Rye Development

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February 5, 2021

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RE: Comments of Swan Lake and Goldendale
Avista Corporation – Draft Integrated Resource Plan
UTC Docket UE-200301

The companies working to develop the Swan Lake and Goldendale pumped hydro storage projects ("Swan Lake and Goldendale") appreciate Avista Corporation's ("Avista") work that went into preparing its draft Integrated Resource Plan ("Draft IRP"), which was filed in the above-referenced proceeding on January 4, 2021. The Washington Utilities and Transportation Commission ("Commission") subsequently issued a notice, on January 5, 2021, indicating it would accept comments on Avista's Draft IRP until February 5, 2021.[1] In response to that notice, Swan Lake and Goldendale are filing these comments.

These comments advocate for Avista to further consider pumped storage resources instead of new natural gas facilities, which are politically infeasible to build and do not align with Washington State's Clean Energy Transformation Act ("CETA" requirements. Specifically, these comments: (1) seek further information regarding Avista's modeling and assumptions for pumped storage; (2) argue that Avista should not seek to construct new gas facilities, given the current political realities associated with new gas facilities and CETA's requirements; and (3) advocate for Avista to issue a capacity request for proposals ("RFP") as soon as possible, as an RFP is the only mechanism through which Avista will receive accurate pricing and capacity proposals, particularly for large resources like pumped storage.

I. Overview of Pumped Storage in the Draft IRP

According to Avista's Draft IRP, long duration pumped hydro storage was identified as the capacity resource to meet future long duration deficits; however, it appears the Draft IRP did not include them in the Preferred Resource Strategy because "long duration pumped hydro is likely available later than the timelines used in the 2020 IRP and at higher costs."[2] As a result, the Draft IRP states, "The resource analysis identifies a natural gas CT to replace resource deficits if pumped hydro is not a feasible resource to meet the 2026 shortfall."[3] These statements suggest that pumped storage was Avista's preferred resource, if not for a mismatch in timing and updated cost figures.

[1] Notice of Opportunity to File Written Comments, Docket UE-200301, Jan. 5, 2021, available at: https://www.utc.wa.gov/_layouts/15/CasesPublicWebsite/GetDocument.ashx?docID=11&year=2020&docketNumber=200301.
[2] Draft IRP at 14-5.
[3] *Id*.

Through these comments, Swan Lake and Goldendale suggest that Avista reconsider including pumped storage in its Preferred Resource Strategy. Specifically, as further explained below, Swan Lake and Goldendale are two of the most mature projects in the region, one of which (Swan Lake) is likely to be available in 2026, which matches Avista timeline of capacity need. Furthermore, Swan Lake and Goldendale are in the process of refining their cost assumptions and, should Avista issue an RFP, would likely be able to provide update cost figures that may make pumped storage a more attractive option, particularly considering the infeasibility of constructing a new natural gas plant, as explained below.

II. Swan Lake and Goldendale Request Further Information on Avista's Modeling Assumptions for Pumped Storage

Swan Lake and Goldendale appreciate that Avista has been forthcoming with a significant amount of data that was used to develop the Draft IRP. That said, Swan Lake and Goldendale request Avista provide some additional information and data on the modeling assumptions used for the various pumped storage resources considered in the Draft IRP. Specifically, Swan Lake and Goldendale request further information regarding: (1) the "state of charge" assumed by Avista in order to develop its capacity values for pumped storage, as seen in Table 9.12; (2) what duration Avista assumed for the useful life of a pumped storage project; and (3) whether Avista's analysis of pumped storage considered the Swan Lake project specifically, which is expected to be available in 2026 and, therefore, aligns with Avista's capacity need.

a. Swan Lake and Goldendale Request Further Information on Avista's Modeling Assumptions Regarding a Pumped Storage Project's State of Charge

Swan Lake and Goldendale believe one of the impediments to long-duration pumped storage performing even better in Avista's Draft IRP is the very low capacity values being assigned to pumped storage resources. For example, Table 9.12 indicates an 8-hour pumped storage project would only contribute 30% to Avista's peak capacity need, and even a 12-hour project would contribute only 58%.[4] Considering these figures are much lower than Swan Lake and Goldendale would expect, and drastically lower than those used by other utilities in the Pacific Northwest,[5] Swan Lake and Goldendale request that Avista provide further information regarding the assumed "state of charge" for these resources. Swan Lake and Goldendale assume the "state of charge" assumptions are the genesis for these low figures.

If the highest priority for pumped storage is reliability, then Avista would always have the ability to charge it for its longest available durations, eight hours or more. Understanding that Avista will always prioritize reliability over economic optimization, adjustments to the state of charge modeling may be appropriate. Swan Lake and Goldendale believe that Avista's model may be using a very low state of charge entering into the next operating day for pumped storage (possibly as low as 20% pond fill); however, this planning assumption does not align with the operational

[4] *Id*. at 9-28, Table 9.12.

[5] Swan Lake and Goldendale would also note for the Commission's benefit that both PacifiCorp and Portland General Electric use capacity contribution figures in the range of 80-95% for pumped storage in their respective IRPs.

realities associated with operating hydro or pumped storage facilities. Operationally, peak load days are fairly predictable, meaning that Avista's operations folks would set up for those days in advance to ensure its hydro (or pumped storage) facilities have sufficient pond fills to cover the expected peak load hours. Furthermore, the pumped hydro facility would not necessarily need to deplete its full reservoir daily to address capacity needs (low frequency of 8-hour reliability events), reducing the total amount of charging required to address all potential loss of load events.

A low capacity contribution value (ELCC) for pumped hydro implies that the facility is energy limited and does not have access to the market or other on-system resources to charge for peak load events. Swan Lake and Goldendale understand that Avista may be concerned about the evolving market for peak import assumptions during the winter, given the emerging regional capacity shortage documented in several NWPCC studies. However, import assumptions during off-peak hours in the winter should be re-visited, given that these would be key hours when long-duration storage would charge for the winter on-peak reliability. Additionally, if not already doing so, Swan Lake and Goldendale recommend that Avista consider optimizing the dispatch of their resources over a wider time window (1-2 weeks). A wider optimization time window in resource adequacy models allow for greater operational flexibility of long duration storage and minimize the need for daily charging and discharging. For the foregoing reasons, at minimum, pumped storage should be treated like a traditional hydro facility with storage capability, which the Draft IRP assigns a 60-100% peak capacity credit.[6]

b. Swan Lake and Goldendale Request Further Information on Avista's Assumed Useful Life for a Pumped Storage Project

Similarly, Swan Lake and Goldendale request that Avista provide further information on the assumptions they used for the expected useful life of a pumped storage project. Swan Lake and Goldendale's experience—which is informed by discussions with pumped storage turbine manufacturers and industry examples throughout the U.S. and abroad—suggests that a pumped storage resource's useful life is, at minimum, 40 years, and more likely will last 50 years or more. Using an appropriate useful life will ensure pumped storage's costs are properly considered over the long time horizon in which a pumped storage resource will continue to reliably operate.

c. Swan Lake and Goldendale Request Further Information on Whether Avista's Pumped Storage Analysis Specifically Considered the Swan Lake Project

Given the statements in the Draft IRP noted above regarding a potential mismatch of timing, Swan Lake and Goldendale request further information from Avista on whether it specifically considered the Swan Lake project. While both Swan Lake and Goldendale are among the most mature and viable pumped storage projects in the region, it appears Avista's analysis assumes Swan Lake will not be available to meet its small 2026 capacity need of 12 MW, nor would Swan Lake be available to meet the much larger need of 301 MW in 2027.[7] However, Swan Lake is expected to achieve commercial operation in late-2026, so Swan Lake and Goldendale are concerned that Avista's

[6] Draft IRP at 9-28, Table 9.12.
[7] *See id*. at 7-3.

analysis is not considering the Swan Lake project, despite it being a viable option that aligns with Avista's capacity needs.

Furthermore, Avista's capacity figures assume Colstrip remains part of its portfolio through 2025; however, this assumption may not be prudent, considering the faster-than-expect push to retire coal plants throughout the region. In a scenario where Colstrip retires earlier than expected—which Swan Lake and Goldendale believe is more likely than not—Avista's capacity need would significantly increase, thereby further supporting Avista's early action on a potential capacity RFP, as further explained in Section IV below.

III. The Draft IRP Should Remove New Natural Gas as a Viable Resource Option

In addition to the CETA requirements that mandate the removal of emitting generation sources from Avista's generation portfolio, Governor Inslee also recently announced legislation that would phase out all natural gas in homes and businesses by 2050.[8] Furthermore, Avista has a stated goal of having a carbon neutral electricity supply by 2027 and having 100 percent clean electricity by 2045.[9]

Given these recent developments, which highlight the unfriendly political environment for natural gas, instead of proposing to construct new natural gas facilities, Avista should focus its efforts on a Preferred Resource Strategy that aligns with both CETA and this evolving political landscape. To the extent Avista believes new natural gas resources are allowable under CETA, Swan Lake and Goldendale request that Avista provide a detailed explanation for why a new gas resource would meet one of the few and limited CETA provisions allowing construction of such resources, particularly including violation of reliability standards and, if violations are possible, whether pumped storage could help alleviate or solve those potential violations. Furthermore, considering the unfriendly political climate for new gas resources and Avista's own commitments to transitioning to a carbon-free future, Swan Lake and Goldendale request that Avista re-run its IRP analysis with a constraint of no new natural gas resources. Doing so would likely result in pumped storage being in the Preferred Resource Strategy, considering the statements noted above.

Swan Lake and Goldendale would also remind Avista and the Commission that, Avista need only look to Portland General's IRP process for evidence of the political realities associated with permitting new gas resources. Specifically, a few years ago, Portland General attempted to expand its Carty Generating Station (referred to as "Carty 2"). When Portland General proposed expanding the capacity of Carty in its IRP process, significant stakeholder opposition immediately arose and effectively killed the gas-fired plant as a potential solution to meet Portland General's future capacity needs. Therefore, Avista should be aware that environmental groups, renewable resource developers, and many stakeholders will likely align to uniformly oppose any new gas facility. As a result, Avista should instead remove new gas as an option from its Draft IRP and re-

[8] *See Washington State Proposes Legislation to Phase Out Natural Gas Utility Service*, S&P Global, Jan. 6, 2021, available at: https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/washington-state-proposes-legislation-to-phase-out-natural-gas-utility-service-61819435.

[9] *Avista Declares Clean Electricity Goal*, April 18, 2019, available at: https://www.myavista.com/-/media/myavista/content-documents/our-environment/cleanelectricitygoalnewsrelease-pdf.pdf.

run the analysis to determine a Preferred Resource Strategy that aligns with both CETA and Avista's own climate goals.

IV. Swan Lake and Goldendale Strongly Support Avista Issuing a Capacity RFP As Soon As Possible

In the Draft IRP, Avista indicates may release a capacity RFP as early as 2021. Specifically, the Draft IRP states, "To meet the January 1, 2026 capacity shortfall and to validate Avista's preferred choice of long duration pumped hydro to meet this deficit, Avista may release a capacity RFP as early as 2021. . . Avista is still committed to releasing a capacity RFP subject to the needs of the final 2021 IRP."[10] Swan Lake and Goldendale strongly support Avista's plan to release a capacity RFP as soon as possible.

While Swan Lake and Goldendale have highlighted some of their concerns regarding the modeling and assumptions used for pumped storage in these comments, the only accurate way for Avista to fully evaluate potential pumped storage projects—including the various projects' pricing information, timing for construction, and whether the operating characteristics align with Avista's needs—is through actual proposals received through an RFP. Without an actual offer submitted through an RFP, Avista will be relying on its own assumptions and expectations regarding the price, timing, and operating characteristics of pumped storage. Furthermore, because pumped storage resources are relatively unfamiliar to many utilities in the Pacific Northwest, these resources are at a disadvantage in the IRP modeling and evaluation process, particularly when compared to other resources with which utilities are more familiar and have better data.

Therefore, Swan Lake and Goldendale overwhelmingly support Avista issuing a capacity RFP as soon as possible to evaluate potential clean-capacity resources to meet its identified capacity needs. Swan Lake and Goldendale request that Avista confirm its intention to do so and, if necessary, the Commission and Commission Staff specifically direct Avista to prepare and issue such an RFP as promptly as possible.

[10] Draft IRP at 14-5.

V. Conclusion

Swan Lake and Goldendale appreciate the opportunity to provide these comments on the Draft IRP. While Swan Lake and Goldendale are encouraged by some of the statements in the Draft IRP that suggest pumped storage is the preferred resource, Swan Lake and Goldendale believe further work needs to be done on the pumped storage modeling and analysis, as well as to remove natural gas as a viable option for fulfilling Avista's future capacity needs.

If you have any questions, please contact the undersigned.

Sincerely,

/s/ Nathan Sandvig

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