

May 14, 2021

Puget Sound Energy  
355 110<sup>th</sup> Ave NE  
Bellevue, WA 98004

**RE: Comments of Swan Lake and Goldendale  
Puget Sound Energy – Draft Request for Proposals  
UTC Docket UE-210220**

The companies working to develop the Swan Lake and Goldendale pumped hydro storage projects (“Swan Lake and Goldendale”) appreciate the opportunity to file comments on Puget Sound Energy’s (“PSE”) draft 2021 All-Source Request for Proposals for Renewable and Peak Capacity Resources, which was filed in the above-reference docket on April 1, 2021, and subsequently updated on May 10, 2021 (the “Draft RFP”).<sup>1</sup> The Washington Utilities and Transportation Commission (“Commission”) subsequently issued a notice, on April 6, 2021, indicating it would accept comments on PSE’s Draft RFP until May 17, 2021.<sup>2</sup> In response to that notice, Swan Lake and Goldendale are filing these comments.

Swan Lake and Goldendale have considerable concerns with several aspects of the Draft IRP, in addition to the significant modeling concerns Swan Lake and Goldendale recently raised in PSE’s Final IRP docket.<sup>3</sup> Until the modeling deficiencies and inaccuracies in PSE’s Final IRP are corrected, and the issues raised by these comments are addressed, Swan Lake and Goldendale respectfully request that the Commission put this proceeding on hold to ensure PSE is seeking a set of resources that actually meet the Commission’s standards for providing the least cost portfolio to meet PSE’s future capacity needs.<sup>4</sup>

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<sup>1</sup> Unless otherwise indicated, all references and citations are to the May 10, 2021 updated version of the Draft RFP.

<sup>2</sup> *Notice of Opportunity to File Written Comments*, Docket UE-210220, April 6, 2021, available at: <https://apiproxy.utc.wa.gov/cases/GetDocument?docID=20&year=2021&docketNumber=210220>.

<sup>3</sup> See Comments of Swan Lake and Goldendale on PSE’s Final IRP, Docket UE-200304, May 6, 2021, available at: <https://apiproxy.utc.wa.gov/cases/GetDocument?docID=1953&year=2020&docketNumber=200304> (the “Final IRP Comments”). Because Swan Lake and Goldendale’s Final IRP Comments are relevant to some of the points raised in these comments, and for ease of Commission Staff’s review and cross-referencing, Swan Lake and Goldendale are reattaching those comments here as Exhibit A.

<sup>4</sup> See WAC 480-100-610(1) (“[E]ach electric utility has the responsibility to identify and meet its resource needs with the lowest reasonable cost mix of conservation and efficiency, generation, distributed energy resources, and delivery system investments to ensure the utility provides energy to its customers that is clean, affordable, reliable, and equitably distributed. At a minimum, integrated resource plans must include the components listed in this rule. Unless otherwise stated, the assessments, evaluations, and forecasts should be over an appropriate planning horizon.) (emphasis added); see also WAC 480-100-620(7) (“The IRP must include a comparative evaluation of all identified resources and potential changes to existing resources for achieving the clean energy transformation standards in WAC 480-100-610 at the lowest reasonable cost.”) (emphasis added).

## **I. Summary of Comments**

In addition to the modeling deficiencies raised by Swan Lake and Goldendale’s comments on the Final IRP (those comments are reattached here as Exhibit A for convenience), Swan Lake and Goldendale also have significant concerns about the design of the Draft RFP and how it is significantly biased against storage resources, particularly pumped storage resources. Specifically, these comments raise the following concerns with the Draft RFP design:

- A. Like the Final IRP, the Draft RFP is unfairly biased against storage resources because the Draft RFP attributes certain storage resources an arbitrarily low Effective Load Carrying Capability (“ELCC”) value;
- B. The Draft RFP’s scoring criteria arbitrarily disadvantage large capacity resources like pumped storage;
- C. The timing constraints in the Draft RFP do not allow long lead-time resources like pumped storage to fairly compete in the Draft RFP; and
- D. PSE’s projected capacity need of 1,506 MW by 2027<sup>5</sup> likely significantly understates PSE’s real capacity need.

Because of these concerns—and the fact that the Draft RFP relies on the Final IRP’s flawed analysis and inaccurate assumptions—Swan Lake and Goldendale do not believe it is prudent for the Commission to allow the Draft RFP to proceed. Instead, the Commission should direct PSE to remedy the numerous deficiencies with the Final IRP, thereby ensuring any resources acquired via this RFP process actually reflect the least cost set of resources, in accordance with the Commission’s requirements.

Once the deficiencies in the Final IRP are remedied, PSE should be directed to update the Draft RFP using the correct modeling inputs and assumptions from the revised, Final IRP. Until those issues are addressed, the Commission should not allow PSE to proceed with this RFP.

## **II. The Draft RFP is Unfairly Biased Against Storage Resources Due to Attributing these Resources Arbitrarily Low Capacity Values.**

Swan Lake and Goldendale continue to have significant concerns about PSE’s treatment of storage resources, particularly with respect to the arbitrarily low ELCC values being assigned to these resources. This issue is addressed at some length in Swan Lake and Goldendale’s Final IRP comments attached hereto as Exhibit A,<sup>6</sup> so Swan Lake and Goldendale will not repeat all of those comments here. However, Swan Lake and Goldendale would reiterate a few, key points, given that the Draft RFP incorporates the erroneously low ELCC values for storage resources.<sup>7</sup> First,

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<sup>5</sup> See Draft RFP, Attachment A at Table 2.

<sup>6</sup> See Final IRP Comments at § II, attached hereto as Exhibit A.

<sup>7</sup> See Draft RFP, Attachment A at Table 4.

PSE's assumptions in the Final IRP dramatically limit the capability of stand-alone energy storage to charge, thereby limiting the ability of stand-alone storage resources to provide capacity services in high loss of load periods during the winter, which negatively affects these resources' ELCC values. Similarly, PSE's ELCC values for storage are significantly outside the industry-norm for these resources. Specifically, the ELCC value of an eight-hour duration pumped hydro facility (100 MW) in PSE's service territory is 37.2%, whereas the ELCC values for 100 MW of pumped hydro (8 hour) in PGE, Northwestern, and PacifiCorp systems are 94%,<sup>8</sup> 100%,<sup>9</sup> and 99%,<sup>10</sup> respectively.

Second, Swan Lake and Goldendale believe that PSE's significantly depressed storage ELCC values are being driven by three key, inaccurate assumptions, including: (1) Loss-of-Load Events are consistently 24-hours in key winter months by 2027; (2) there is 1,000 MW (or less) of Mid-C capacity (wholesale purchases) assumed to be available in key winter months by 2027, thereby making less energy available for charging these resources, which is an unfair assumption to make when, historically, ample energy is available for charging during, at least, night time hours; and (3) only existing supply and any available Mid-C import capacity will be available for the energy storage to charge from, thereby excluding the possibility of storage charging from another market such as the California Independent System Operator ("CAISO").

PSE's inaccurate assumptions with respect to the ELCC value for pumped storage resources are further compounded by the fact that PSE limits pumped storage resources' operating range (or "state of charge") to 70% of the resource's storage capacity. This seemingly arbitrarily assumption has the effect of prohibiting pumped storage resources from taking advantage of almost 1/3 of their available capacity. This limiting assumption does not reflect the reality of how pumped storage resources operate. Instead, this assumption has the effect of further deflating the ELCC value of pumped storage resources, thereby resulting in these resources appearing uneconomic in PSE's Final IRP.

The cumulative effect of these several, inaccurate assumptions is that pumped storage resources' ELCC values are unfairly discounted in comparison to other resources, which has the arbitrary effect of making pumped storage look uneconomic. In reality, if these resources are compared on an apples-to-apples basis against other resources, pumped storage is more than competitive across all criteria, particularly price.

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<sup>8</sup> See page 63, 2019 Portland General IRP Update, available at <https://assets.ctfassets.net/416ywc1laqmd/1PO8IYJsHee3RCPYsjbuaL/b80c9d6277e678a845451eb89f4ade2e/2019-IRP-update.pdf>.

<sup>9</sup> See page 20, Northwestern Energy Incremental ELCC Study, available at <https://www.northwesternenergy.com/docs/default-source/documents/defaultsupply/appendix-2-e3-report-on-elccs.pdf>.

<sup>10</sup> See page 404, PacifiCorp 2019 IRP Appendix N, available at [https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/integrated-resource-plan/2019\\_IRP\\_Volume\\_II\\_Appendices\\_M-R.pdf](https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/integrated-resource-plan/2019_IRP_Volume_II_Appendices_M-R.pdf).

Thus, until PSE revisits the results of its Final IRP and corrects some of the deficiencies with how pumped storage resources are treated, the Draft RFP is inherently flawed, given that it seeks to acquire resources based on an inaccurate analysis that is unlikely to result in a portfolio of resources that actually meets the Commission's standards. As a result, the Commission should not allow PSE to proceed with the Draft RFP until the issues raised in these comments, and the Final IRP Comments, are investigated and addressed by the company.

### **III. The Scoring Criteria Contained in the Draft RFP Arbitrarily Disadvantage Large, Capacity Resources like Pumped Storage.**

Swan Lake and Goldendale also have significant concerns that the proposed, qualitative scoring criteria contained in Exhibit A of the Draft RFP are arbitrary and significantly disadvantage large capacity resources like pumped storage. Swan Lake and Goldendale are particularly concerned about how PSE proposes to award points in the following categories: (1) Counterparty Viability – Experience Level; (2) Project Viability – Supply Chain; (3) Project Viability – Technology Risk; and (4) Energy Delivery.

First, regarding “Counterparty Viability – Experience Level,” PSE’s proposed scoring criteria provide additional points for constructing at least 1 (2 points) or greater than or equal to 5 (3 points) projects of similar size and technology. However, using construction of similar size projects as a criterion is inherently biased against large, grid-scale capacity resources that are less likely to be constructed on a regular basis. Instead, PSE’s proposed scoring system for Experience Level is significantly biased towards smaller resources like Distributed Energy Resources (“DERs”), where a developer is likely to score highly in this category due to regular and frequent deployment of new resources.

Instead of using its proposed scoring system for Experience Level, Swan Lake and Goldendale suggest PSE consider an alternative method such as combined years of relevant development experience on the development team. In the case of pumped storage, using construction of similar sized resources as a proxy for experience level effectively ensures pumped storage resources would receive the minimal number of points, given that so few pumped storage resources have been constructed in the past decade. However, despite the lack of newly constructed resources, the development team of Swan Lake and Goldendale have decades of combined experience that make them far more capable and experienced than some new-to-the-industry, DER developers. Nevertheless, under PSE’s proposed scoring system for Experience Level, PSE places greater value on a new entrant, with less actual industry experience, but that has been able to construct several projects.

Second, PSE’s proposed scoring criteria for “Project Viability – Supply Chain” also hampers the ability of large capacity resources to compete with less expensive projects like DERs. In particular, PSE proposes to award a greater number of points to projects that have more equipment and/or construction completed. For low-cost projects like DERs, there is comparatively little risk for a developer who proceeds with acquiring or constructing greater than 50% of the project in order to achieve the maximum 3 points under PSE’s scoring criteria. In comparison, for a large capacity resource, which can cost in the hundreds of millions of dollars (or more), Swan Lake and

Goldendale suggest that no sophisticated developer would incur upwards of 50% of the costs (*i.e.*, a hundred million dollars or more) to acquire or construct such a resource without a firm offtake arrangement in place. However, because the offtake arrangement largely depends on the outcome of the Draft RFP, developers of these types of large capacity resources are unable to make such an investment until the Draft RFP is completed. Thus, these large capacity resources are inherently disadvantaged by PSE’s proposed Supply Chain criteria because they are unwilling to make huge, speculative investments in order to achieve the maximum number of points.

Third, PSE’s proposed criteria for “Project Viability – Technology Risk” also disadvantage resources like pumped storage. Like the proposed Experience Level criteria noted above, the proposed Technology Risk criteria place greater value (and thus, award greater points) to technologies that are more frequently deployed. Thus, the proposed Technology Risk criteria inherently favor smaller resources that are more frequently deployed, rather than larger, grid-scale resources that are more infrequently built. This result is particularly harmful to pumped storage where, due to things like geography, these resources are rarely constructed in the United States. Furthermore, PSE’s proposed criteria have the effect of double-penalizing pumped storage resources because of their infrequent construction, particularly when the effect of the Technology Risk and Experience Level proposed criteria are combined. Thus, PSE should instead consider revising its proposed Technology Risk criteria to focus on an alternative metric such as years of operating history for a particular type of resource. As Swan Lake and Goldendale have previously noted, pumped storage resources are among the oldest, most reliable, proven storage technologies in the United States and have been operating for nearly a century, similar to many hydroelectric facilities.<sup>11</sup> Because of this, these resources are far from unproven, despite the fact that PSE’s proposed scoring criteria for Technology Risk would likely categorize pumped storage as “non-commercial” or an “unproven technology.”

Fourth, and finally, PSE’s proposed “Energy Delivery” criteria also skew the results of the Draft RFP to favor smaller, less-costly resources like DERs or small renewable resources. In particular, PSE’s proposed Energy Delivery criteria focus on awarding more points for projects that are further along in the interconnection and/or transmission service processes. However, similar to the comments above, the proposed Energy Delivery criteria arbitrarily favor smaller resources where the financial cost of proceeding through the interconnection or transmission queues are relatively minimal when compared to the costs that would be incurred for a large capacity resource like pumped storage to proceed with interconnection or transmission without any certainty around offtake. Again, virtually no developer of a large, grid-scale capacity resource is likely going to incur the financial risk associated with paying for all of the transmission upgrades and studies necessary to proceed to an executed transmission and/or interconnection agreement without a fairly-high level of certainty regarding offtake. As a result, large, grid-scale resources—which, coincidentally, are the resources most likely to provide PSE the amount of capacity and flexibility it needs—are unfairly penalized for not being willing to make speculative investments.

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<sup>11</sup> See, *e.g.*, Rocky River Pumped Storage Hydraulic Plant, American Society of Civil Engineers, available at: <https://www.asce.org/project/rocky-river-pumped-storage-hydraulic-plant/> (providing a brief description of the United States’ oldest pumped storage facility located in New Milford, Connecticut and that was completed in 1929).

When all of the flaws in the scoring criteria noted above are considered together, nearly 50% of the points that are awarded as part of PSE’s proposed qualitative scoring criteria are unfairly biased against large capacity resources, and particularly so against resources like pumped storage. Until these inherently biased criteria are modified to evaluate grid-scale storage resources (liked pumped storage) more fairly, the Commission should reject the Draft RFP.

#### **IV. Due to the Timing Constraints in the Draft RFP, Long Lead-Time Resources Like Pumped Storage Cannot Fairly Compete with Other Types of Resources.**

According to the Draft RFP, “For capacity resources, deliveries must begin no later than December 31, 2026.”<sup>12</sup> However, this timeline is incredibly short for long lead-time resources like pumped storage, and could result in these types of resources being ineligible to even participate in the Draft RFP.

As Swan Lake and Goldendale have repeatedly stated in various Commission proceedings, pumped storage resources are long lead-time resources that require clear market signals further in advance than most, typical resources. Thus, as Swan Lake and Goldendale have repeatedly emphasized, these projects need market signals that allow them to make investments in major equipment like the turbines for these projects, which are custom-designed and can take several years to design, construct, and deliver. Because of these timing considerations for resources like pumped storage, even pumped storage projects that are among the most advanced in terms of permitting and regulatory approvals (such as Swan Lake) still require several years to construct. To date, PSE has not provided the necessary market signals to long lead-time resources like pumped storage, meaning it is questionable whether any such resources will be capable of meeting PSE’s stated eligibility date of December 31, 2026.

As a result, because of these timing issues, Swan Lake and Goldendale request that the Commission and PSE consider revising the Draft RFP eligibility criteria to provide greater flexibility in terms of delivery deadlines for longer lead-time resources. Otherwise, the December 31, 2026 deadline may serve as a barrier to longer lead-time resources fairly participating in the Draft RFP.

#### **V. The Draft RFP Likely Significantly Understates PSE’s Future Capacity Needs, Even Despite PSE’s Recent Updates to its Projected Capacity Needs.**

As further explained in Swan Lake and Goldendale’s Final IRP Comments,<sup>13</sup> Swan Lake and Goldendale also have concerns about PSE’s project capacity needs, even after they were recently updated in the Draft RFP. Without repeating the comments Swan Lake and Goldendale made in their Final IRP Comments (which are attached hereto as Exhibit A), Swan Lake and Goldendale would briefly highlight the following concerns with PSE’s projected capacity need.

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<sup>12</sup> Draft RFP, Attachment A at § 2, p. 15.

<sup>13</sup> See Final IRP Comments at § IV, attached hereto as Exhibit A.

PSE's Final IRP makes questionable assumptions about import capability from California. Not only does PSE inaccurately assume more transmission capacity is available than has historically been the case, but PSE also makes no effort to take into account the huge, California evening ramp, when solar is no longer available. As a result of these assumptions, PSE wrongly assumes more capacity is available from California than is likely to be the case, based on past history.<sup>14</sup> And, as a result, PSE's projected capacity need is likely significantly understated.

Furthermore, PSE's Final IRP wrongly selects a highly-speculative technology—biodiesel combustion turbines ("CTs")—to meet a significant portion of PSE's projected capacity needs. The Final IRP indicates that PSE intends to acquire nearly 1,000 MW of firm Resource Adequacy ("RA")-qualifying capacity contracts by 2030 for the principal purpose of compensating for a 1,000 MW reduction of PSE's spot market purchases from Mid-C.<sup>15</sup> This nearly-1,000 MW is part of the Draft RFP, and PSE's Final IRP assumes a portion of this capacity need will be met by biodiesel CTs, which is both unrealistic and an extremely speculative assumption to make.<sup>16</sup> This assumption is unrealistic due to: (1) the "no new gas" sentiment in the Pacific Northwest, which makes constructing any type of CT practically impossible; (2) the hidden costs associated with biodiesel that are not accounted for in PSE's analysis of the least cost resources, such as: (a) the need for additives to operate in the cold, winter months when PSE most needs capacity; (b) high fuel costs; and (c) issues associated with the intensity of carbon emissions and whether such resources could comply with the CETA requirements for emissions. By over-relying on a speculative resource, PSE's preferred portfolio does not identify additional capacity resources that will be needed to meet PSE's projected capacity deficit. As a result, the preferred portfolio hides PSE's actual need for significant capacity resources by selecting a resource that is neither feasible nor least cost.

## **VI. Conclusion**

For the reasons set forth above, and as supported by Swan Lake and Goldendale's Final IRP Comments, Swan Lake and Goldendale respectfully request that the Commission stay the current, Draft IRP proceeding, pending resolution of the concerns raised in both these comments and in the Final IRP Comments. Absent such a pause on this proceeding, the Commission is being asked to approve a resource acquisition strategy that: (1) does not meet the Commission's requirements for a least cost portfolio, (2) likely does not represent that true least cost, (3) is based on flawed assumptions, and (4) is likely to result in PSE's customers over-paying for resources that are speculative and unlikely to provide PSE the actual capacity and flexibility it needs to maintain system reliability.

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<sup>14</sup> For more information, see Swan Lake and Goldendale's Final IRP Comments at § IV.a, attached hereto as Exhibit A.

<sup>15</sup> Final IRP at 1-13 ("To reduce exposure to the increasingly supply challenged and volatile wholesale energy market, this IRP recommends that up to 1,000 MW of PSE's Mid-C transmission should be filled with firm resource adequacy qualifying capacity contracts that meet PSE's reliability requirements for resource adequacy.").

<sup>16</sup> See Final IRP at 1-13, Fig. 1-4 (showing nearly 1,000 MW of biodiesel capacity to be added by 2045, with approximately 255 MW before 2031).

Sincerely,

*/s/ Nathan Sandvig* \_\_\_\_\_

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