

November 1, 2021

City of Bainbridge Island
ATTN: City Manager Blair King
280 Madison Ave N
Bainbridge Island, WA 98110

Dear Mr. King,

Thank you for your October 7, 2021 letter on Puget Sound Energy's (PSE's) "Missing Link" Transmission Line project (Project), which is needed to improve the reliability of the electric system on Bainbridge Island. We appreciate the City's feedback on the Project and have addressed the City's questions below. PSE welcomes the opportunity to discuss any of these matters with City Council or with City of Bainbridge Island (COBI) staff.

First, we share the Council's opinion that electric service reliability on Bainbridge Island needs to be improved and that such improvements would benefit the residents of Bainbridge Island. Service reliability has been an issue on Bainbridge since the 1990's and our customers have been vocal in asking PSE to find solutions that improve reliability, meet the community's growing energy needs and align with community values. (Appendix 1)

PSE also strongly shares the COBI's goals of working to address the existential threat that is climate change by transitioning communities to a clean energy future. On October 18th, PSE released our draft Clean Energy Implementation Plan (CEIP), an important milestone in our efforts to reach our aspirational goal of being Beyond Net Zero by 2045. Our draft CEIP describes our plans for the next four years (2022-2025), which moves PSE forward to nearly 60 percent clean electricity by the end of 2025— well on the way to meeting our clean energy goals for 2030 and 2045. You can find more information about the draft CEIP at cleanenergyplan.pse.com.

Similarly, the City's adoption of its Climate Action Plan (CAP) in November 2020 sets Bainbridge on a path to work collectively towards addressing climate change. PSE appreciated being able to provide feedback during the CAP process, and we look forward to our continued work with COBI to reduce greenhouse gas emissions to create a cleaner, stronger and healthier community. Indeed, an example of our complementary efforts is reflected in our proposed hybrid package of solutions as they help support the priority actions recently adopted in the CAP.

For example, increased transmission system reliability and capacity on the island will help support Bainbridge Island's goal of reducing greenhouse gas emissions by 90% from 2014 levels by 2045. PSE's Project will support the CAP in following ways:

- A more reliable system leads to fewer power outages. Wood stoves that increase particulate matter and/or generators that often use propane or fuel oil could be used less often with a more reliable system
- A reliable electric grid helps support vehicle, fleet and ferry electrification by having a reliable source to plug into when those batteries need charging
- Increased transmission capacity will support electric-only buildings

Finally, the hybrid solutions package, including the Project, is consistent with the COBI's plans and goals. COBI's 2017 Comprehensive Plan Utilities element goals encourage PSE's efforts to improve reliability:

- Goal U-1: Ensure that reliable utility services are available to all Bainbridge Island residents;

- Goal U-3: Ensure that utility services are adequate to meet current demands, and that utility provide for future demands; and
- Goal U-14: Ensure adequate, cost effective, reliable, and environmentally responsible service to the citizens of Bainbridge Island.

PSE is committed to partnering with our customers for a better energy future. In October 2019, PSE introduced our current plan to improve service reliability and increase system capacity on Bainbridge Island to the community and City Council. Our proposed plan is a unique hybrid solutions package crafted specifically for Bainbridge Island with the island’s utility and environmental values in mind. The solutions package combines new technologies and grid infrastructure to provide safe, dependable power for families and businesses for years to come. In addition to the Missing Link project, if all of our non-wire solutions are successfully implemented, PSE can defer the need for a new substation for 10 years or more.

Bainbridge Island Reliability Project Need

The service reliability issues on Bainbridge Island were recognized by Puget Power (predecessor to PSE) in the early 1990’s, and we have attempted to improve the Island’s service ever since. While PSE has done quite a bit of work on the Island over the past ten years– undergrounding select distribution lines, installing tree wire, replacing aging infrastructure– there is only so much that can occur without transmission infrastructure investments on the Island.

To that end, in 2018 PSE took a fresh look at system capability and performance to understand the unique needs of Bainbridge Island. The results of our analysis were published in a Needs Assessment report (Appendix 2) that was shared with the community in 2019 during the public meeting announcing the proposed solutions package. (Appendix 3) For the past two years, the Needs Assessment report has been available on our website and shared at every opportunity with the broader community, including through our community workshops for the “missing link” transmission line, to residents with questions about the Project, and with City Council. The Needs Assessment identified three key findings about Bainbridge Island’s grid:

- **Poor transmission reliability:** PSE has two service quality indexes (metrics) related to service outages: System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI). SAIDI is measured in minutes of interruption and SAIFI is measured in numbers of outages. Generally, Bainbridge Island is above (worse than) both performance metrics each year, meaning that Bainbridge Island customers have more frequent and longer outages than customers in Kitsap County and PSE’s service area at large. (See Appendix 4 and Appendix 5).

In your letter dated October 7, 2021, you asked for reliability information from another area similar to Bainbridge Island. See Appendix 6 to see SAIDI and SAIFI information for our Whidbey Island service area. Please note that the transmission system on Whidbey Island is a looped system, with the exclusion of the southernmost substation, Langley, which is on a short transmission tap. The majority of PSE’s transmission system is looped to improve reliability. This is why PSE is has proposed “missing link” transmission line which will loop the Murden Cove and Winslow substations. Consistent with Comprehensive Plan Utility Element Goal U-2, utility services should be “comparable in terms of cost, quality, and technology to services available in similar jurisdictions in the Puget Sound region.”

- **Aging Infrastructure:** The Winslow Tap transmission line, which is currently the only line that brings power to the Winslow substation (and the customers served by that substation), was installed in the 1960s and is nearing the end of its useful life.
- **Capacity:** Bainbridge Island’s power usage and plans for future usage (like the ferry electrification) create the need for additional system capacity to serve the expected increased load. The City’s CAP positions the City to encourage electric vehicles, which is expected to not only increase electric usage on the Island, but also increase reliance on electricity. These goals highlight the importance of improving the reliability of electrical service on Bainbridge.

Tailored solutions:

PSE engaged outside energy experts to explore a variety of viable, cost effective wired and non-wired solutions to meet the identified needs. Determining the needs of the electric system and determining the solutions to meet those needs is PSE's responsibility. We have used both our own expertise and the expertise of outside energy consultants to determine the best package of solutions to meet the unique needs of Bainbridge Island with an open mind and fresh perspective.

As Councilmembers and the community may remember, PSE also attempted to improve the electric system on Bainbridge Island around 2008. One thing we clearly heard from the community in 2008 was to avoid installing a new substation to meet capacity needs if possible (Appendix 1). Our hybrid solutions package will allow us to postpone the need for a new substation for up to 10 years. Our Solutions Report (Appendix 3), like our Needs Assessment (Appendix 2), was shared at the 2019 launch of our current improvement efforts and has since been repeatedly referenced in communications with the entire Island community and readily available on our website. The alternatives evaluated in the Solutions Report are summarized as follows:

1. Non-Wired alternative:

This alternative considered an all battery energy storage solution (BESS) to meet the identified transmission system reliability capacity needs. This alternative also included rebuilding the existing Winslow Tap transmission line to address the aging infrastructure need.

BESS: This alternative looked at installing five utility sized batteries around Bainbridge Island. Each battery site would include between one and up to 35 shipping container size enclosures to house the battery storage and we anticipated that four of the five locations would have needed to be new sites not associated with an existing substation. This is a large use of land on the island where there is a limited amount of geographic area.

PSE has not pursued this alternative because it was determined to be impracticable by both our consultants Navigant and Quanta, energy experts examining non-wires options, due to the significant additional electric storage that would be required, the associated need for aggressive vegetation management, and the timeline constraints.

Information on the analysis for non-wires alternatives and battery storage is available in Appendix 7 and Appendix 8. This information was shared in October 2019 with the community and has been available online. We have also shared this information with customers who have expressed interest in the topic.

2. Wired alternative:

This alternative considered a new transmission line to improve transmission reliability, a new substation to meet the future capacity need, and rebuilding the existing Winslow Tap transmission line to address the aging infrastructure need. PSE noted that previously the community had shared their desire to avoid a new substation if possible. Please see attached letter that PSE sent to the community in 2010 discussing how PSE refined our integrated multi-year plan to serve the community reliable and safe power based on community feedback.¹ (Appendix 1)

3. Hybrid alternative:

Our hybrid solutions package combines wired technologies like installing the "missing link" line to improve transmission system redundancy and reliability and it uses new technologies like a battery energy storage system (BESS) and distributed resource technologies to address system capacity needs. This alternative is a combination of wires and non-wires components to best meet the unique identified needs of Bainbridge Island and is ultimately what PSE chose to move forward towards implementing. To address the growth that's straining the island's

¹ "PSE took the input we received from our customers and community leaders on the island and used it as a guide to refine our integrated multi-year plan to serve the community. The result: a Community Plan that incorporates the desires of islanders while also ensuring our system is protected from being over strained and maintains electric capacity and reliability for our customers." (Appendix 1)

electric system and balance the values of the community to limit infrastructure, PSE is proposing a four component solution to meet electric system needs.

The first piece of the solutions package is to replace aging infrastructure and improve the utility corridor for the existing Winslow Tap transmission line, which is currently the sole source of power to our Winslow substation on the south end of the island. The second piece of the solutions package is to add the "missing link" transmission line between the Murden Cove and Winslow substations to create a transmission system "loop." This means each substation will be connected to two transmission lines. If one line goes out of service, the other line can still feed the substation and provide power to customers. PSE is investing in transmission infrastructure that will make Bainbridge Island's electric system more resilient and reduce the impact of a single outage by focusing on both system hardening and redundancy.

The third piece of the solutions package is to install a utility-scale battery energy storage system on the island. The planned 3.3 MW (megawatt) battery energy storage system will add capacity to the system during winter peak periods when demand is high.

The fourth piece of the solutions package is to implement innovative conservation and demand response programs that help lower customer demand in various ways. This may include partnerships with customers to lower their energy use during periods of peak demand by using smart thermostats and other tools. We are also working with Washington State Ferries to manage their demand once the ferries are electrified.

The “missing link” transmission line.

The “missing link” transmission line is a critical component of our solutions package for Bainbridge Island and is the right solution to address transmission system reliability. The “missing link” would create a transmission system loop on the island by connecting the existing transmission lines serving Murden Cove and Winslow substations, and is a practicable means of bringing Bainbridge in line with the rest of our service territory. Others agree this is a common sense solution; in the City’s commissioned D. Hittle Feasibility study, they shared, “[i]n 2015 transmission outages were a very large number and about half the total outage minutes (few in number but many customers and long time span) in that year. Providing a looped 115-kV transmission line closing the segment between the Murden Cove substation and the Winslow substation would improve transmission reliability...”

Recently, PSE looked at what SAIDI and SAIFI numbers would look like during the 2013–2020 timeframe if the “missing link” transmission line had been installed. If the missing link transmission line had been installed during that time it could have reduced outages to Bainbridge as a whole on average by 40% per year. (See Appendix 4 and Appendix 5)

Community engagement

For years, PSE has regularly engaged the Bainbridge Island community to solicit input on solutions package and the “missing link” transmission line in particular. PSE values the interests of the community and voluntarily engaged the community at a level far beyond City requirements. Consistent with Comprehensive Plan Policy U-7, PSE gave...“timely public notice and solicit[ed] community input on the siting of proposed facilities and on any other substantive projects before seeking City approval.” There will be additional opportunities to provide feedback, but a list of our efforts to date include:

- PSE invited the entire community to join us in multiple conversations on route siting through repeated island-wide mailed invitations, advertisements, social media posts, sharing information through community organizations, comment periods, the PSE Bainbridge e-newsletter and social media channels, and the PSE Bainbridge website. (~64,000 direct mail pieces)
- In 2019, PSE formed a Community Sounding Board (CSB) to better understand the values of Bainbridge Island. The opportunity to join the CSB was advertised to the entire community with our goal to bring together a diverse group of people with a range of perspectives, geographic location on the island and life experience to help inform our route selection decision. The CSB currently has eighteen (18) members and

has met nine (9) times. All members of the community are invited to join CSB meetings and have an opportunity to comment at the meetings.

- PSE hosted two focused online community workshops open to the public on route segments and route options. At both workshops, we asked the community for their feedback and hosted extended comment periods after each workshop to further encourage comment. In the promotion leading up to both workshops, we noted that if customers had a barrier to participation that we would help them get involved in the conversation.
- After each of the workshops, PSE also offered online tools which were made available for several weeks. The Segment Explorer and the Route Explorer tools showed route segments or route options in relation to a broad set of siting criteria such as wetlands, tree canopy, zoning, steep slopes, community gathering places, etc.
- We shared information directly with customers in the project study area and the island as a whole. This included a project factsheet and reminding those in the study area to participate in comment periods.
- In direct response to customer interest from the second community workshop and feedback period, PSE hosted two information sessions with independent experts. The first, held August 16th, was on underground transmission lines and the second, held September 29th, and was on electric and magnetic fields (EMF).
- Throughout the process we have met and shared information with numerous executive directors, board members and community leaders to ensure that they are aware of and tracking the project including the Rotary Club of Bainbridge Island, Housing Kitsap, Helpline House, Housing Resources Bainbridge, Bainbridge Island Community Senior Center, the Indipino Community of Bainbridge Island & Vicinity, Bainbridge Prepares, the Bainbridge Island School District and more. We continue to be responsive to interest in the project including offering presentations to stakeholders.
- Since 2019, PSE has presented to numerous groups such as to homeowners associations, Bainbridge Rotary, the Bainbridge Island Chamber of Commerce, the Bainbridge Island Community Senior Center and others.
- PSE partnered with numerous community organizations to leverage their existing communication channels to ensure the community was aware of opportunities to participate in learning about and providing feedback on the project.

Equity

As a utility, PSE has the unique obligation of providing an essential service to all customers. Diversity, equity and inclusion must be part of the fabric of how we operate, do business and serve all customers and communities. We are committed to learning and evolving in our understanding of equity issues.

When looking at environmental and economic inequities – such as impacts to air or water quality, access to green space, or increases in costs of housing or transportation – we accessed environmental justice and equity databases maintained by the U.S. Environmental Protection Agency (EPA) and Washington Department of Health (DOH). We used these sources to review whether transmission line construction and operation would contribute to environmental and economic inequities. In looking at the Bainbridge data in these databases, as well as the types of impacts contributing to environmental justice inequities, we determined that new transmission lines, like the “missing link”, do not contribute adversely to conditions or impacts contributing to environmental inequities as analyzed in these and similar screening tools.

Environmental impacts

PSE’s goals in siting the new transmission line are to follow public road rights-of-way as much as possible and overbuild distribution lines where operationally feasible. Siting the transmission line within or adjacent to existing improved right-of-way minimizes impacts to the environment, as these areas are already disturbed by right-of-way maintenance activities and other existing utility facilities. Although the exact environmental impacts are not yet known, PSE has kept the critical community values regarding impacts to trees and wetlands in mind while evaluating the five route options. PSE is committed to employing avoidance and minimization efforts where feasible and meeting mitigation requirements consistent with the City’s code.

For example, PSE has heard consistently from Islanders that one of the highest priorities of the community is tree preservation. PSE is committed minimizing tree removal. This can be achieved by collocating the transmission line with existing distribution as much as is operationally feasible. This will minimize impacts to trees as the existing distribution poles are already sited within or adjacent to the road right-of-way and trees are already being maintained in those locations. As part of our due diligence, PSE has done further research on the presence of heritage trees along the proposed route options. Based on the Historic Preservation Commissions *List of Approved Heritage Trees*, there are 23 designated heritage trees on Bainbridge Island, none of which are located along any of the five route options under consideration. As you know, there will be ample opportunity for additional community input during the permit review process. As part of the documentation for permit review, PSE will provide as much clarity as possible around environmental impacts along a chosen route alternative and will document how the project complies with the City's applicable land use and environmental regulations.

Installing transmission lines underground

Similar to when a City requests PSE to underground distribution lines (the lower voltage "neighborhood" power lines), the entity that bears the cost burden for undergrounding transmission lines is outlined in our tariff on file with the Washington Utilities and Transportation Commission (Electric Tariff G, Schedule 80).

Under this tariff if a local community requesting or requiring underground transmission line installation must pay the cost difference between overhead and underground lines. Undergrounding in these situations is considered a "local option" and the UTC has determined that it would not be reasonable to make all of our customers throughout our service territory pay for that locally driven cost increase. Accordingly, if the City of Bainbridge Island requests transmission undergrounding, the City would be responsible for the difference between the cost to design, construct and maintain an overhead line and the cost to design, construct and maintain an underground line. Please note that PSE has reached out to the City on two separate occasions over the past two years to discuss potential interest in undergrounding the transmission line (See Appendix 9 and 10). As an accompaniment to these invitations for discussion, we also included our underground fact sheet for any additional information. (Appendix 11) To date, PSE has not received any indication that the City would like to pursue this conversation further.

In regards to your inquiry regarding the helipad at the Fire Station 21, PSE requested an aeronautical study from the Federal Aviation Administration (FAA) based on the anticipated transmission conductor and pole height information. Based on their applicable policies and regulations, the FAA study determined that the conductors and poles would not be a hazard to air navigation shared at the helipad. We understand that there still may be apprehension and are open to a conversation should the City wish to discuss the process for undergrounding if a route option in that area were selected. PSE is open to further discussions with Bainbridge Island Fire Department (BIFD) on the project, and the Fire Chief is a member of PSE's CSB informing the "Missing Link" project.

Conclusion

For years, PSE has heard from our Island customers and the City Council about their reliability concerns and we agree. We are optimistic that we can work with the City to work towards a thoughtful solution that improves reliability for *all of our customers on Bainbridge Island*. Based on the following goals listed in the Utilities element of the Comprehensive Plan:

- Goal U-6: Ensure that permits and approvals for utility facilities are processed in a fair, timely manner and in accord with development regulations and this Plan.
- Goal U-9: Ensure that sufficient city resources are provided to implement the above goals by adopting systems and processes for meaningful and timely review of utility services, and by assigning to the Utility Advisory Committee (UAC) or other city organization the responsibility for advising the City Council on matters regarding all utility services on Bainbridge Island.
- Policy U-14.3: Encourage the electric service provider to improve reliability, with particular attention to adding transmission redundancy and mitigating impacts on service from storms or other natural events.

PSE is working diligently to implement our entire hybrid solutions package in a timely manner to improve the electric system on Bainbridge Island. We welcome the opportunity to continue working with the City on a solution that ensures all of PSE's customers have access to power that is safe, affordable, reliable, and clean.

We would welcome the opportunity to further discuss these matters, and welcome the opportunity to meet with City Council or City staff. Please do not hesitate to contact me at Kierra.phifer@pse.com or 509-724-6877 if you have any additional questions.

Sincerely

A handwritten signature in black ink, appearing to read 'Kierra Phifer', written in a cursive style.

Kierra Phifer
Local Government Affairs Manager
Puget Sound Energy