EXH. RBB-4 DOCKETS UE-240004/UG-240005 2024 PSE GENERAL RATE CASE WITNESS: ROQUE B. BAMBA

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,

Complainant,

v.

Docket UE-240004 Docket UG-240005

PUGET SOUND ENERGY,

Respondent.

THIRD EXHIBIT (NONCONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF

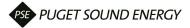
ROQUE B. BAMBA

ON BEHALF OF PUGET SOUND ENERGY

FEBRUARY 15, 2024



Maintende Image: Im	Date Created:	Friday, February 10, 2023
Multi Year Rate Plan: Specific Equity Impact: Yes Strategic Alignment: Operate the Business-Reliability Estimated In-Service Date: Thursday, December 31, 2026 Current State (Business Need): Substation Capacity need: A distribution substation group capacity need of 14.6 MW was identified on Bainbridge Island within the 10 year planning horizon (2018-2027) to support general load growth of 4.6 MW and planned 10 MW load addition for the new ferry electrification charging load. The anticipated capacity need is expected to grow to 16.6 MW by 2030 due to general load growth, increase by 2 MW. Per the PSE Solution criteria a solution must last 10 years. The Needs Assessment shows that additional substation capacity is needed by 2020. Due to lower than anticipated load growth, increase by 2 MW. Per the PSE Solution criteria a solution must last 10 years. The Needs Assessment shows that additional substation capacity is needed by 2020. Due to lower than anticipated load growth, the additional substation capacity is needed by 2020. Due to lower than anticipated load growth, the additional substation capacity is needed by 2020. Due to lower than anticipated load growth, the additional substation capacity is needed by 2020. Due to lower than anticipated load growth, the additional substation capacity is needed by 2020. Due to lower than anticipated load growth, the additional substation capacity is needed by 2020. Due to lower than anticipated load growth, the additional substation capacity is needed by 2020. Due to lower than anticipated load growth, the additional substation capacity is needed by 2020. Due to lower than anticipated load growth, the additional substation capacity is needed by 2020. Due to lower than anticipated load growth, the additional substation capacity is needed	Discretionary/ Non-Discretionary:	Discretionary
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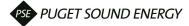


Desired State (Proposed Solution):	The proposed solution for addressing Bainbridge Island's distribution capacity will be achieved by: o Installing an approximately 3.3 MW/6.6 MWh battery storage system (planned for Murden Cove substation). Implementing an
	approximately 3.3 MW DER portfolio on Bainbridge Island, with customer side resources such as energy efficiency, renewable distributed generation, and potential of demand response.



Corporate Spending Authorization (CSA)

Outcome/Results (What are the anticipated benefits): The installation of a 3.3MW/6.6 MWh energy storage battery and implementation of a 3.3MW DER program will defer the need to build a new substation and new feeders for 10 years or more. The hybrid alternative, which includes an energy storage battery as one of its components, is estimated to cost less than an all wires solution. The project will improve customer satisfaction.



Dependencies:	Yes											
Dependencies comment:	None.											
	Nonel											
Escalation Included:	No, escalation has not been	included.										
Total Estimated Costs:	\$11,720,000											
Estimated Five Year Allocation:	Funds Type	ID	L	ine Item Descriptio	in	Previous Years Actuals	Fiscal 2024 Requested	Fiscal 2025 Requested	Fiscal 2026 Requested	Fiscal 2027 Requested	Fiscal 2 Reques	
	Capital	W_R.10019.01.01.04	E Bainbridge Energ	gy Storage Battery		\$ 1,679,989	\$ 953,700	\$ 7,008,963	\$ 40,000	\$ 100,000	\$	-
												_
Incremental O&M:	Both											
Qualitative Benefits:	The 3.3MW/6.6 MWh energy will be designed for 3 use cas frequency response from nei	ses including: peak shaving; f	requency response									attery
Quantitative Benefits:	Quantitative Benefits	Benefit Type	Previous Years	Fiscal 2024	Fiscal 2025	Fiscal 2026	Fiscal 2027	Fiscal 2028	Fiscal 2029	Remaining Costs	Life To	tal
	Annual frequency response					¢	A				<u>م</u>	
	savings	-	\$ -	\$ -	\$ -	\$ 330,000	\$ 330,000	\$ -	\$ -	\$ -	\$ 6	60,000
						-						
Risk Summary:	Passing code amendments, o	bbtaining permits, communit	y resistance, negot	iating battery pricin	ıg, and seasonal co	nstruction schedule	e pose the greatest	risks to the project				



Corporate Spending Authorization (CSA)

Change Summary:

Planning Cycle	Change Summary	Last Update Date
2022 Baseline Cycle	This CSA has been migrated into the EPPM tool at go-live as part of the Phase 1 EPPM implementation effort. The projects in this CSA were previously approved for the 2023-2027 capital plan. Please refer to the original CSA document for additional information (if available.)	2/10/2023



Approval History:	Approval	History:
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Approved By	Date Approved
Approved by Cost Center Owner: Pagano , Tony	4/3/2023
Approved by Director Sponsor: Roque Bamba	4/6/2023
Approved by Executive Sponsor: Koch , Dan	4/6/2023
CSA Status changed to Approved	4/6/2023
Approved by Cost Center Owner: Lim , Thina	12/5/2023
Approved by Director Sponsor: Lim , Thina	12/5/2023
Approved by Executive Sponsor: Lim , Thina	12/5/2023
CSA Status changed to Approved	12/5/2023
Approved by Cost Center Owner: Pagano , Tony	1/25/2024
Approved by Director Sponsor: Bamba , Roque	1/26/2024
Approved by Executive Sponsor: Vargo , Michelle	2/1/2024
CSA Status changed to Approved	2/1/2024



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Multi Year Rate Plan: Specific Equity Impact: Yes Strategic Alignment: Evolve the Business-Operating Model Strategic Alignment: Evolve the Business-Operating Model Estimated In-Service Date: Sunday, October 31, 2027 Current State (Business Need): The Bainbridge Island Electric System Needs Assessment report summarized transmission system reliability and operational issues that arise from having two radial transmission lines serving the southern two thirdsof Bainbridge Island. One radial line extends from Port Madison Substation to Winslow Substation. Data from 2013 to 2017 analyzed in the needs assessment and subsequent analyses of data from 2018 to 2020 indicate that arransmission line between Winslow and Murden Cove Substation. Data from 2013 to 2017 analyzed in the needs assessment and subsequent analyses of data from 2018 to 2020. In addition, with a looped system each substation on Bainbridge Island would be served by two transmission lines. This will improve transmission operating flexibility and allow for sections of Innemaintenanceor emergency repair without Interrupting service to customersor taking substations of Blinemaintenanceor emergency repair without Interrupting service to customersor taking substations of Blinemaintenanceor emergency repair without Interrupting service to customersor taking substations of Blinemaintenanceor emergency repair without Interrupting service to customersor taking substations of Blinemaintenanceor emergency repair without Interrupting service to customersor taking substations of Blinemaintenanceor emergency repair without Interrupting service to customersor taking substations of Blinemaintenanceor emergency repair without Interrupting service to customersor taking substatinananceor
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Corporate Spending Authorization (CSA)

Desired State (Proposed Solution):

The proposed solution is to build a new 3.4 mile transmission line between MurdenCove Substation and Winslow Substation. The route for the new line was selected after a two year public engagement process. The selected route will follow existing public roads and be co-located with existing distribution lines along its entire length. Winslow and Murden Cove Substations will need upgrades to terminate the new line including among other improvements -new control houses, new circuit breakers, new dead-end towers, new disconnect switches, new protection relays, and expanded storm water systems. To support high speed transfer tripping, Port Madison Substation will need a new control house, a new circuit breaker, and new protection relays. New fiber lines will also need to be installed along sections of the new and existing transmission lines.



Corporate Spending Authorization (CSA)

Outcome/Results (What are the anticipated benefits): The project will reduce SAIDI and SAFI numbers on Bainbridge Island. The project will improve operational flexibility and allow for routine maintenance and emergency repair of sections of transmission line without interrupting service to customers or taking substations off line. There will be a reduction in long-term O&M costsdue to the reduced need for emergency repairs. The project will improve customer satisfaction.



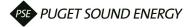
Dependencies:	Yes										
Dependencies comment:	None.										
Escalation Included:	No, escalation has not been included.										
Total Estimated Costs:	\$27,800,000										
Estimated Five Year Allocation:	Funds Type	ID	Li	ne Item Descriptio	n	Previous Years	Fiscal 2024	Fiscal 2025	Fiscal 2026	Fiscal 2027	Fiscal 2028
	0&M	77991	OMRC			Actuals \$ -	Requested \$ -	Requested \$ -	Requested \$ -	Requested \$ -	Requested \$ -
			Bainbridge Trans V	VIN-MUR Loop		\$ -	\$ 1,038,000	\$ 7,437,480	\$ 8,657,000	\$ 1,706,000	\$ 100,000
Incremental O&M:	Both										
Qualitative Benefits:	Improve reliability by reducin	ngSystem Average Interruptio	on Duration Index (SAIDI) and System	Average Interruptio	n Frequency Index	(SAIFI); increase cu	stomer satisifaction	n; improve operation	onal flexibility for ro	utine
	maintenance and emergency										
Quantitative Benefits:											
Quantitative Benefits:	Quantitative Benefits	Benefit Type	Previous Years	Fiscal 2023	Fiscal 2024	Fiscal 2025	Fiscal 2026	Fiscal 2027	Fiscal 2028	Remaining Costs	Life Total
Risk Summary:	Passing code amendments, o	btaining permits, community	y resistance, acquir	ing easements, and	the condemnation	process pose the g	reatest risks to the	project.			
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Corporate Spending Authorization (CSA)

Change Summary:

Planning Cycle	Change Summary	Last Update Dat
2022 Baseline Cycle	This CSA has been migrated into the EPPM tool at go-live as part of the Phase 1 EPPM implementation effort. The projects in this CSA were previously approved for the 2023-2027 capital plan. Please refer to the original CSA document for additional information (if available.)	2/10/2023
2023 Cycle 1	The Planning to Design CSA was approved on 11/4/2022.	3/29/2023



Approval	History:

Approved By	Date Approved
Approved by Cost Center Owner: Pagano , Tony	4/4/2023
Approved by Director Sponsor: Roque Bamba	4/6/2023
Approved by Executive Sponsor: Koch , Dan	4/6/2023
CSA Status changed to Approved	4/6/2023
Approved by Cost Center Owner: Lim , Thina	12/4/2023
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