

**EXH. KCS-6C
DOCKETS UE-22 ___/UG-22 ___
2022 PSE GENERAL RATE CASE
WITNESS: KYLE C. STEWART**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

**Docket UE-22 ___
Docket UG-22 ___**

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

KYLE C. STEWART

ON BEHALF OF PUGET SOUND ENERGY

REDACTED VERSION

JANUARY 31, 2022

Market Reliance Risk Mitigation

EMC Decisional
October 28, 2021

Kyle Stewart
Director, Enterprise Risk Management



Recommendation

Background:

Historic assumptions in the resource planning model treat the company's 1,500 MW of Mid-C transmission capacity and market purchases as equivalent generation capacity. Shifts in western energy markets to retire baseload capacity and replace it with intermittent resources has dramatically increased the risks of system reliability and customer exposure to scarcity pricing. These risks are accentuated with the absence of a comprehensive summer resource adequacy planning standard that would otherwise identify a capacity need when the regional market demand is highest. While the 2021 IRP addresses the need to update these planning assumptions and reduce market reliance (MR), more expeditious action is required to address customer exposure to these risks as the generation portfolio is stressed by more frequent and extreme weather events driven by climate change.

Recommendation:

- 1) Implement a capacity book within the PSEE portfolio as a bridge to manage the market reliance position risk and ratably phase out as short-term positions (1-3 years) as capacity is integrated through the standing MR RFP
- 2) Transfer 1,000 MW of GFG capacity to the PSEE capacity book to provide immediate, least-cost capacity to manage book short position (capacity short is transferred to the general PSEE load book as an "energy" short position)
- 3) Authorize the trade floor to procure up to 500 MW of capacity to manage capacity book short position (1,500 MW)
 - Recommend participation in Powerex summer/winter capacity RFP

CETA Implication:

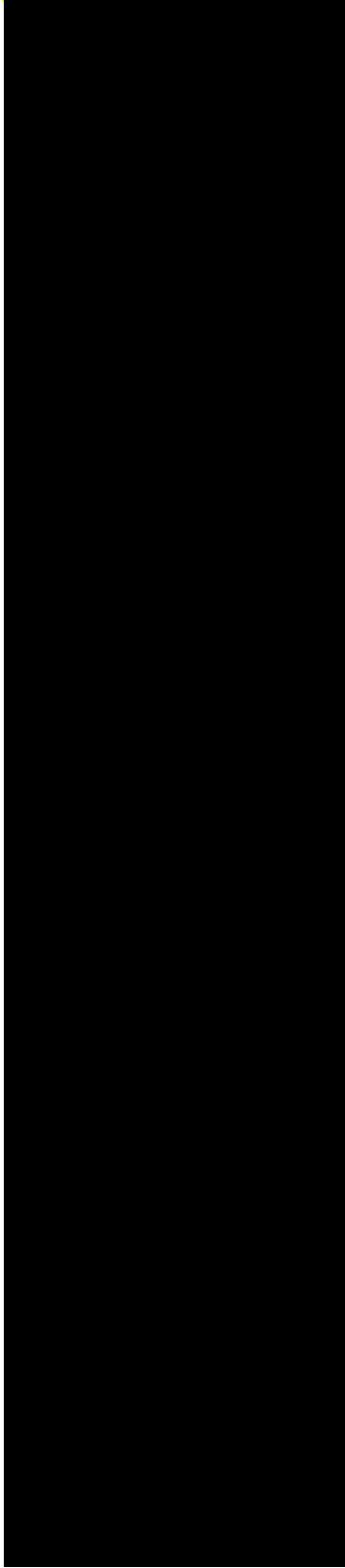
Proposed solution for acquiring 500 MW of capacity is a resource specific, non-carbon emitting product. Risk mitigation strategy accelerates pace portfolio carbon emissions with resource specific capacity additions and potential for reduced reliance on GFG portfolio as baseload capacity.

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Need for Action

- Systemic PCA under-recoveries driving customer rate volatility and constraining operations
 - April PCA filing included approved surcharge to collect **\$92.3M** of under recovered imbalances
 - 2021-22 forecasted customer share of PCA imbalance sits at **\$90.0M** as of 7&5 outlook
- Absence of summer planning standard leaves short-term market reliance thresholds undefined
 - Q3 market activity signals 1,000 MW exposure threshold



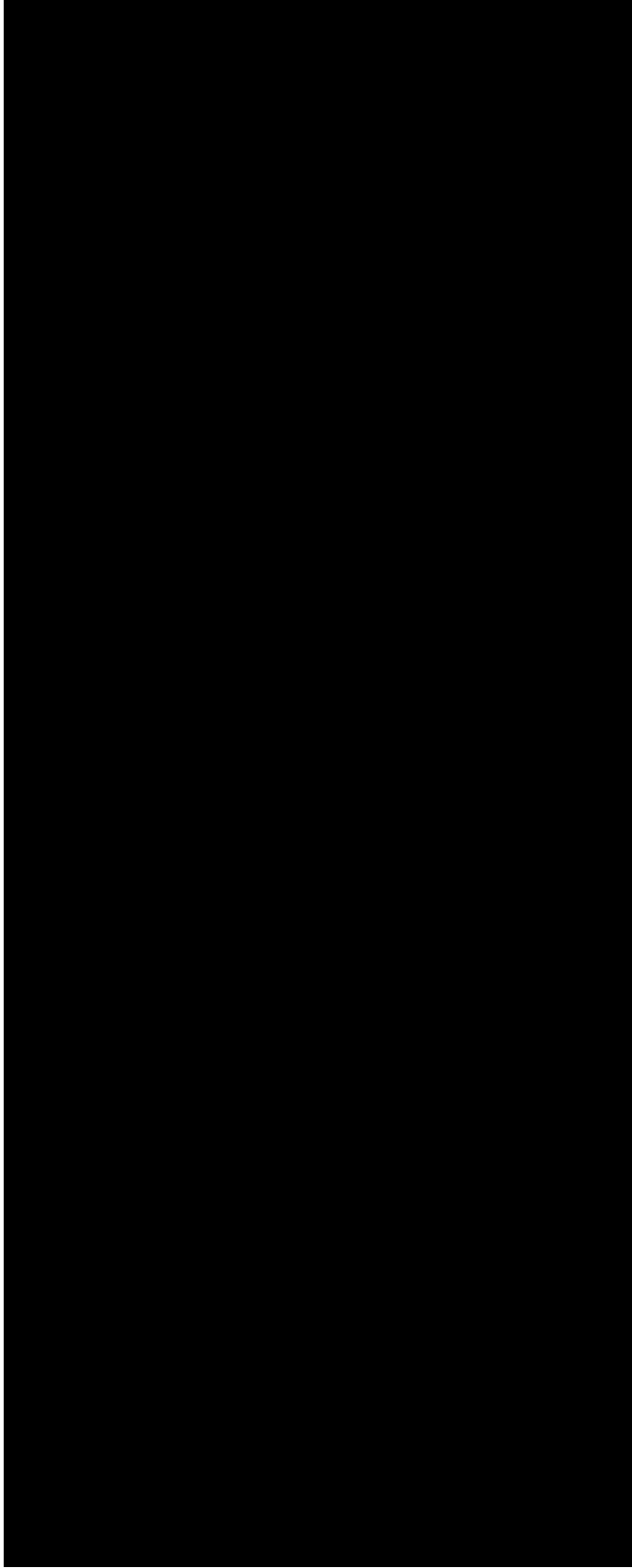
- Anticipate NWPP RA pilot will confirm/reinforce PSE's capacity need in the near-term



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On-peak Q3 capacity is long to P50 load, but remains more than 600 MW short on average to historical peak loads assuming a 20.7% planning reserve margin



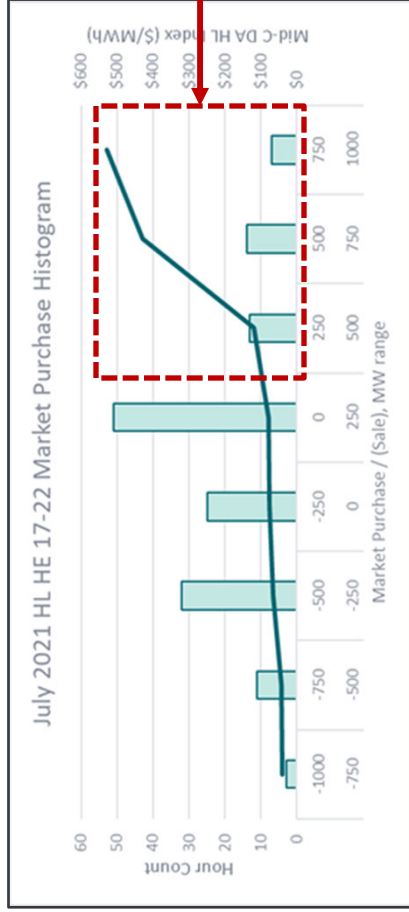
Portfolio position based on 10.22.21 Lacima study, unconstrained generation reduced for modeled outage rates and modeled Q3 peak contribution for variable resources
²Modeled Max load with Planning Reserve Margin assumes peak monthly load over the last 5 years increased by the 20.7% PRM calculated for winter peak in 2021 IRP report



Benefits of Proposed Solution

Transfer of GFG capacity provides lowest cost near-term capacity solution

- Leverages existing asset optionality and matches resource flexibility to load variance as capacity call option



Segregating of a “virtual” capacity book provides a mechanism by which energy needs are managed across a longer time horizon

- Reduces exposure to short-term market reliance and scarcity pricing by establishing a programmatic strategy to address MR driven energy procurement

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Modeled Portfolio Positions with Capacity Book Strategy



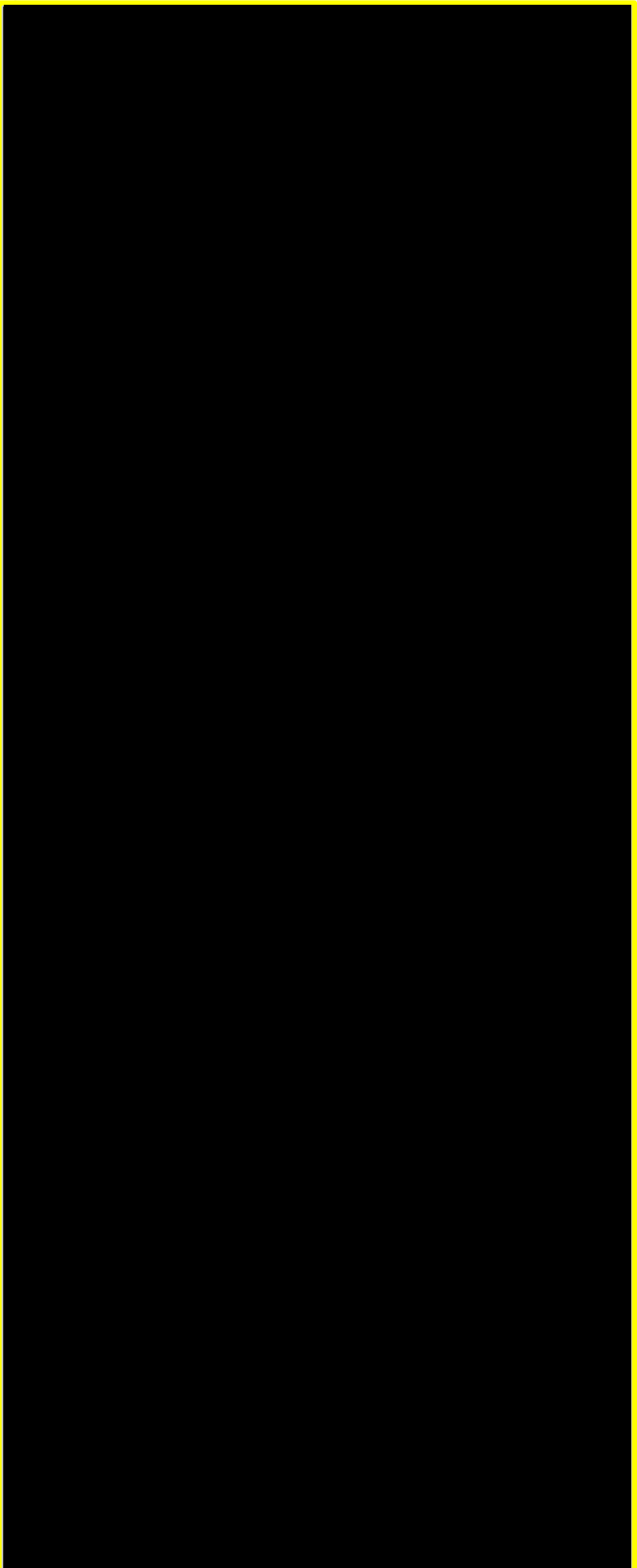
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Modeled Portfolio Positions with Capacity Book Strategy

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CETA Implication:

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Appendix



Indicative Product Terms for Powerex Summer Capacity RPF; estimate competitive fixed price bid range of \$20-30/MW premium to market

Product: WSPP Sch. C Firm Energy, carbon-free, delivered pursuant to delivery terms

Delivery Term: 2022 for 3 to 7 years

Delivery Months: Option 1: June through September
Option 2: May through October

Delivery Hours: Product 1: 7x24 (all hours of the day, seven days per week)
Product 2: 7x16 (HE 0700 through 2200, seven days per week)
Product 3: 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; **and**
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.

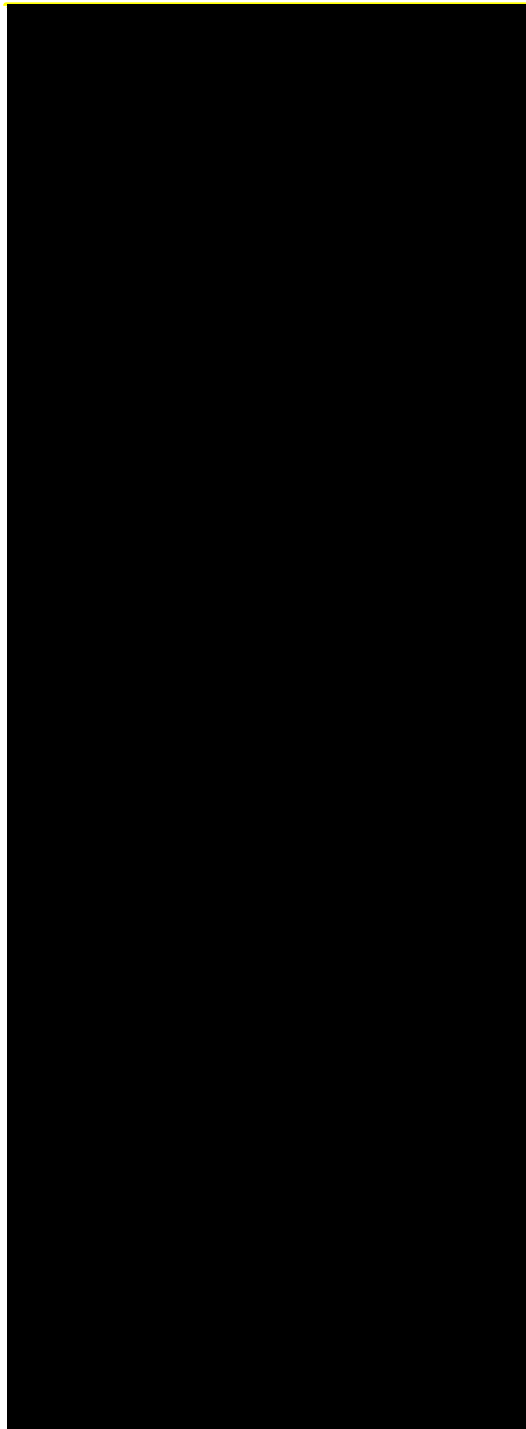
Quantity/Delivery Point: Est. up to 1000 MW, BPA Network Locations 1000 MW for >3 year terms

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

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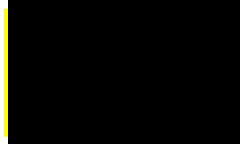


Proposal leaves 500 MW of market reliance consistent with IRP model; any acquisitions from trade floor and resource acquisitions would be modeled in capacity portfolio and trigger transfer of GFG capacity back to the load book ratably until position is fully mitigated (2027)



Capacity Book Details
In the money on peak gfg in the load book (gas demand in load book available to be hedged; power length in load book)
In the money on peak gfg in the capacity book (gas demand in either capacity or load book available to be hedged, power length transferred from load book to capacity book, creating power short in load book)
Out of the money on peak gfg in Capacity book (gas demand not available to be hedged, power short not available to be hedged)

Load Book (New Exposure) - Remove up to 1,000 MW of GFG on peak (last 1,000)
Total Net Exposure \$
Gas for Power Exposure MMBtu/d
Power Exposure Peak MW
Power Exposure Off-Peak MW



Any short-term capacity acquisitions by the trade floor such as the recommended Powerex product would be credited against the Capacity Book short transferring the equivalent GFG capacity back to the Load Book for management through existing hedging strategies.

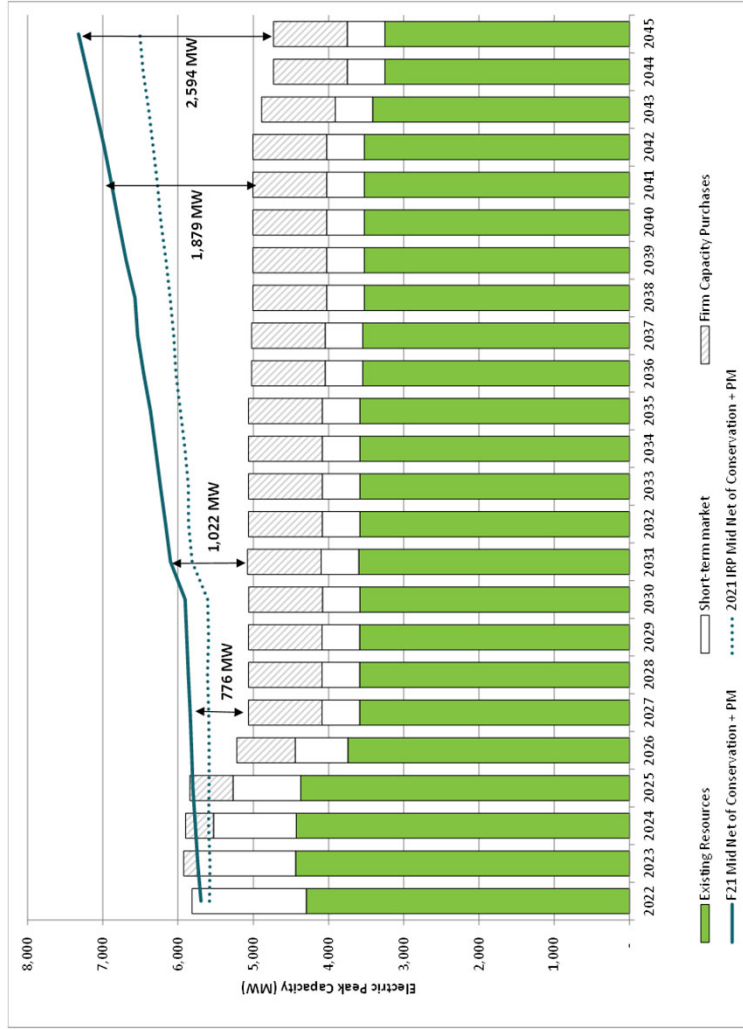
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Electric Resource Needs: Capacity Needs



- Peak Capacity need increases from 527 MW to 776 MW after conservation in winter 2027.
- Demand response (DR) not included

Peak Need (MW)	Dec-27	Dec-31	Dec-45
2021 IRP	527	735	1,778
Draft F21 Forecast	776	1,022	2,594
Increase	249	287	816

*These are draft numbers that may change

