

**EXH. PKW-7C  
DOCKETS UE-22 \_\_\_/UG-22 \_\_\_  
2022 PSE GENERAL RATE CASE  
WITNESS: PAUL K. WETHERBEE**

**BEFORE THE  
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,**

**Complainant,**

**v.**

**PUGET SOUND ENERGY,**

**Respondent.**

**Docket UE-22 \_\_\_  
Docket UG-22 \_\_\_**

**SIXTH EXHIBIT (CONFIDENTIAL) TO THE  
PREFILED DIRECT TESTIMONY OF**

**PAUL K. WETHERBEE**

**ON BEHALF OF PUGET SOUND ENERGY**

**REDACTED VERSION**

**JANUARY 31, 2022**

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# Powerex RFP Bid Proposal

Paul Wetherbee



*PUGET  
SOUND  
ENERGY*

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November 24, 2021

# Recommendation

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## Review and Summary:

- The western grid has changed with a reduction of baseload generation capacity, increasing price volatility at western power trading hubs.
- Summer 2020 had rolling blackouts in CA with multiple PNW BAA energy emergency alert declarations.
- In June 2021 PSE experienced the hottest summer day on record at 105 degrees, with a peak hour hourly load of 4,036 which was 1,290 MW above normal.
- Energy Supply Management (“ESM”) is implementing an action plan to meet capacity for short-term reliability requirements as recommended and approved at the October 2021 EMC. The short-term plan is a bridge to longer-term capacity additions acquired through the current All Source RFP.

## 2021 plan will maintain reliability requirements of the BAA:

- PSE has made the necessary organizational changes to support the resource adequacy and planning processes required to participate in the Western Resource Adequacy Program (“WRAP”), Phase 3A.
- PSE will increase summer resource adequacy (RA) capacity (June-Sept) as approved by the October 2021 EMC by participating in commercial opportunities to acquire short-term capacity.

## Recommendation:

- Bid on 500 MW of clean hydro capacity and associated energy in the Powerex Multi-Year Summer Season Firm Energy RFP issued 10/15/21.



# Powerex Bid review

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The October 2021 EMC authorized the Front Office to procure 500 MW of summer capacity. With the exception of the Powerex RFP, issued in October 2021, no capacity procurement processes are currently available outside of bilateral negotiations.

## **Recommendation:**

- Bid on 250 MW, with a fixed price, five year term at the BC.US Border.
- Bid on 250 MW, with a fixed price, five year term at the Mid-C.

## **Bid Structure:**

- Total 500 MW fixed price, five year bid will be submitted with preference for the first 250 MW at the BC.US Border and the remaining 250 MW at Mid-C.
  - Structured so that PSE will take partial volumes at both points of delivery.
- PSE will also submit a similar fixed price, three year bid structure to offer additional flexibility to the seller, as requested by Powerex.

## **Considerations:**

- Current market prices are indication only. Authorization to bid requires the flexibility to amend the contract price to reflect current market prices on execution date.

# Powerex is offering multi-year, 100% carbon free capacity delivered to multiple west wide locations for the summer season beginning in 2022

- **Option 1 and product 2 best fit PSE's shape of critical hours and time horizon of summer capacity needs**

<b>Product:</b>	WSPP Sch. C Firm Energy, carbon-free, delivered pursuant to delivery terms
<b>Delivery Term:</b>	2022 for 3 to 7 years
<b>Delivery Months:</b>	<u>Option 1:</u> June through September <u>Option 2:</u> May through October
<b>Delivery Hours:</b>	<u>Product 1:</u> 7x24 (all hours of the day, seven days per week) <u>Product 2:</u> 7x16 (HE 0700 through 2200, seven days per week) <u>Product 3:</u> Shaped Product, which includes two delivery components: a) 7x8 Fixed Delivery: All hours HE 0100 through 0600, HE 2300, HE 2400, seven days per week; <b>and</b> b) 7x16 Flexible Delivery: receipt of 50% of the hours between HE 0700 through 2200 (any day of the week) with each month as elected by customer, additional conditions apply.
<b>Quantity/Delivery Point:</b>	Est. up to 1,000 MW, BPA Network Locations 1,000 MW for >3 year terms

\*RFP responses due by 10:00am November 30, 2021

The PSE RFP bid is structured with up to five separate pricing components

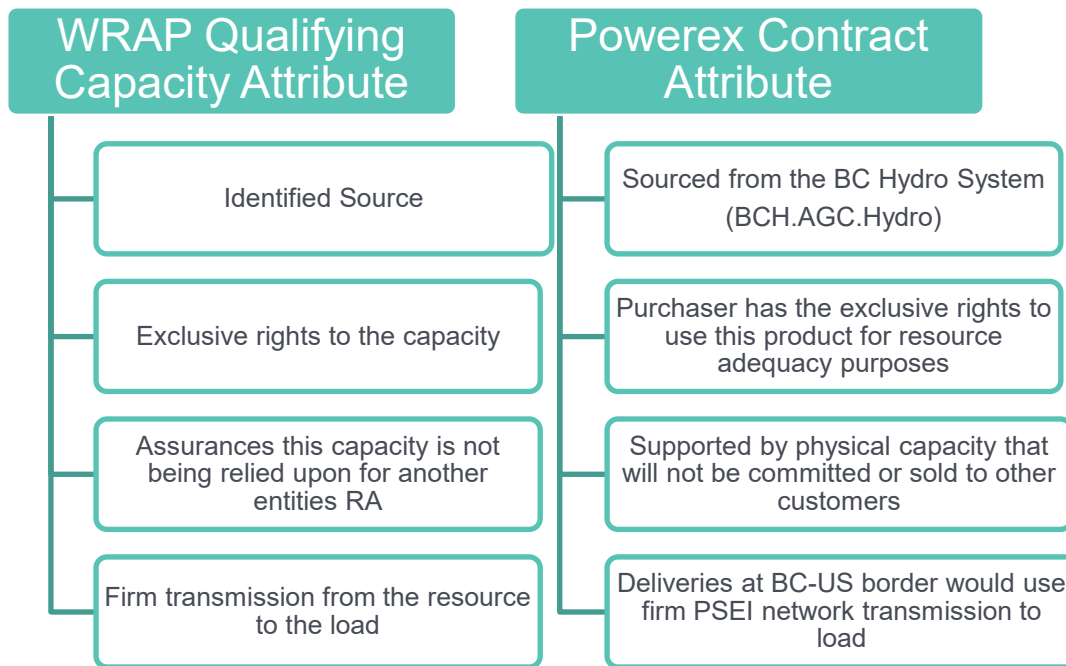
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An indication on a five year fixed price term for June-Sept delivery is priced at ~ [REDACTED]

**REDACTED VERSION**

# The Powerex contract will provide qualifying capacity for the WRAP

- Qualifying capacity must conform with WRAP requirements in the Forward Showing Program.
- WSPP Schedule C energy market purchases at the Mid-C do not meet WRAP capacity requirements.
- The proposed Powerex contract provisions provide for the qualifying capacity attributes, as currently understood, and are expected to count toward the Forward Showing for the 2023 Summer Peak Season.



# Transmission options

- PSEM has three options to take delivery of energy from Powerex during the summer months as listed below.

## BC.US.BORDER

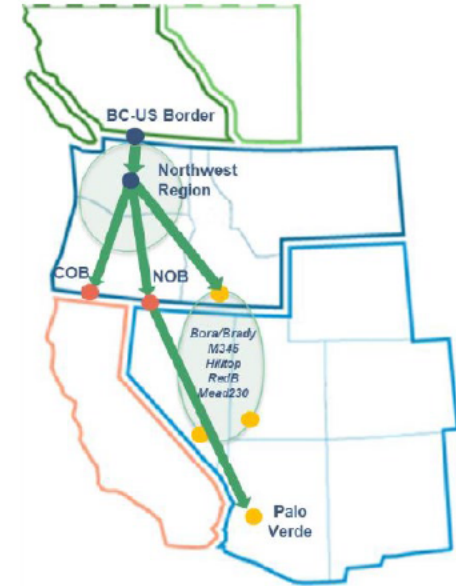
- Energy will be delivered directly to PSE transmission system using network service with the PPA as a designated network resource
- 250 MW is expected to be reliable amount of transmission available for the PPA
- Lowest cost bid due to point of delivery – no additional transmission leg necessary
- Preference indicated by PWX
- Does not increase transmission costs for PSE
- Recommended option from Energy Delivery**

## MID-C

- Powerex uses BPA transmission wheel to deliver power to Mid-C
- Option would add cost to transaction resulting in higher price
- Need PSEM's Mid-C transmission to deliver to PSE's load
- Sufficient transmission from Mid-C for a 250 MW bid
- Provides flexibility of reselling the energy at Mid-C but reduces resales/redirects for EIM
- Does not increase transmission costs for PSE

## BPAT.PSEI

- Powerex uses BPA transmission wheel to deliver power to BPAT.PSEI
- Option would add cost to transaction resulting in higher price
- PSEM would need a wheel to Mid-C to resell energy
- There is sufficient ATC from BPAT.PSEI to take delivery of a 250 MW transaction
- Maintains flexibility with existing Mid-C transmission
- Does not increase transmission costs for PSE





# Bid Pricing

- The tables below summarize the total 500 MW bid split between two delivery points of BC.US Border and Mid-C.

BC.US Border Fixed Price		3 Year Jun-Sep 2022-2024	5 Year Jun-Sep 2022-2026	Mid-C Fixed Price		3 Year Jun-Sep 2022-2024	5 Year Jun-Sep 2022-2026
REDACTED VERSION							

Volume (MW)	250	250
Total Notional Cos		
Annual Notional Cos		

Volume (MW)	250	250
Total Notional Cost		
Annual Notional Cost		

Total 500 MW	3 Year Jun-Sep 2022-2024	5 Year Jun-Sep 2022-2026
Volume	500	500
Total Cost		
Annual		

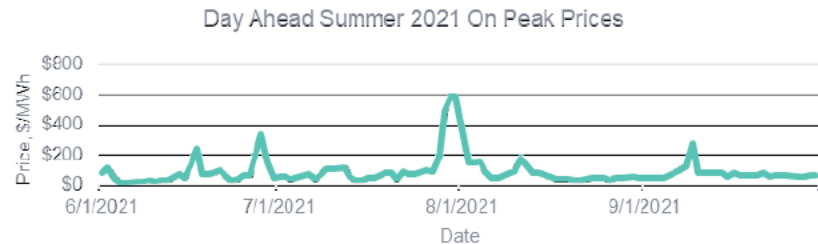
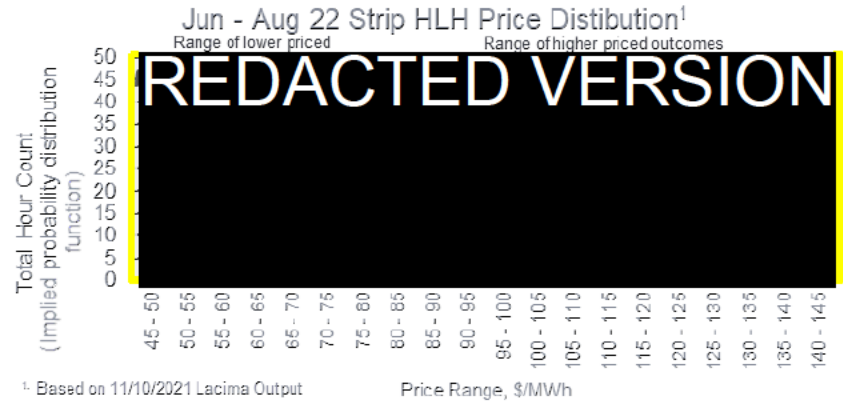
<sup>1</sup> Attributes may not sum to totals due to rounding

# A fixed price structure constrains price outcomes

- A fixed price bid award will constrain higher priced outcomes on purchased volume, but create the potential for hedge costs.
- Recent spot prices have been volatile, representing a wide range of outcomes.

The table below is a stress test of the mark-to-market of the fixed price component

Jun-Sept Fixed Price Term	VaR-L Price Move, \$/MWh	Capacity, MW	Total MWhs	Potential Mark-to-Market Losses
2022 <sup>1</sup>	REDACTED VERSION			
2022-2024 <sup>2</sup>	REDACTED VERSION			
2022-2026 <sup>3</sup>	REDACTED VERSION			



# Appendix

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# Forward prices have continued to increase since Q2 2021

- June – September 2022 prices have doubled since Q2 2021, increasing ~\$45/MWh
- Year over year prices are backwardated
  - June – September 2026 is \$32/MWh below 2022

