

Exh. RMM-18  
Docket UE-230172  
Witness: Robert M. Meredith

**BEFORE THE WASHINGTON  
UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,

Complainant,

v.

PACIFICORP dba  
PACIFIC POWER & LIGHT COMPANY

Respondent.

Docket UE-230172  
*(Consolidated)*

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In the Matter of

ALLIANCE OF WESTERN ENERGY  
CONSUMERS'

Petition for Order Approving Deferral of  
Increased Fly Ash Revenues

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Docket UE-210852  
*(Consolidated)*

**PACIFICORP**

**EXHIBIT OF ROBERT M. MEREDITH**

**UE-170002 Cost of Service Methodology Presentation**

**October 2023**



# Washington Cost of Service Collaborative Production and Transmission Classification Scenarios February 21, 2019



# Classification Scenarios

1. Load Factor Peak Credit (Peak & Average)
2. EIM Price Allocation
3. Renewable Future Peak Credit
4. Thermal Peak Credit
5. Renewable Future Peak Credit w NPC Allocated on Energy
6. Renewable Future Peak Credit w NPC Allocated on EIM Prices

## Scenario 1 – Load Factor Peak Credit

- Method Pacific Power currently uses
- Uses customers' load factor to define the component of production and transmission costs which are energy-related
- 43% demand 57% energy used for production and transmission split from last GRC
- Demand allocation to rate classes based on each class' percentage of the top 100 summer and top 100 winter hours for the western states
- Energy allocation to rate classes based on each class' percentage of annual MWH usage

## Scenario 2 - EIM Price Allocation

- 8,760 average hourly EIM prices from CY 2017
- 8,760 Historic usage CY 2013
- EIM percentage allocation calculated by applying EIM hourly average rates to historical hourly usage for each rate class
- No consideration of demand

## Scenario 3 - Renewable Future Peak Credit

- Based upon a hypothetical scenario where marginal load is served with batteries and wind
- Capacity need met with battery
- Energy need met with wind
- Wind cost reduced for its anticipated capacity contribution multiplied by the fixed cost of a battery
- Produces a classification of 71% demand and 29% energy

## Scenario 3 - Renewable Future Peak Credit (continued)

PacifiCorp			
State of Washington			
Classification of Production and Transmission Costs			
<b>Lithium Ion Battery Storage (7.2 MWh/day)</b>			
1	Fixed Cost per KW	\$345.21	
2	Cost per MWH to Charge	\$22.02	
3	Hours of Operation	200	
4	Storage Efficiency	85%	
5	Total Cost of Charging	\$5.18	Line 2 / 1000 / Line 4 X Line 3
6	Total Cost 1 KW, 200 Hours	\$350.39	Line 1 + Line 5
<b>2.0 MW Turbine 38% CF WA, 2022 (80% PTC)</b>			
7	Fixed Cost per kW	\$141.70	
8	Average Output Requirement @ 53.6% Load Factor	4,695	8,760 X 53.6%
9	Output @ 38% Capacity Factor	3,329	8,760 X 38%
10	Total kW Capacity Required	1.41	Line 8 / Line 9
11	Total Fixed Costs	\$199.87	Line 7 X Line 10
12	Demand Related Cost @ 11.8% Capacity Contribution	\$57.46	Line 10 X 11.8% X Line 1
13	Total Energy Related Cost	\$142.41	Line 11 - Line 12
14	Demand Component	71%	Line 6 / (Line 6 + Line 13)
15	Energy Component	29%	100% - Line 14

## Scenario 4 - Thermal Peak Credit

- Compares the costs for a simple cycle combustion turbine (SCCT) to a combined cycle combustion turbine (CCCT)
- Capacity defined as  $\frac{1}{2}$  SCCT fixed cost plus fuel cost to operate for 200 hours
- Energy defined as fixed and fuel costs for CCCT
- Produces a classification of 32% demand and 68% energy



## Scenario 4 - Thermal Peak Credit (continued)

PacifiCorp				
State of Washington				
Classification of Generation and Transmission Costs				
<b>Simple Cycle Combustion Turbine</b>				
1	Fixed Cost per kW @ 2.28% Capacity Factor		\$132.96	
2	One-half of SCCT Fixed Costs		\$66.48	Line 1 X 50%
3	Fuel Cost per MWh		\$21.37	
4	Hours of Operation		200	
5	Total Fuel Costs		\$4,274	Line 3 X Line 4
6	Total Cost 1 MW, 200 Hours		\$70,754	Line 2 X 1000 + Line 5
<b>Combined Cycle Combustion Turbine</b>				
7	Fixed Cost per kW @ 72.1% Capacity Factor		\$121.69	
8	Fuel Cost per MWh		\$15.74	
9	Hours of Operation		6,316	Fixed Cost per kW @ 72.1% Capacity Factor
10	Total Fuel Costs		\$99,396	Line 8 X Line 9
11	Fixed Cost per kW @ 72.1% Capacity Factor		\$221,086	Line 7 X 1000 + Line 10
12	Demand Component		32%	Line 6 / Line 11
13	Energy Component		68%	100% - Line 12

## Scenario 5 - Renewable Future Peak Credit w NPC Allocated on Energy

- Same as Scenario 3 except NPC accounts are allocated on energy
- This includes
  - Account 447 – Sales for Resale
  - Account 501 and 547 – Fuel
  - Account 503 – Steam from Other Sources
  - Account 555 – Purchased Power
  - Account 565 – Transmission of Electricity by Others

## Scenario 6 - Renewable Future Peak Credit w NPC Allocated on EIM

- Same as Scenario 5 except energy allocation is based upon average hourly EIM prices applied to class energy usage

# Scenario Results

