Washington Cost of Service Collaborative
Production and Transmission Classification Scenarios
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PACIFIC POWER

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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		
	Lithium Ion Battery Storage (7.2 MWh/day)		
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
	2.0 MW Turbine 38% CF WA, 2022 (80% PTC)		
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 ½ 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				
	Simple Cycle Combustion Turbine			
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	
	Combined Cycle Combustion Turbine			
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