape files in the data room are currently in layers and are ”buildable” (you will need to open zip file to see them). Though they're zipped up, bidders can pick and choose the layers needed.Please note that constrained areas are the constructible areas of the site, and we provide this for the sake of consistency among bidders, and to acknowledge that the site is not open for development outside of the established corridors. Please use the corridors and constrained areas in your proposal layouts. |
| P7 | Permits | 6/13/2023 | Can PSE confirm that they will complete the permitting work required to build a wind farm with tip heights up to 650 ft? | 6/19/2023 | Yes, PSE confirms that it will be responsible for permitting necessary to site turbines up to 640 feet in height over the LSRx wind resource areas. We had previously indicated that the overall turbine height was 650 feet, but this has been scaled back to 640 feet. |
| S1 | Solar | 6/1/2023 | Will PSE consider offers that incorporate solar offers or incorporate additional land to that identified in the RFP? | 6/9/2023 | Solar facility development can be controversial in farming communities, and there is not universal acceptance of solar among PSE’s landowners. This RFP is for wind only with an option for storage. The storage option would allow bidders to add dependable capacity to the new wind facility, provide intraday delivery options, and/or contemplate an overbuild scenario. Solar may be considered in a future development phase at LSRx.The LSR expansion project has 640 megawatts of interconnection and transmission and PSE is confident that capacity can be constructed in the areas that have been identified on the project maps. If a bidder has other land area that can be consolidated with the project, PSE would certainly review such a proposal, however PSE’s priority is for wind development within the footprint of the LSR WRA. |
| T1 | Technical | 6/1/2023 | Is PSE exploring repowering its existing wind farms, and would there be interest in linking that work to the LSRx project? | 6/9/2023 | PSE has held discussions with wind turbine manufacturers on the subject of repowering in years past and again recently. The availability of tax credits from the Inflation Reduction Act are particularly attractive for PSE’s customers. Based on our interpretation of the Clean Energy Transformation Act and subsequent guidance issued by the WUTC, repowering existing wind turbines may require a separate RFP process focused on repowering as a life extension strategy. As a result, repowering of the existing wind turbine fleet is certainly of interest, but is not included in this RFP for LSR expansion. |
| T2 | Technical | 6/1/2023 | What is the status of the geotechnical work in the LSRx area? | 6/9/2023 | Geotechnical investigations were performed for the existing wind farms, but PSE has not started any geotechnical analysis yet for the LSR expansion. As with FAA permitting above, geotechnical analysis is highly dependent on the turbine model selected for construction and the foundation load analysis. Once PSE starts working with the successful bidder to determine turbine model specifications and layout for each WRA, then an analysis for geology and slope stability studies can be started.PSE reviewing the geotechnical studies from the original construction, and if possible, will upload that to the data room. |
| T3 | Technical | 6/9/2023 | Were the “Validated” met data files in the data room de-waked? | 6/12/2023 | The description of what analysis was performed on the Validated met data files include the following: “…*[validation] includes elimination of data associated with mast shadow, icing, intermittent sensors, and failed sensors.*” PSE interprets this to mean that the wake impact from the met tower itself is among the adjustments made to the Validated wind data, although we do not believe wake effects from any adjacent wind farms have been incorporated into the validated data sets. |
| T4 | Technical | 6/5/2023 | Would it be possible to arrange for a small group of engineers / pre-construction members to access the site ahead of the July 12th proposal? | 6/13/2023 | Bidders may make additional solo visits at will to the LSRx WRAs as long as they stay on public roads, off of private land, stay clear of any turbine work crews, and maintain a distance of at least 300 feet from existing wind turbines. PSE will not be able to provide a guide for any such visits, but would like to be informed of the visit. Please send any visit plans through the LSRRFP@pse.com email. |
| T4 | Technical | 6/5/2023 | Were the CSV files in the data room generated by PSE or DNV? | 6/13/2023 | The CSV files were generated by DNV based on met tower data collected in the LSRx WRAs. |
| T5 | Technical | 6/5/2023 | Is the data in the CSV files the calibrated version of the provided raw data, or has the data already been validated? | 6/13/2023 | The data in the CSV files does not necessarily correspond with the data in .dat or .txt format that was also included. The CSV files were prepared in the 2018 timeframe and were labeled as cleaned and validated. The .txt files were stored in separate locations in PSE’s records. The .dat files were recently provided by DNV and represent all of the raw data that they were housing for PSE. |
| T6 | Technical | 6/12/2023 | Does PSE have preferred technical specifications and recommendations for the project design and major components for the LSR expansion? | 6/13/2023 | Turbine layout: Define turbine locations to optimize energy capture while ensuring that local conditions do not exceed the design conditions stipulated by the equipment manufacturer. Layout shall consider permitting boundaries, required foundation type and size, clearances to overhead lines, road access and crane pads for installing and maintaining equipment. Turbine locations must also consider existing and planned microwave facilities and beam paths.Energy yield estimates: Project energy yield estimates shall consider:* Effects of local terrain on inflow conditions.
* The power performance curve provided by the manufacturer.
* Wake effects of neighboring turbines.
* Losses due to icing, turbine downtime, blade degradation, collection and transmission system, etc.

Turbine leading edge protection: Turbines shall include OEM-installed LEP on all blades. Specify details of proposed LEP product.Turbine conditioning monitoring system: Turbines shall include a full condition monitoring system.Turbine service lift: All turbines shall include a platform-style personnel service lift.Turbine lighting: Turbine lighting shall be included, and must be compatible with radar-based Aircraft Detection Lighting Systems.Ground-based padmount step-up transformers: Ground-based padmount step-up transformers, if used, shall be designed for step-up operation, continuous duty. Ice guards shall be included.Underground MV collection system: The underground medium voltage collection system shall be designed to the highest quality standards to ensure maximum reliability and durability over the expected lifespan of the project. Cross-country routes shall be minimized. Cable lengths shall be designed to minimize the number of underground splices required. Where an underground splice is required, it shall be brought into an above-ground junction box.Fiber optic cable: Underground fiber cable shall be armored and run inside HDPE duct with corrugated steel wall protection.Overhead MV collection system: Overhead sections of the medium voltage collection system are to be free standing and not underbuilt on the 230 kV transmission structures, except at crossings.Main transformer/GSU: The GSU shall be manufactured by a proven, top-tier supplier with an extensive, verifiable track record of successful supply to U.S. utilities.Interconnection requirements: Projects must fully meet BPA’s LGIA interconnection requirements.Generation inter-tie line: Gen-tie line design guidelines: * NESC “Heavy” standards.
* 3" rime ice loading.
* 120 mph design wind speed for 3-second gusts.

Bidders shall plan for the final gen-tie line design to adopt these criteria.WAC requirements: Bidders shall reference the Washington State Dept. of Labor & Industries (L&I) Electric Power Generation, Transmission and Distribution - Chapter 296-45 WAC regulation. This covers provisions for the use of live-line tools/hot sticks, de-energizing lines and equipment, visible open disconnects, special grounding requirements, etc.Admin, operations, and maintenance building(s): Bidder shall propose facilities to fully support operations and maintenance for the life of the project. |
| T7 | Technical | 6/13/2023 | Can PSE provide any information on the following?* Production Profiles (8760/12x24) for the Max Height (V163-4.5) layout.
* Wind Resource Grid (.wrg) at 113m for the V163-4.5 layout.
* 113m TAB files for all met masts
 | 6/19/2023 | PSE does not have production profiles, wind resource grid (.wrg) files, or 113 m TAB files for met tower locations. However, PSE has obtained preliminary wind energy estimates for each resource area that contain wind speed distributions for the 113 m hub height associated with the V163-4.5 turbine. Refer to the Excel files within each wind resource folder in the data room with filenames beginning with “10437648-HOU-XL-01”. |
| T8 | Technical | 6/13/2023 | Can PSE provide any information on the following?* Power/cT Curve for the V163 turbine.
 | 6/10/2023 | PSE does have this curve for the V163-4.5 Vestas turbine, and it was used in the wind energy assessments provided in the data room. Unfortunately, the curve is covered under the terms of a separate NDA with Vestas, and we are not able to publish it to the data room. There may be other resources available to access the power curve, or it is certainly available from Vestas. |