

**EXH. PAH-18  
DOCKETS UE-240004/UG-240005  
2024 PSE GENERAL RATE CASE  
WITNESS: PHILIP A. HAINES**

**BEFORE THE  
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,**

**Complainant,**

**v.**

**PUGET SOUND ENERGY,**

**Respondent.**

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

**SEVENTEENTH EXHIBIT (NONCONFIDENTIAL) TO  
THE PREFILED DIRECT TESTIMONY OF**

**PHILIP A. HAINES**

**ON BEHALF OF PUGET SOUND ENERGY**

**FEBRUARY 15, 2024**

---

# BPA Mid-C Transmission Contract Renewal

*EMC Decisional*  
August 24, 2022



---

Laxman Subedi  
*Sr Engineer Energy Delivery*

## Recommendation

---

- Renew 481MW BPA Mid-C transmission contracts for 5 year term.
- Overview:
  - Current contracts end in September-November 2023.
  - Renewal rate starts at \$23.57/kW – Yr, PSE assumes a 3% annual escalation rate.
  - Contracts are renewed for five years and retain full rollover rights.
  - These are Mid-C resource-specific transmission contracts that are currently classified as capacity in the IRP
  - Alternate capacity resources are a gas peaker and battery energy storage system
  - Provides up to \$362M net present value benefit over a cost of a gas peaker.
  - Mid-C transmission in excess of PSE's Mid-C generation capacity relies on the market to supply the energy.
  - An analysis of market reliance of Mid-C transmission is underway

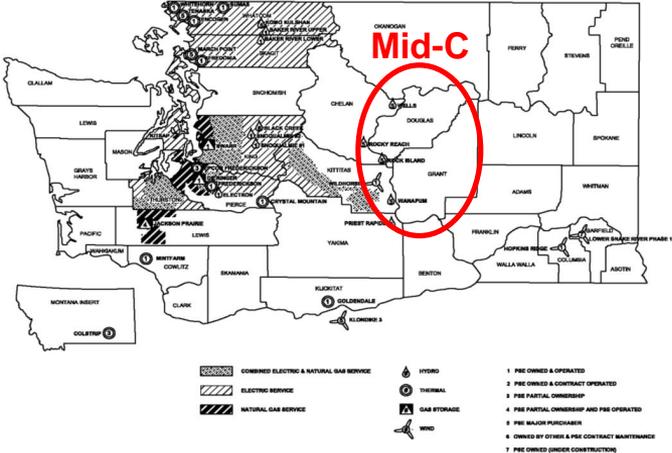
## Background

- 2011 WUTC GRC Final Order: PSE is expected to provide for any renewal or acquisition of firm transmission “a full and detailed justification showing the prudence of this expense if the Company expects to continue to recover it in rates.”
- BPA transmission contracts are renewed at least one year prior to termination date to exercise the reservation priority rights thereby avoiding competition with other parties in the queue.
- BPA transmission contracts are generally renewed for the minimum term of 5 years to retain renewal rights and allow flexibility to reevaluate transmission need.

<b>CONTRACTS FOR RENEWAL:</b>			
<b>Project</b>	<b>Start</b>	<b>Term</b>	<b>MW</b>
Wells(MidC)	9/1/2023	9/1/2028	69
Wells(MidC)	9/1/2023	9/1/2028	69
Wells(MidC)	9/1/2023	9/1/2028	128
Midway(MidC)	10/1/2023	10/1/2028	115
Vantage(MidC)	11/1/2023	11/1/2028	50
Wells/Sickler(MidC)	11/1/2023	11/1/2028	50
<b>Total</b>			<b>481</b>



# Remote Resource Map - Mid-C Resources



## Key Considerations

---

- Current information from BPA suggests PSE's ability to obtain Mid-C transmission in the future is very limited and uncertain.
- If we do not renew this transmission, it will be very difficult to obtain new transmission capacity.
- Analysis of BPA Long-Term Pending Queue indicates significant lack of future capacity on Cross Cascades North Flowgate.
- PSE is evaluating its market reliance exposure with Mid-C transmission.
  - PSE Resource Acquisitions is evaluating opportunities to firm up Mid-C transmission through deals with new and existing resources.
  - Market reliance risk is potentially mitigated if this transmission is used to take delivery of new resources at Mid-C
- Mid-C transmission could also be redirected to another location on BPA's system for new resources, used for short-term redirects, or resales.

## CETA Contribution

- 2021 IRP identified transmission needs to meet CETA renewable resource delivery. These 481 MW contracts will help meet PSE’s forecasted need for future transmission.
- 2021 IRP also identified future capacity needs and acquiring Mid-C transmission is cheaper option to building an equivalent natural gas peaker plant (+\$362M).

CETA Need (in GWhs)*	2022	2023	2024	2025	2026	2027	2028	2029	2030
CETA qualifying resources	7,398	9,045	9,087	8,963	9,016	8,824	8,707	8,660	8,691
2021 IRP Draft CETA Energy Target - Mid with Conservation	7,398	8,345	9,297	10,059	10,958	11,717	12,618	13,423	14,061
CETA Need/(Surplus)	0	(699)	210	1,096	1,942	2,892	3,912	4,763	5,369
Need /(Surplus) after 481MW Tx purchase									

\* Updated Draft 2021 IRP



## Recommendation

---

- EMC approves the renewal of the 481MW BPA Mid-C Transmission contracts for 5 year term.

## Appendix: BPA Long Term Queue Analysis

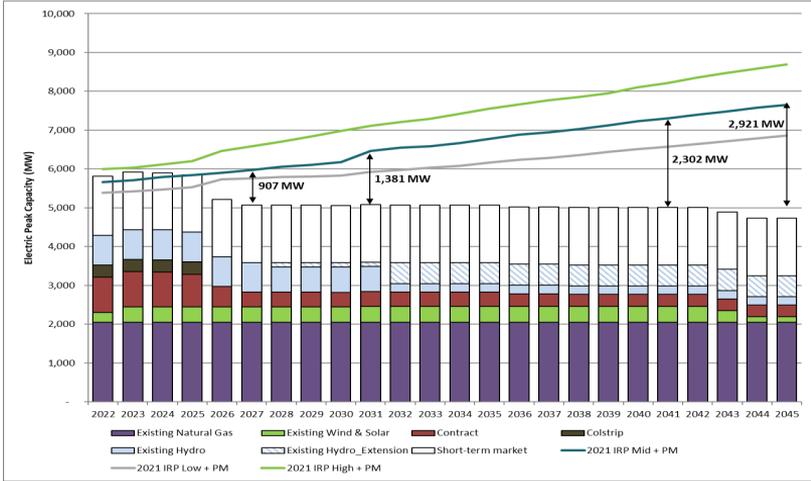
- Pending queue data was pulled on July 26, 2022 and is publicly available on [bpa.gov/transmission](http://bpa.gov/transmission).
- Queue analysis indicates that if PSE does not purchase, next requesters in the queue could reserve capacity into perpetuity.
- Should PSE place new request in queue, it would enter the bottom of the queue, behind all other requests.

**Future Outlook of Cross Cascades North Flowgate**

	2023	2024	2025	2026	2027	2028	2029	2030	2031
<b>Long Term ATC Less Pending Queued Requests (MW)</b>	(2481)	(2549)	(3220)	(3448)	(3680)	(3713)	(3623)	(3623)	(3592)



### Appendix: Electric Peak Capacity Need (2021)



## Appendix: Cost Comparison

	Transmission Renewal - 30 Year	Frame Peaker	Battery
Nameplate Capacity MW	481	481	511
Time Frame - Years	30	30	30
Peak Capacity Contribution MW	481	481	481
NPV Cost (\$000)	\$184,418	\$547,056	\$1,789,833
Peak Capacity Cost \$/kW-yr	\$32.12	\$95.27*	\$311.70
* per 2021 IRP Avoided cost for baseload capacity			

---

# BPA Mid-C Transmission Contract Renewal

*EMC Decisional*  
January 27, 2023



---

**Rylan Caskey**  
*Engineer Transmission & Asset Integration*

**Tom Flynn**  
*Manager Power Supply Operations*

## Recommendation

---

- Renew 35MW BPA Mid-C transmission contracts for 5 year term.
- Overview:
  - Current contract ends in March 2024.
  - Renewal rates start at \$23.57/kW-year, with a 0% annual escalation rate through 2025, and an estimated 3% annual escalation rate thereafter.
  - Contract can be renewed indefinitely.
  - This is a Mid-C resource-specific transmission contract.
  - Mid-C transmission in excess of PSE's Mid-C generation capacity relies on the market to supply the energy.

## Background

---

- 2011 WUTC GRC Final Order: PSE is expected to provide for any renewal or acquisition of firm transmission “a full and detailed justification showing the prudence of this expense if the Company expects to continue to recover it in rates.”
- BPA transmission contracts are renewed at least one year prior to termination date to exercise the reservation priority rights thereby avoiding competition with other parties in the queue.
- BPA transmission contracts are generally renewed for the minimum term of 5 years to retain renewal rights and allow flexibility to reevaluate transmission need.

CONTRACTS FOR RENEWAL:			
Project	Start	Term	MW
Midway	3/1/2024	3/1/2029	35



## Key Considerations

---

- PSE needs a significant amount of transmission to meet its CETA and capacity requirements.
  - Current information from BPA suggests PSE's ability to obtain new Mid-C transmission in the future is limited and uncertain.
  - If we forego the renewal, it will be difficult to obtain future transmission capacity.
  - Analysis of BPA Long-Term Pending Queue indicates lack of future capacity on Cross Cascades North Flowgate.
- Value of the Mid-C Transmission:
  - Pair transmission with short-term contracts (e.g. PowerEx) to serve load.
  - Take delivery of new resources transmitting energy to Mid-C.
  - Redirect for a new resource elsewhere on BPA's system.
  - Transmission resales.
  - Leveraging unsold/unscheduled transmission to support EIM transfers.
- Eligible for meeting transmission demonstration requirement under the WRAP when paired with a qualifying capacity contract.
- 2021 RFP requested resource proposals to firm up 1000MW of Mid-C transmission to mitigate market reliance risk.

## CETA Contribution

---

- 2021 IRP identified transmission needs to meet CETA renewable resource delivery.
- This 35MW contract will help meet PSE’s forecasted need for future transmission.

CETA Need (in GWhs)*	2022	2023	2024	2025	2026	2027	2028	2029	2030
CETA qualifying resources	7,398	9,045	9,087	8,963	9,016	8,824	8,707	8,660	8,691
2021 IRP Draft CETA Energy Target - Mid with Conservation	7,398	8,345	9,297	10,059	10,958	11,717	12,618	13,423	14,061
CETA Need/(Surplus)	0	(699)	210	1,096	1,942	2,892	3,912	4,763	5,369
Need /(Surplus) after 35MW Tx purchase									

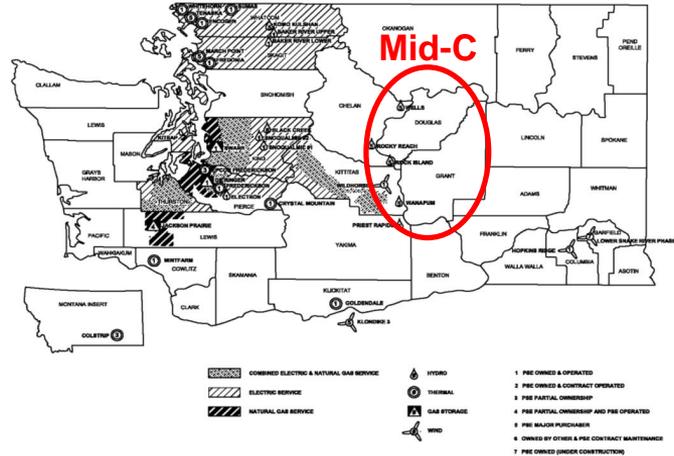
\* Updated Draft 2021 IRP

## Recommendation

---

- EMC approves the renewal of the 35MW BPA Mid-C Transmission contracts for 5 year term.

## Appendix: Remote Resource Map - Mid-C Resources



## Appendix: BPA Long Term Queue Analysis

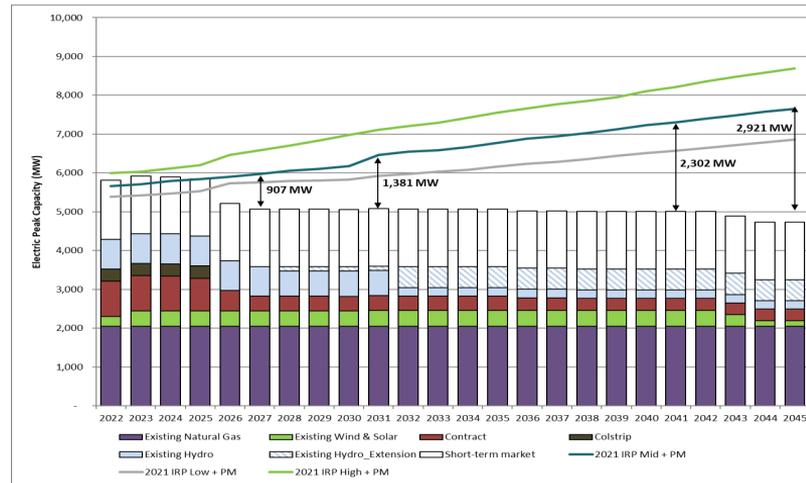
---

- Pending queue data was pulled on January 12, 2023 and is publicly available on [bpa.gov/transmission](http://bpa.gov/transmission)
- Queue analysis indicates that if PSE does not purchase, next requesters in the queue could reserve capacity into perpetuity
- Should PSE place new request in queue, it would enter the bottom of the queue, behind all other requests

**Future Outlook of Cross Cascades North Flowgate**

	2023	2024	2025	2026	2027	2028	2029	2030	2031
<b>Long Term ATC Less Pending Queued Requests (MW)</b>	(2961)	(3738)	(2894)	(3913)	(4592)	(4837)	(5467)	(5532)	(5673)

## Appendix: Electric Peak Capacity Need (2021)



---

# BPA Transmission Contract Renewal – Eastern Intertie

*EMC Decisional*  
July 27, 2023



---

**Laxman Subedi**  
*Consulting Engineer, Transmission & Asset Integration*

**Tom Flynn**  
*Manager, Power Supply Operations*

## Recommendation

---

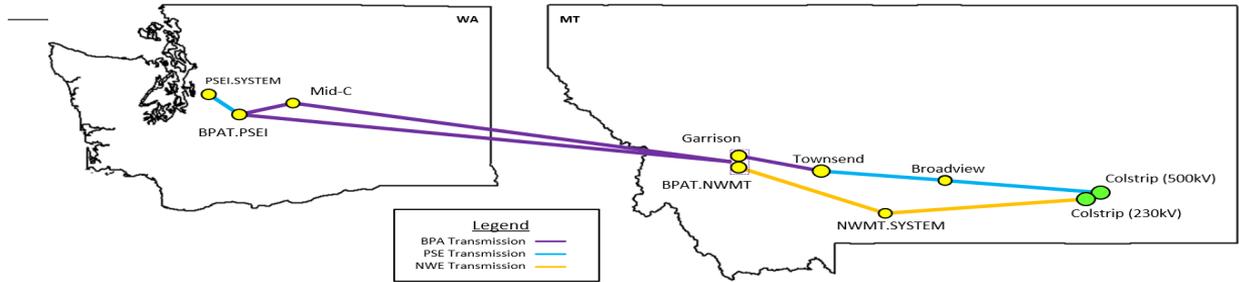
- Renew BPA Eastern Intertie transmission contract (680MW) under the Montana Intertie Agreement (“MIA”) for 10-year term starting October 1, 2027.

## Background and Overview

---

- 2011 WUTC GRC Final Order: PSE is expected to provide for any renewal or acquisition of firm transmission “a full and detailed justification showing the prudence of this expense if the Company expects to continue to recover it in rates.”
- The Montana Intertie Agreement establishes the terms and conditions for BPA transmission service on the Townsend-Garrison Segment (“Eastern Intertie”).
- The six party agreement is a “grandfathered” agreement written before FERC Order 888 (Open Access) and is set to expire on September 30, 2027.
- This transmission service is currently utilized to take delivery of Colstrip units 3 & 4 and Clearwater wind and will be necessary to take delivery of any future Montana resource to PSE load.
- MIA (Section 2) requires BPA to offer transmission service on the Eastern Intertie for an additional 20 years under terms that are no less favorable to PSE than the terms BPA is then offering for comparable services.

## Montana Transmission System



	Colstrip to Townsend	Townsend to Garrison	Garrison to PSE System
<b>Transmission System</b>	Colstrip Transmission System	BPA Eastern Intertie	BPA main network
<b>PSE Merchant (PSEM) Contracted Capacity</b>	713 MW	720 MW	713 MW

## Key Considerations

---

- A request for Point-to-Point (“PTP”) transmission establishes PSE as the first party in the BPA Eastern Intertie queue for the period after September 30, 2027 and establishes queue priority for PSE.
- PSE submitted renewal transmission service for 680MW in June 2023.
- BPA has offered the requested capacity and term as long term PTP transmission service.
- Accepting this offered transmission service will guarantee PSE a right through the Eastern Intertie until 2037 at which point the contract will be renewed per BPA transmission tariff.
- PSE will be paying the Montana Intertie rates for the service.
- The total cost of the service over 10 years (assuming current Montana Intertie rates) is approximately \$43MM.

## Recommendation

---

- Renew BPA Eastern Intertie transmission contract (680MW) under the Montana Intertie Agreement (“MIA”) for 10-year term starting October 1, 2027.

---

# BPA Transmission Contract Renewal – PG&E Exchange

*EMC Decisional*  
June 29, 2023



---

**Rylan Caskey**  
*Engineer, Transmission & Asset Integration*

**Tom Flynn**  
*Manager, Power Supply Operations*

## Recommendation

---

- Renew BPA transmission contracts for bi-directional 300MW PG&E Exchange over 5-year term.
- Overview:
  - Current transmission contracts end in August 2024.
  - Renewal rates start at \$23.57/kW-year, with a 0% annual escalation rate through 2025, and an estimated 3% annual escalation rate thereafter.
  - Provided advance notice in 2022 to discontinue the 1991 Capacity and Energy Exchange Agreement with PG&E (tentatively ending December 31, 2027).
  - Retaining bi-directional PG&E Exchange transmission for remainder of “sunset” period.
  - Repurposing transmission capacity to facilitate delivery of new resources thereafter.

## Background

---

- 2011 WUTC GRC Final Order: PSE is expected to provide for any renewal or acquisition of firm transmission “a full and detailed justification showing the prudence of this expense if the Company expects to continue to recover it in rates.”
- BPA transmission contracts are renewed at least one year prior to termination date to exercise the reservation priority rights thereby avoiding competition with other parties in the queue.
- BPA transmission contracts are generally renewed for the minimum term of 5 years to retain renewal rights and allow flexibility to reevaluate transmission need.

CONTRACTS FOR RENEWAL:					
Contract	MW	Start	End	POR	POD
PG&E Exchange (N>S)	300	8/1/2019	8/1/2024	BPAT.PSEI	JOHNDAY
PG&E Exchange (S>N)	150	8/1/2019	8/1/2024	JOHNDAY	BPAT.PSEI
PG&E Exchange (S>N)	100	8/1/2019	8/1/2024	JOHNDAY	BPAT.PSEI
PG&E Exchange (S>N)	50	8/1/2019	8/1/2024	JOHNDAY	BPAT.PSEI



## Key Considerations

---

- Transmission is required for delivery of the PG&E Exchange
  - This BPA transmission is paired with existing 300MW PSEI transmission on the California-Oregon Intertie from John Day to COB-Malin
  - Additional value gained from this transmission via transmission resales, short-term redirects and for EIM during non-Exchange months
  - Transmission available for delivery of new resources after 2027
- PSE needs a significant amount of transmission to meet its CETA and capacity requirements.
  - Foregoing renewals introduces uncertainty in obtaining necessary transmission capacity.
  - Impact analysis on BPA's Long-Term Original Inventory calculator indicates lack of firm capacity through multiple flowgates (SOALSN\_N>S, SOC\_N>S, NOEL\_S>N).

## Recommendation

---

- Renew BPA transmission contracts for bi-directional 300MW PG&E Exchange over 5-year term.

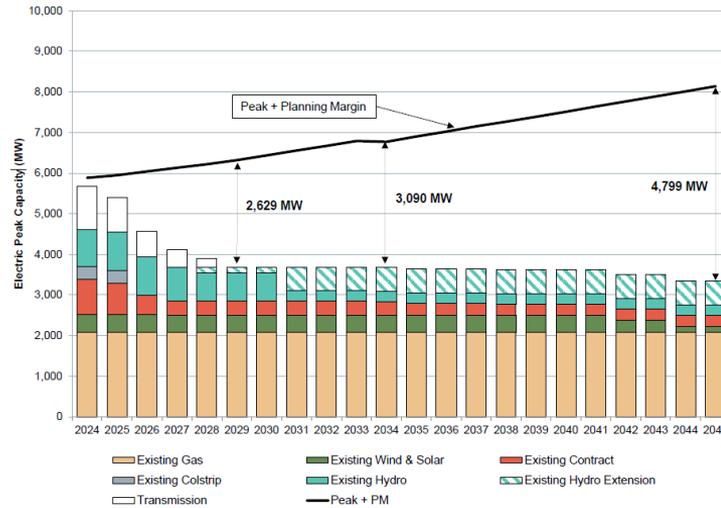
## (Appendix) BPA Long-Term Queue Analysis

- Pending queue data was pulled on June 15, 2023 and is publicly available on <https://www.bpa.gov/energy-and-services/transmission/transmission-availability>
- Queue analysis indicates that if PSE does not renew, next requesters in the queue could reserve capacity into perpetuity
- Should PSE place new request in queue, it would enter the bottom of the queue, behind all other requests

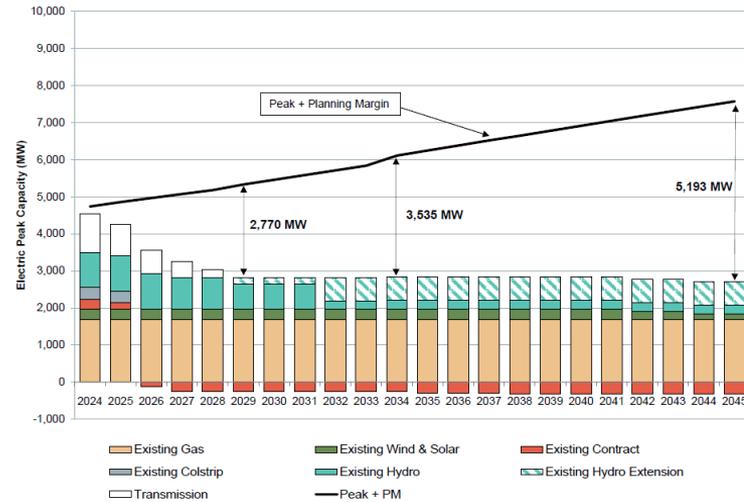
**Long-Term ATC, Less Pending Requests (MW)**

Flowgate Constraint	2024	2025	2026	2027	2028	2029	2030
SOALSN_N>S	(1013)	(198)	(599)	(709)	(894)	(1006)	(1103)
SOC_N>S	(2218)	(1024)	(1054)	(1052)	(1050)	(1048)	(1046)
NOEL_S>N	(1191)	(222)	(350)	(624)	(624)	(624)	(624)

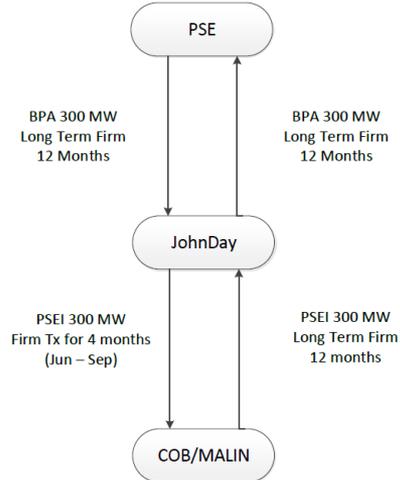
## (Appendix) 2023 EPR – Winter Electric Peak Capacity Need



## (Appendix) 2023 EPR – Summer Electric Peak Capacity Need



## (Appendix) PG&E Exchange Bi-Directional Transmission



- BPA Transmission contract from PSE to John Day is used from June – September every year to deliver energy to PG&E at John Day
- BPA Transmission contract from John Day to PSE is used from November – February every year to receive energy from PG&E at John Day
- In months when it is not used for the PG&E Exchange, the transmission is either redirected or resold