OTTER TAIL POWER COMPANY
Docket No: EL18-022

Response to: SD Public Utilities Commission
Analyst: SDPUC Staff
Date Received: 05/18/2018
Date Due: 06/01/2018
Date of Response: 06/01/2018
Responding Witness: Jason A. Grenier, Manager Market Planning - (218) 739-8639

Data Request:

Please provide the forecasted avoided energy costs, forecasted avoided capacity costs, and forecasted avoided T&D cost inputs used in the benefit/cost models.

Attachments: 0

Response:

Please see the table below for the forecasted avoided energy costs, forecasted avoided capacity costs, and forecasted T&D cost inputs used in the benefit/cost models.

Note: This response contains Confidential Information under ARSD 20:10:01:39 for which OTP seeks confidential treatment. Such Confidential Information is marked "CONFIDENTIAL" and noted where applicable as [PROTECTED DATA BEGINS… …PROTECTED DATA ENDS].

Year	Forecasted Avoided Energy Costs ($/kWh)	Forecasted Avoided Capacity Costs ($/kW/year)	Forecasted Avoided T&D Costs ($/kW/year)
		[PROTECTED DATA BEGINS…	
2017	$0.02695		$70.84
2018	$0.02860		$71.63
2019	$0.03363		$72.46
2020	$0.03408		$71.98
2021	$0.03523		$71.71
2022	$0.03700		$70.86
2023	$0.03840		$70.02

2024	$0.03939		$69.21
2025	$0.04037		$68.43
2026	$0.04072		$67.64
2027	$0.04174		$66.87
2028	$0.04225		$66.11
2029	$0.04352		$65.35
2030	$0.04482		$64.60
2031	$0.04617		$64.73
2032	$0.04755		$64.87
2033	$0.04898		$65.01
2034	$0.05045		$65.15
2035	$0.05196		$65.30
2036	$0.05352		$65.45
		…PROTECTED DATA ENDS]	

The 2017 avoided energy cost is the average MISO price hub. Years 2018-2028 apply price escalators derived from Otter Tail's marginal energy costs from its 2013 Integrated Resource Plan (IRP). The out years apply a three percent annual increase.

The avoided energy costs were calculated using two sets of data: 1) the annual cost-based price projections from Otter Tail's Resource Planning Group used in the IRP and 2) the hourly prices data from the local MISO price hub. The hourly level of detail available from actual MISO history is a more accurate reflection of how energy costs vary with weather, by season and by hour. This hourly relationship between weather, avoided costs, and energy efficiency (EE) load savings is important to establish accurately since some EE measures will have higher load savings during either hotter or colder climate times. This covariance between load savings and prices is important to capture, and Otter Tail's evaluation tool, DSMore, does this by leveraging MISO actual energy cost history, directly. These hourly level energy costs are then escalated (increased or decreased) proportionately with the annual cost escalators provided by the utility IRP system lambda annual costs.

DSMore calculates the cost-effectiveness on an hourly basis. The MISO hourly price data is used to convert the IRP supply costs to hourly values. The hourly price hub data provides the hourly, daily, and monthly weather volatility needed to properly model the covariance of prices and weather. This hourly MISO price hub data is adjusted to match the IRP supply costs using price escalators in DSMore so that the average annual prices match the supply stack costs anticipated by the supply planners over the next 20 years.