Net Metering Technical Conference Docket No. 08-035-78

PacifiCorp Avoided Costs
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Presentation Outline

- Background and Context
- Definitions
- Avoided Cost Methods and Rates

Utah Public Service Commission

- Regulates PacifiCorp dba Rocky Mountain Power.
  - PacifiCorp operates a utility system of generation, transmission and distribution plant located throughout the west and serves retail customers in six states.
  - This utility system provides about 75-80% of the electricity in Utah.
- No authority over municipal power utilities and limited authority over electric power cooperatives.

Utah Public Service Commission

- Performs as a quasi-judicial entity.
- “Views” on issues are provided as “decisions” through written orders and rules. Decisions have the effect of law.
- Decisions are issued in response to a public proceeding.

Utah PSC
State Law and Regulations

- PSC shall engage in long-range planning regarding public utility regulatory policy in order to facilitate the well-planned development and conservation of utility resources [USC 54-1-10].

- 1992 PSC Order on Integrated Resource Planning (IRP) requires PacifiCorp to evaluate all feasible alternatives on a consistent and comparable basis and to account for future risks and uncertainties to find the lowest long-run cost to meet growing consumer demand.

Qualifying Facilities ("QF")

- Created by Congress in 1978 (PURPA) to encourage efficient and clean sources of domestic electricity generation. State also included language encouraging "independent power producers" defined as:
  - Cogeneration projects.
  - Small power production plant, i.e., biomass, waste, renewable resources and geothermal resources, 80 megawatts or less.
- Public utilities [PacifiCorp] must purchase QF power.
- Price, terms and conditions set by state PSC.
- Price must be set at utility's full avoided cost.

PURPA Defines Avoided Cost

- “The incremental costs to an electric utility of electric energy or capacity or both which, but for the purchase from the qualifying facility or qualifying facilities, such utility would generate itself or purchase from another source.”

- State has similar definition. UCA 54-2-1(1)

Goals of Avoided Cost Methods

- Encourage efficient and clean QF resource development.
- Ensure ratepayer neutrality
- Be reasonably accurate
- Understandable
- Transparent

Avoided Costs are used for

- Standard Rates for Small QF's
- Indicative Rates for Large QF's
- Integrated Resource Planning
- Demand Side Management (DSM) Program Approval
- Net Metering Credit

General Methods

- Differential IRP Revenue Requirements
- Proxy Plant

Standard Rates for Small QFs in Utah

- Rocky Mountain Power Rate Schedule No. 37
- Small power production plants less than 3 MW
- Cogeneration plants less than 1 MW
- Net metering credit

- http://www.pacificorp.com/Regulatory_Rule_Schedule/Regulatory_Rule_Schedule2286.pdf

Avoided Cost Method for Schedule No. 37 Standard Rates

- Approved in 2004 in Docket No. 03-035-T10.
- Differential revenue requirements method for avoided energy costs in the period of resource sufficiency.
- Proxy plant method for avoided capital costs and for avoided energy cost during period of resource deficiency.
- During resource deficiency, avoided capital and energy costs are determined by the capital and operating cost of the next deferrable IRP resource.
- Current rates were approved Nov 2006 and are based on avoiding the cost of market purchases in the near term. The IRP 2004 Update deferrable plants are coal (Hunter 4) and natural gas (CCCT) in 2012.
- Rates are updated when conditions change or new IRP resources are identified.

Schedule No. 37 Standard Rates

- The volumetric price in 2008 is between 5.1 and 6 cents per kilowatt hour depending on time of day and time of year.
- The net metering credit in 2008 is 5.5 cents per kilowatt hour.
- Net metering credit is a weighted average of the seasonal peak and off-peak volumetric prices in Schedule No. 37. [38%(winter peak)+19%(summer peak)+29%(winter off-peak)+14%(summer off-peak)]

Rates for QFs larger than Schedule 37

- Rocky Mountain Power Schedule No. 38.
- Procedures for obtaining indicative pricing and a power purchase contract.
- Methods approved in Docket No. 03-035-14.
- http://www.pacificorp.com/Regulatory_Rule_Schedule/Regulatory_Rule_Schedule28325.pdf

Rates for QFs under Schedule 38

- Avoided costs methods similar to Schedule No. 37.
- Methods differ for wind and non-wind projects.
- Avoided capital costs for non-wind projects based on IRP resources (west-side natural gas CCCT in 2011 and market purchases in 2010) and differential revenue requirements method calculated for the entire planning horizon for energy payments.
- Rates for wind projects based entirely on proxy plant method defined as the last competitively negotiated wind project price.
- Current indicative rate per MWh, levelized, for 20-year contract 2008-2027 is:
  - $73.22 for a cogeneration project, assuming an 85% CF
  - $58.88 for a wind project

Other Avoided Cost Methods

- Utility avoided costs for demand side management options.
  - IRP Load Decrements
  - Market Price Estimates

Load Decrement Method

- Assumes IRP 2007 Preferred Portfolio.
- Calculates reduced system operating cost of various types of energy efficiency.
- Energy efficiency programs modeled as contracts that supply energy according to hourly load shapes. These contracts serve as surrogates for direct load reductions attributable to programs.

Load Decrement Method (cont.)

- An hourly production cost model is run twice in stochastic mode with and without the energy efficiency programs. The difference in the two runs provides the change in system cost (reduction in the stochastic mean present value of revenue requirements for 100 simulations) from lower market purchases or resource re-optimization due to the addition of the energy efficiency programs.

Figure 25. Rocky Mountain Power Territory Annual IRP Decrement and Market Price Values

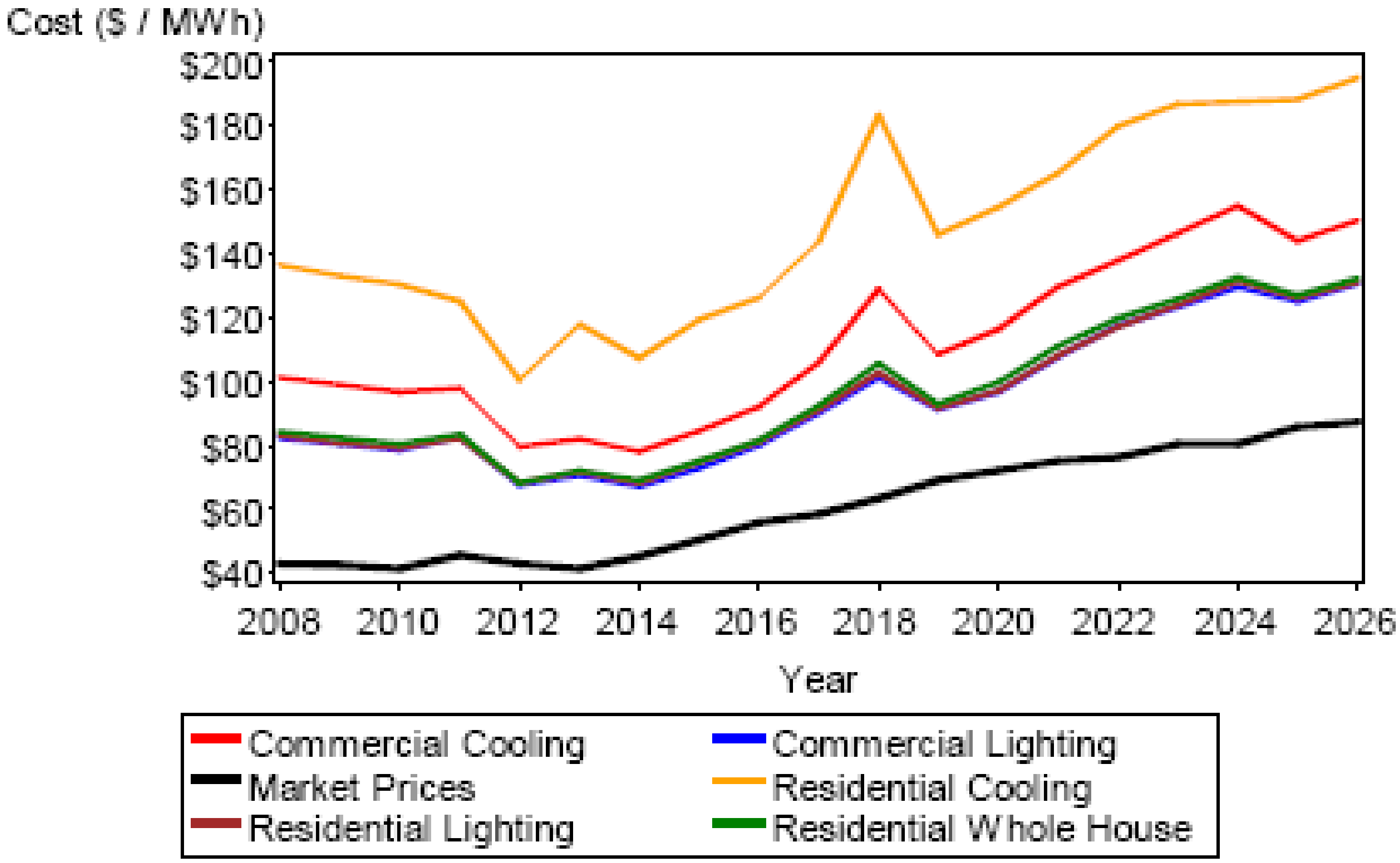

Table 7.47 – Annual Nominal Avoided Costs for Decrements, 2010-2017

Decrement Name	Actual Load Factor	Decrement Values (Nominal $/MWh)							
		2010	2011	2012	2013	2014	2015	2016	2017
EAST									
Residential Cooling	7%	113.38	108.78	87.59	102.59	93.54	103.99	109.84	125.48
Residential Lighting	60%	68.98	71.73	59.68	62.57	59.64	64.99	70.69	79.62
Residential Whole House	46%	70.15	72.66	59.42	62.88	60.20	65.45	70.96	80.75
Commercial Cooling	16%	84.24	85.30	69.27	71.34	67.94	73.62	80.28	92.47
Commercial Lighting	49%	68.54	71.97	58.73	61.46	58.68	63.41	69.75	78.65
System Load Shape	65%	65.18	68.16	56.32	59.07	56.47	61.24	67.18	75.95
WEST									
Residential Cooling	20%	53.78	51.87	46.99	48.02	53.67	61.06	64.64	71.75
Residential Heating	28%	39.61	51.06	46.11	41.06	46.09	49.83	58.15	62.73
Residential Lighting	60%	44.34	48.56	43.70	42.10	47.45	52.78	58.20	64.16
Commercial Cooling	16%	51.66	51.53	46.13	45.39	50.85	56.96	61.81	68.73
Commercial Lighting	49%	43.70	49.34	44.49	42.02	47.47	53.32	59.31	64.67
System Load Shape	67%	43.30	47.26	42.03	40.37	45.83	50.94	56.26	61.72

Recent Activity

- Comments on net metering credit value due November 26, 2008.
- Comments due on DSM Potentials Study due November 6, 2008.
- Commission has ordered a review of cost-effectiveness test inputs and assumptions.
- Rocky Mountain Power, Division, Demand side Advisory Group directed to report back recommendations.

Discussion