EXH. RBB-3
DOCKETS UE-22___/UG-22___
2022 PSE GENERAL RATE CASE
WITNESS: ROQUE B. BAMBA

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**Docket UE-22____** **Docket UG-22____**

SECOND EXHIBIT (NONCONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF

ROQUE B. BAMBA

ON BEHALF OF PUGET SOUND ENERGY

JANUARY 31, 2022

PUGET SOUND ENERGY

Date: *19 Jun 14*

To: *Doug Loreen, Director Project Delivery*
Jennifer Tada, Director System Planning

From: *Bob Parker, Senior Project Manager*

CC: Roque Bamba, Manager Project Management and Construction Management - Interim
Shauna Tran, Manager System Planning
Carol Jaeger, System Planning Consulting Engineer
Corporate Spending Initiatives Team (Tina Valdez, Kamala Rao, Janet Phelps)

Re: Corporate Spending Business Case Application - *Lake Hills-Phantom Lake new 115 kV line*

Table of Contents:

1. CSA Request

The project team recommends approving the Lake Hills-Phantom Lake new 115 kV line project business case and funding the Design phase for $2.12 million dollars (2014: $1.19M, 2015: $0.93M) through 5/15/2015. The total cost of ownership is $8.75 million dollars, of which $1.92M has been spent through 12/31/2013, and $6.83M is the cost to complete the project. The primary Integrated Strategic Plan ("ISP") objectives and strategies affected by this business case are Process and Tools (Strategy - System reliability and integrity), and Customer (Strategy - Recognition PSE role in community).

The project was launched (it is a legacy project) prior to the adoption of the CSA process. Consequently, the project is in mid-phase. This request is to fund the remaining pre-construction activities (finalize engineering design, develop construction drawings for bid package, complete the permit process, re-start the ROW easement acquisition, and order long-lead materials).

The following two tables reflect the estimated project schedule and spend schedule.

High Level Schedule

Line #	Lifecylce Phase	Start	Finish	2014				2015				2016			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Design Engineering	1/1/2014	5/15/2015												
2	Construct, Deliver, Implement	4/1/2015	11/25/2015												
3	Closeout	11/26/2015	12/30/2015												

Major Phases

Capital Costs

Project Phase Costs	TOTAL	2013 & PRIOR	2014	2015	2016+
Legacy costs	$ 1,916,776	$ 1,916,776			
Design Engineering	$ 921,535	$ -	$ 791,535	$ 130,000	
Easement & Property Purchase	$ 1,199,976	$ -	$ 402,260	$ 797,716	
Construction/Close-out	$ 4,083,946	$ -		$ 4,083,946	
Contingency	$ -	$ -	$ -	$ 625,767	
TOTAL	$ 8,748,000	$ 1,916,776	$ 1,193,795	$ 5,637,429	

OMRC[1] Costs

Project Phase Costs	TO
Construction/Close-out	$
Contingency	$
TOTAL	$

[1] OMRC – O&M related to capital

2. Project Summary

The project scope consists of:

1) Installing approximately 2.5 miles of new 115 kV transmission line (1272 ACSR conductor, rated at 100°C) along existing public rights-of way between the Lake Hills Substation and the intersection of SE 16th St/148 Ave SE in the City of Bellevue.
2) Installing three new 115 kV transmission switches with public rights-of-way for new protection scheme.
3) Rebuild the Lake Hills substation to replace worn out/out dated equipment and loop-thru the new transmission line.

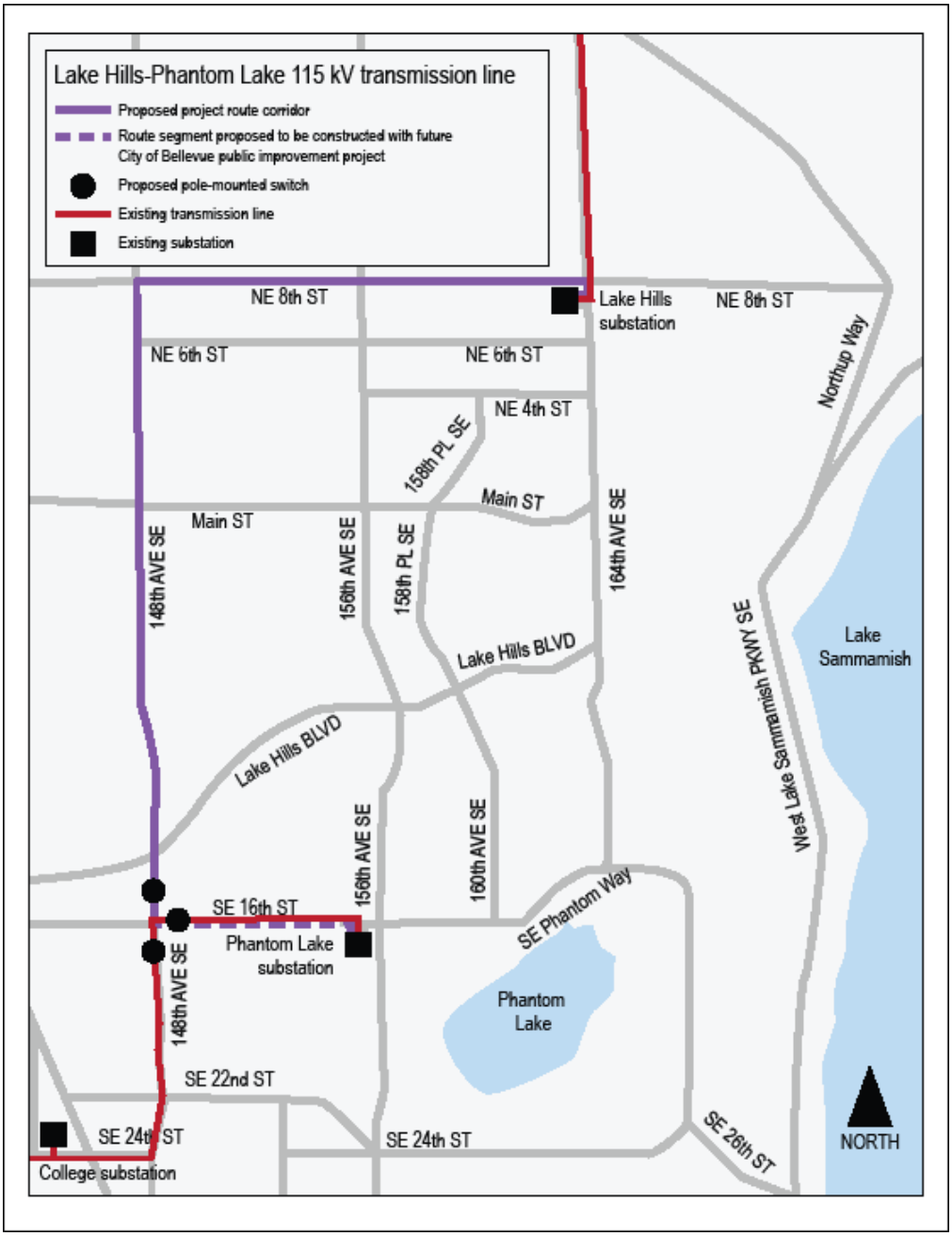
The project needs are:

1) Reliability
    i. Improved reliability to over 30,000 customers served by Lake Hills, Phantom Lake, College, Midlakes, Ardmore, Kenilworth, Evergreen, and Spirit Brook Substations.
    ii. Will allow PSE to utilize its existing system to greater capacity by looping two substations (Lake Hills and College) which will allow double banking in the future. Also provide an ODL/CHL (Open Dead Line/Closed Hot Line) automatic scheme for Phantom Lake substation; not being looped due to City of Bellevue permit requirements. There is a future COB Public Improvement project on SE 16th St.; an opportunity exists to coordinate our electric system work with COB.
    iii. Extends PSE fiber network that improves response time and signalization of line equipment, which reduces outages for customers.
    iv. Provides a third 115 kV feed to Ardmore Switching stations resulting in direct reliability benefits to the East Bellevue and South Redmond service areas.
2) Aging Infrastructure
    i. Replace out dated substation equipment

The current status of the project is:

1) PSE has completed a substantial public outreach siting process and has submitted the permit package to the City of Bellevue. The Public hearing and final regulatory approvals are expected in the fourth quarter of 2014.
2) Easement acquisition will also recommence in the first quarter 2015 or earlier.
3) Construction is scheduled to start and complete in 2015.

Project Map



3. Sign-Off

Signor	Title	Date	Signature
Doug Loreen	Director Project Delivery		Approval has completed on CSA Lake Hills-Phantom Lake .msg
Jennifer Tada	Director System		

Signor	Title	Date	Signature
	Planning		

Appendix A – Detailed Business Opportunity & Benefits

Business Case Evaluation Criteria

ISP Objectives, Mandatory and/or Corporate Risk	Strategy *Abbreviated ISP strategy descriptions*	Benefit Description *Measurement and/or scorecard affected*
Safety	☐ Educate and train employees on effective safety and wellness strategies.	
People	☐ Develop/Retain best employees ☐ Ownership, innovation and continuous improvement	
Process and Tools	☐ Effectiveness and efficiency ☒ System reliability and integrity ☐ Safety and security of systems, information and assets ☐ Extract and leverage value from existing technology and assets ☐ Product and service portfolio	• Directly improves reliability for 11,500 residential and 870 commercial customers in Bellevue and Redmond • Enables PSE to add a transformer to two substations when needed, providing capacity for approximately 10,000 new customers. • Does provide operational improvement by enabling transmission line outages to be scheduled without high risk of subsequent outages to customers and without requiring switching customers on distribution lines to maintain service.
Customer	☐ Customer Experience Intent Statement ☒ Recognition PSE role in community ☐ Customer preparedness ☐ Ideal customer behavior	• Drive positive recognition of PSE's role in community; by improving the reliability of three distribution substations serving the East Bellevue and South Redmond areas.
Financial	☐ 5-year Strategic Plan ☐ Long-term value ☐ Grow core business ☐ Grow New Business	
Corporate Risk	☐ Corporate risk	

Appendix B – Corporate Financial Analysis

The CSA business case funding request for $6,871,224 includes costs for 2014-2015 and would take the project through construction and closeout in 2015.

This analysis includes total costs of $8,788,000. This total includes $1,916,776 of costs incurred prior to 2013, $6,831,224 of additional capital costs for 2014-2015, and $40,000 of operation and maintenance (O&M) costs expected to occur in 2015. The project is expected to accrue $540,958 of Allowance for Funds Used During Construction (AFUDC) over the course of the project. When the project is complete in 2015, approximately $9.3 million will be closed to plant.

The net present value (NPV) of the total cost of the project is $6.5 million and the present value (PV) of the cost to the customer is $9.6 million. For the 2014-2018 period, the sum of projected regulated net income is $1.2 million and earnings before interest, taxes, depreciation and amortization (EBITDA) is $3.3 million.

Assumptions

	Total Cost	2014	2015	2016	2017	2018	In 5-yr Budget
Legacy Costs (years 2013 & prior)	**$ 1,916,776**						
CAPEX							
Design Engineering	$ 921,535	$ 791,535	$ 130,000				
Easement & Property Purchase	$ 1,199,976	$ 402,260	$ 797,716				
Construction & Close-out	$ 4,083,946	$ -	$4,083,946				
Contingency	$ 625,767	$ -	$ 625,767				
Total CAPEX	**$ 6,831,224**	**$1,193,795**	**$5,637,429**	**$ -**	**$ -**	**$ -**	Yes
O&M							
Construction Related O&M	$ 40,000		$ 40,000				
Total O&M	**$ 40,000**	**$ -**	**$ 40,000**	**$ -**	**$ -**	**$ -**	Yes
AFUDC	**$ 540,958**	**$ 74,467**	**$ 466,492**				
Total	**$ 9,328,958**	**$1,268,262**	**$6,143,921**	**$ -**	**$ -**	**$ -**	Yes

Financial Projections

Summary Financial Results	PV	2014	2015	2016	2017	2018	2019-2065	Total
Net Income		$0	$0	$430,887	$416,830	$400,535	$7,323,568	$8,571,820
EBITDA		$0	$0	$1,130,129	$1,099,321	$1,063,606	$24,782,239	$28,075,295
Incremental Rate Impact		0.00%	0.00%	0.04%	0.03%	0.03%		
Total NPV Benefits/(Costs)	$(6,508,572)							
Cost to Customer PVRR	$ 9,637,956							
*Assumes Perfect Regulation								

Income Statement		2014	2015	2016	2017	2018	2019-2065	Total
Revenue Requirement		$0	$41,894	$1,183,629	$1,151,362	$1,113,957	25,955,424	$29,446,266
Expenses:								-
O&M		-	40,000	-	-	-	-	40,000
Depreciation		-	-	185,779	185,779	185,779	8,731,621	9,288,958
Revenue Taxes		-	1,894	53,500	52,042	50,351	1,173,185	1,330,971
Taxes		-	-	232,016	224,447	215,672	3,943,460	4,615,596
Operating Expenses		$0	$41,894	$471,295	$462,268	$451,802	$13,848,266	$15,275,525
Operating Income		-	-	712,333	689,094	662,155	12,107,159	14,170,741
Interest		-	-	(281,446)	(272,264)	(261,620)	(4,783,591)	(5,598,921)
Net Income		**$0**	**$0**	**$430,887**	**$416,830**	**$400,535**	**$7,323,568**	**$8,571,820**
Ratebase		$0	$0	$9,167,621	$8,868,540	$8,521,830		
Return on Ratebase				7.77%	7.77%	7.77%		
ROE				9.8%	9.8%	9.8%		
EBITDA								
Operating Income		$0	$0	$712,333	$689,094	$662,155	$12,107,159	$14,170,741
Add Back Depreciation		-	-	185,779	185,779	185,779	8,731,621	9,288,958
Add Back Taxes		-	-	232,016	224,447	215,672	3,943,460	4,615,596
EBITDA	**$0**	**$0**	**$0**	**$1,130,129**	**$1,099,321**	**$1,063,606**	**$24,782,239**	**$28,075,295**
Cash Flow								
Operating Income	-	$0	$0	$712,333	$689,094	$662,155	$12,107,159	$14,170,741
Add Back Depreciation	-	-	-	185,779	185,779	185,779	8,731,621	9,288,958
Add Back Deferred Taxes		-	-	56,895	169,709	152,153	(378,757)	(0)
Less: Tax Benefit of Interest		-	-	(98,506)	(95,292)	(91,567)	(1,674,257)	(1,959,622)
Operating Cash Flow	**$0**	**$0**	**$0**	**$856,501**	**$949,290**	**$908,520**	**$18,785,766**	**$21,500,077**
Capital Expenditures		(3,110,571)	(5,637,429)	-	-	-	-	(8,748,000)
Net Cash Flow	**$0**	**($3,110,571)**	**($5,637,429)**	**$856,501**	**$949,290**	**$908,520**	**$18,785,766**	**$12,752,077**

Board Approved Budget

- The project has been approved as a part of the 2014-2018 5-year plan. The funding in the project costs is consistent with the amount reflected in the 5-year plan.

Financial and Accounting Assumptions

- Capital costs through 2013 ($1,916,785) include the costs of ideation, feasibility, planning and some design engineering.
- Assumes 50-year depreciation life.
- Assumes AFUDC.

Appendix C – Risks, Key Assumptions and Measures for Success

Risk

Risk Description *(List risks that could significantly impact funding and/or spend schedule)*	**Mitigation Plan** *(What are you doing to mitigate the risk? Are risk $s assigned?)*	**Risk Date Horizon** *(Date risk will no longer be a threat)*
1. Permitting *Impact = H and Probability = L*	PSE is in discussions with Bellevue City Council and EBCC about the project. Once the City has approved the project through the Conditional Use Permit process, the East Bellevue Community Council could still veto the project. If that should occur PSE's recourse would be to either cancel the project, find another route or appeal through Superior Court. Costs for planned mitigation have been included in the project's Cost Report.	December 2014
2. Easement acquisition *Impact = H and Probability = M*	There are 41 easements to obtain; 21 easements along the NE 8th St and another 20 easements along 148th Ave portion of the route. • PSE has a new process easement/condemnation process, implemented on another project (Pierce 230), that will be utilized. • Of those 41 easements, eight belong to government entities; which cannot be condemned. We will utilize the Government & Community Affairs departments to facilitate negotiations. Also begin negotiations in Summer 2014. • There is a high likelihood that some of the remaining 33 acquisitions will need to be acquired through condemnation. We have the option of pursuing a	June 2015

Risk Description *(List risks that could significantly impact funding and/or spend schedule)*	**Mitigation Plan** *(What are you doing to mitigate the risk? Are risk $s assigned?)*	**Risk Date Horizon** *(Date risk will no longer be a threat)*
	"possession & use" agreement while we (PSE & property owner) go through condemnation proceedings. This would allow construction. • PSE has held seven public meetings. While there will be some residents opposing the project there doesn't seem to be momentum to form an organized opposition group. PSE plans to continue to be proactive with the community. Costs for planned mitigation have been included in the project's Cost Report.	
3. Construction *Impact = M and Probability = M*	Currently the known permit conditions are standard. However, past experience with City of Bellevue tells us that the permit conditions are fluid. Project team will insist and follow-up on permit conditions before bid package is released. Costs for planned mitigation have been included in the project's Cost Report.	August 2015

Risk of Not Doing

A. The reliability benefits will not be obtained. In the longer term, when the load on the line reaches the capacity limits, the project will be required to increase the system capacity. Extending the time to build the project incurs carrying costs and takes the risk of higher mitigation requirements.
B. Another risk is that the City of Bellevue considers this project the predecessor to Energize Eastside. "Political will" and/or "Reputational" should be a concern though it is very difficult to quantify.

Key Assumptions

Assumption Description *(List assumptions you have made about your project)*	**Contributing Organization**	**Assumption Date Horizon** *(Date assumption will no longer be a threat)*
1. Permits will be approved	Land Planning	November 2014
2. Easements will be obtained	ROW/Real Estate	March 2015
3. No unduly restrictive permit conditions	Land Planning, Construction Management	June 2015

Measures for Success

Measure for Success *(List measures for success)*	**Measured by?** **(How do you plan to measure?)**	**Measure Date Horizon** *(Date measurement will be available)*
1. Obtain all easements or "Possession & Use" agreements to proceed to construction	Can I bid the transmission construction?	June 2015
2. Complete substation construction activities	Test & re-energize substation?	July 2015
3. Complete transmission construction activities	Can I place line into SVCC status?	November 2015

Appendix D - Analysis of Alternatives

Alternatives Explored	**Risks (Cons)**	**Benefits (Pros)**	**Total Cost**
Current State – also called "Do Nothing"	• Leaves three distribution substations on radial (tap) lines. Two of them are on the same tap line. • At risk are 12,000 customers. • Increased OMRC dollars for substation maintenance activities.	• Capital cost savings.	$0
Selected: Install new 115 line between Lake Hills and Phantom Lake substations	• Increases the capital costs	• Loops three substations (College, Lake Hills, Phantom Lake) • Provides third 115 kV feed to Ardmore Switching station • Extends PSE network fiber that improves response time	$8-10 million
Alternative #1 is to accelerate the construction of	• this option would not provide looping (redundant	• provide a third north/south feed between Lakeside	N/A – rejected, does not meet project needs

Alternatives Explored	Risks (Cons)	Benefits (Pros)	Total Cost
Westminster Switching station in Bellevue.	transmission feed) for College, Phantom Lake or Lake Hills subs.	and Sammamish Substations and redundancy for some N-1-1 contingencies	
Alternative #2 is to provide another path to loop College and Phantom Lake subs would require a new 6 mile line between Phantom Lake and Pickering Substation in Issaquah or another line similarly long, compared to the 2-3 mile line proposed.	• Would not provide a third transmission feed to Ardmore Switching Station. This alternative would not loop the Lake Hills sub, which would remain radially fed. There is not a straightforward alternative to loop Lake Hills sub other than the planned project.	• A new switching station to interconnect the existing line between College and Phantom Lake subs, and the new line may be required, depending on line routing	N/A – rejected, does not meet project needs
Alternative #3 was required by City of Bellevue permitting requirements to evaluate alternative routes.	• City of Bellevue has directed that neighborhoods be protected as much as possible from the impacts of commercial growth. It limits the use of neighborhood (non-arterial) roads use for new transmission lines.	• Reviewed 148th Ave, 156th Ave and 164th Ave which are major/minor arterials within City of Bellevue. The results showed that 148th Ave was the least impactful.	Cost not an allowed consideration

Appendix E - Contributing Team Members

Contributing Team Member	Organization
Bob Parker	Project Management – Electric, Senior Project Manager
Carol Jaeger	System Planning, Consulting Engineer
Vince Xaudaro	Project Controls, Senior Project Controls Specialist
Will Foster	Project Controls, Project Controls Specialist

Appendix F – Business Case Definitions

Term	Definition

Term	Definition
1.	
2.	
3.	

Appendix G – Business Case Change Log

Revision	Date	Submitted by	Change Summary
1			
2			