

**EXH. DJL-3 (Apx. I)
DOCKETS UE-240004/UG-240005
2024 PSE GENERAL RATE CASE
WITNESS: DAVID J. LANDERS**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

**Docket UE-240004
Docket UG-240005**

**APPENDIX I (NONCONFIDENTIAL) TO THE SECOND EXHIBIT TO THE
PREFILED DIRECT TESTIMONY OF**

DAVID J. LANDERS

ON BEHALF OF PUGET SOUND ENERGY

FEBRUARY 15, 2024



Mobile Substations

Corporate Spending Authorization (CSA)

Date Created:	Wednesday, April 5, 2023
Discretionary/ Non-Discretionary:	Non-Discretionary
Multi Year Rate Plan:	Specific
Equity Impact:	Yes
Strategic Alignment:	Operate the Business-Reliability
Estimated In-Service Date:	Tuesday, June 30, 2026
Current State (Business Need):	<p>Currently PSE operates a fleet of five mobile substations that are deployed to temporarily take the place of stationary substation equipment during outage events such as a major equipment failure or during a project to replace existing major equipment that can affect our customers. Historically when an extended outage was required on a piece of critical substation equipment, affected circuits would be switched to receive power from neighboring substations. While this solution is the preferred way to provide backup power, it is increasingly unavailable due to increasing load within PSE's system. As switching becomes a less viable strategy, mobile substations are increasingly needed to act as a temporary replacement for affected equipment. The increasing demand for mobile substations contrasts with the state of PSE's existing mobile substations fleet. Three of five existing mobile substations have exceeded or are near their expected lifetime of 50 years. Out of these three units, two are rated to provide less than 25MVA which limits their use within PSE's system. A lack of readily available and healthy mobile substations can create delays to projects or emergency outages, as equipment cannot be safely disconnected. When older equipment is deployed, previously unknown damage can become apparent and create significant operational delays. For unplanned work, the impact of mobile substations being unavailable or damaged can result in extended outages. On more than one occasion, we have not been able to deploy the mobile due to malfunctioning trailers that become a safety concern during transport. As the mobiles age they require more maintenance and repairs that limits our ability to support Substation Operations when needed.</p> <p>PSE Asset Management recommends to increase the current fleet from 5 to 9 mobile substations to support planned work and unplanned outages. We are currently in the process of procuring 4 mobile substations (not part of the CSA) to bring the total to 9. However, the Asset Management team also recommends replacing three of the existing fleet that have reached end of life that are experiencing reliability issues and insufficient capacity ratings under this CSA. By replacing these aging units and procuring the additional 4 units, we will have a fleet of 9 mobile substations.</p>



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Desired State (Proposed Solution):

With an upgraded modern substation mobile fleet, Substation Operations can better serve their Regional Emergency crews as needed and the Project Managers as they coordinate outages for planned work with Load office. New mobiles will reduce O&M expenses for repeated repairs and maintenance on existing mobile transformers and trailers. Increasing the size and capacity of the fleet will enable Substation Operations to support more of the planned program work that's part of the multiyear rate case. The improved fleet will facilitate the implementation of the Grid modernization program to successfully replace aging transformers and install more smart breakers to provide circuit SCADA capability to all our customers equitably. Adding new mobiles to the existing fleet will improve the speed that we can deploy them for different situations and provides a reliability benefit in preventing extended transformer outages during failures with minimal impact on customers. This will allow us to support emergency events as needed without having to cancel a scheduled outage for a planned project also, this has been a common event in the last few years.



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**Outcome/Results
(What are the
anticipated benefits):**

The purchase of three mobile substations would increase the reliability and flexibility of PSE's mobile substation fleet. A more reliable fleet would reduce operational delays in the deployment of mobile substations which in turn would reduce the risk of extended outages. A more flexible fleet would increase PSE's ability to deliver planned project work as outages can be taken more easily. Efforts to support CETA and grid modernization are among the driving forces to take substations offline. New mobile substations will increase the fleet availability as they require less time in the repair shop for unplanned maintenance and repairs. These benefits will translate into outage reduction during emergency events and scheduled outages, O&M cost savings and improve safety to the public and PSE personnel during deployment.



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Dependencies: No

Dependencies comment: Not directly, however many future projects will depend on having the mobiles available for planned program work in the future.

Escalation Included: No, escalation has not been included.

Total Estimated Costs: \$10,000,000

Estimated Five Year Allocation:

Funds Type	ID	Line Item Description	Previous Years Actuals	Fiscal 2024 Requested	Fiscal 2025 Requested	Fiscal 2026 Requested	Fiscal 2027 Requested	Fiscal 2028 Requested
Capital	W.R.10009.14.06.01	E Subs Replacement Transformers Dist	\$ -	\$ -	\$ -	\$ 10,000,000	\$ -	\$ -
O&M	R.10009.14.06.02	Mobile Substation Procurement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Incremental O&M: No

Qualitative Benefits: Expected benefits include cost saving of O&M maintenance and repair dollars. Plus facilitation of completing more project work.

Quantitative Benefits:

Quantitative Benefits	Benefit Type	Previous Years	Fiscal 2024	Fiscal 2025	Fiscal 2026	Fiscal 2027	Fiscal 2028	Fiscal 2029	Remaining Costs	Life Total
O&M Cost savings	Cost Avoidance	\$ -	\$ -	\$ -	\$ 11,795	\$ 11,795	\$ 11,795	\$ -	\$ 235,900	\$ 271,285

Risk Summary: Long lead delivery time (2-3 years).



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Change Summary:

Planning Cycle	Change Summary	Last Update Date
2023 Cycle 1	This is the initial full CSA submission through the EPPM tool. Concept CSA was approved last month, April 2023.	5/3/2023



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Approval History:

Approved By	Date Approved
Approved by Cost Center Owner: Lambert , Ryan	4/6/2023
Approved by Director Sponsor: Landers , David	4/7/2023
CSA Status changed to 'Concept Approved'	4/7/2023
Approved by Cost Center Owner: Lambert , Ryan	5/4/2023
Approved by Director Sponsor: Landers , David	5/4/2023
Approved by Executive Sponsor: Jacobs , Josh	5/23/2023
CSA Status changed to Approved	5/23/2023
Approved by Cost Center Owner: Shrum , Bailey	12/4/2023
Approved by Director Sponsor: Shrum , Bailey	12/4/2023
Approved by Executive Sponsor: Shrum , Bailey	12/4/2023
CSA Status changed to Approved	12/4/2023
Approved by Cost Center Owner: Lambert , Ryan	1/29/2024
Approved by Director Sponsor: Landers , David	1/29/2024
Approved by Executive Sponsor: Jacobs , Josh	45324.01335
CSA Status changed to Approved	45324.01335