BP-18 Transmission Rate Case Workshop

May 24, 2016

Agenda

- Follow up on Parking Lot issues
- Southern Intertie HNF rate
- Discussion on peak forecasts
- Next steps

Follow up on Parking Lot issues

- Franklin requested that BPA look at the rate design for the Unauthorized Increase Charge (UIC) and adopt a cost based charge.
  - At this time, BPA staff believes the UIC is appropriately designed to encourage a certain behavior and does not see any reason to change it.
- Franklin requested that BPA also look at the SDD rate schedule language and consider changing the SDD to retain the discount for the hours in the month in which the TSR was not redirected.
  - BPA will be reviewing its rate schedule and will present a proposal for SDD and other clarifying changes to the rate schedule in red line at the June 29 workshop.

Southern Intertie HNF Rate

Southern Intertie HNF Considerations

- What number of days and hours should be used in the ratio to calculate the IS HNF rate?
- Should the Days 1-5 rate on the Southern Intertie be set differently?
- Should the Hourly Firm rate on the Southern Intertie be consistent with the HNF rate?
- Should the SCD rate on the Southern Intertie be set differently?
- Should the IS HNF rate be set directionally?
- Should the IS HNF rate have seasonal or on-peak/ off-peak attributes?

Consideration: Number of hours and days to use in the IS HNF rate calculation

- **Staff leaning:** Calculate the IS HNF rate using 25 hours a week (5 hours a day, 5 days a week) as the denominator.

$$IS\ HNF\ New = IS\ LT * \left(\frac{7}{5}\right) * \left(\frac{24}{5}\right)$$

  - CAISO net load data shows a prominent peak during a 4 to 6 hour range in the evening.
  - Selecting 5 hours is consistent with the number of peak hours defined in the CAISO's Time of Use Proposal.
  - The CAISO net load data shows heavier loads during the weekdays and lower loads during the weekends.
  - Weekdays appear to have similar load levels on average.
  - Using five days per week is consistent with the current methodology and is consistent with the assumption used to calculate the Daily 1-5 day rate.

Consideration: Daily Block 1 Rate Change

- Some customers proposed that BPA set the Daily 1-5 rate at 16 or 24 times the hourly rate.
- Staff leaning is to not adopt this change for the BP-18 rate case.
  - Historically there have been limited sales of daily service on the Southern Intertie (likely because it has not been available).
  - BPA staff would like to see how changes to the hourly Southern Intertie rate and non-rate solutions change the demand for daily service during BP-18.
  - BPA staff recommends monitoring this issue and address it in BP-20 if needed.

Considerations: Hourly Firm on the Southern Intertie

- **Staff leaning:** Change the Hourly Firm rate methodology to be consistent with the HNF rate for the same reasons we are changing the IS HNF rate.
- The circumstances which justify the change in the HNF rate also apply to the Hourly Firm rate.

*Historical Hourly Firm reservations and revenues are summarized at the end of the slide deck.

Consideration: SCD rate for the Southern Intertie

- **Staff leaning:** Do not change the Scheduling Control Dispatch (SCD) rate for the Southern Intertie.
- The SCD is a required ancillary service that is provided at the same rate across all segments.

Consideration: Directional IS HNF Rate

- **Staff leaning:**
  - Do not set separate rates for S>N and N>S transmission.
  - Explore using BPA's ability to discount to lower the S>N rate. The discount would not apply if a customer purchased hourly firm S>N and redirected N>S.
  - Currently staff is looking at the feasibility of the implementation of the discount and will come back with our scoping once we have completed our internal review.

Consideration: On/Off Peak or Seasonal Rate

- **Staff leaning:** do not implement different rates for on and off peak periods or different seasons.
  - One of the goals of the change to the hourly rate is to continue to provide an incentive for long-term firm subscription. The most effective way to provide this incentive is to charge the increased hourly rate in all hours.
  - Customer comments did not express much interest in exploring seasonal rates or on peak off peak rates.

Summary of Staff Leanings for the BP-18 Initial Proposal

- What number of days and hours should be used in the ratio to calculate the IS HNF rate?
  - Staff believes the IS HNF rate should be calculated using 25 hours a week (5 hours a day, 5 days a week) as the denominator.
- Should the Daily Block 1 rate on the Southern Intertie be set differently?
  - Staff believes the Daily Block 1 rate on the Southern Intertie should continue to use a divisor of 5 days.
- Should the Hourly Firm rate on the Southern Intertie be consistent with the Hourly Non-firm rate?
  - Staff believes the HF rate should be consistent with HNF rate on the Southern Intertie
- Should the SCD rate on the Southern Intertie be set differently?
  - Staff believes the SCD should not be different on the Southern Intertie
- Should the IS HNF rate be set directionally?
  - Staff believe the IS HNF should not be set directionally, but discounting should be implemented in the S>N direction
- Should the IS HNF rate have seasonal or on-peak/off-peak attributes?
  - Staff believes the IS HNF should not have seasonal attributes
  - Staff believes the IS HNF should not have on and off peak rates

Discussion on Peak Forecasts

Transmission Peak Types

(graph referenced throughout the presentation)

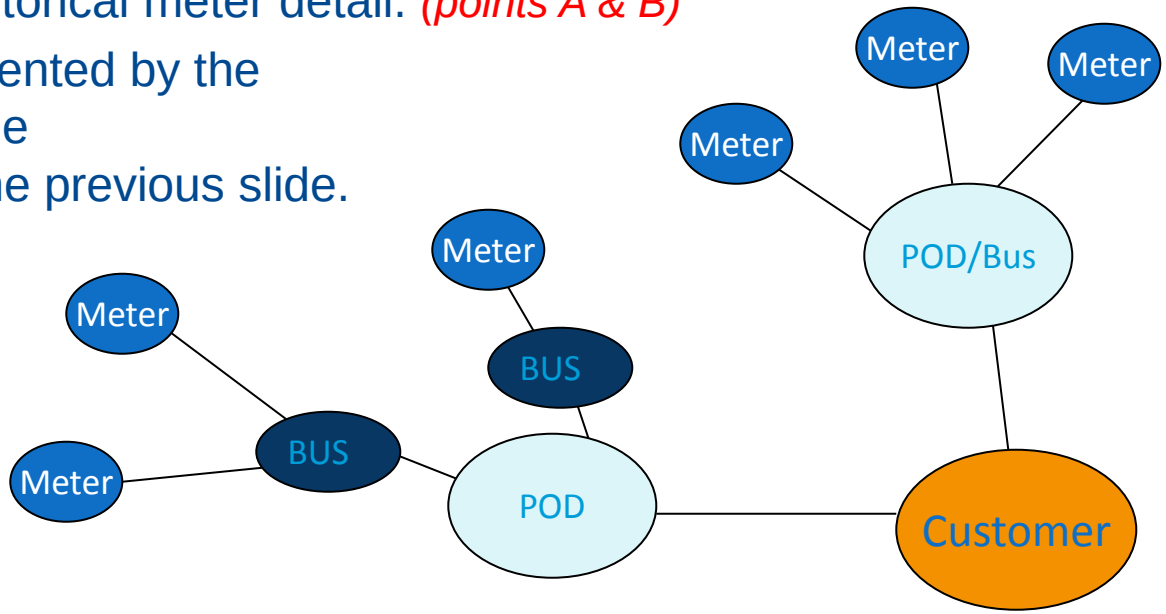
Terminology – Keeping All the Terms Straight

- What does Coincident Peak (CP) load mean?
  - Generally, coincident peak is a measure of load at the same time (coincident) that another measure is highest.
  - For Rate purposes, a customer's CP load is the sum of the customer's individual meters, integrated over the hour of the FCRTS Monthly Transmission System Peak Load. *(point D on graph)*
- What is the Monthly Transmission System Peak Load?
  - The peak load on the Federal Columbia River Transmission System (FCRTS) during the designated billing month, determined by the largest hourly integrated demand produced from the sum of the Federal and non-Federal generating plants in BPA's Control Area and net metered flow into BPA's Control Area (aka Total Transmission System Load or TTSL). *(red vertical line on graph)*
- What does Non-Coincident Peak (NCP) load mean?
  - For Rate purposes, any method that looks at customer metered load at a time other than (non-coincidental with) the Monthly Transmission System Peak Load. *(any of points A, B, C's, E)*

Peak Forecasts used by Transmission

The Forecasts used in Rates and Planning are developed at the POD or WECC Bus level.

- Non-coincidental peak POD load forecast models are developed from historical meter detail. *(points A & B)*
- POD Peaks are represented by the vertical blue lines on the Peak Types chart on the previous slide.



- The sum of the Non-coincidental peak POD load forecasts for a customer is represented by the dashed horizontal blue line on the Peak Types chart on the previous slide. *(point E)*

Peak Forecasts used by Transmission, continued

- Each Non-coincidental POD forecast is scaled to reflect the POD load at the time of the Customer Peak as represented by the points where the POD load crosses the vertical black line on the chart. *(points C1 and C2)*
  - The sum of these POD loads for a customer is the Non-coincident Customer Peak *(point C)*
- Each Non-coincidental POD forecast is also scaled to reflect the POD load at the time of the Transmission System Peak Load as represented by the points where the POD load crosses the vertical red line on the chart. *(points D1 and D2)*
  - The sum of these POD loads for a customer is the Customer Peak coincident with the transmission system peak (CP). *(point D)*

Overarching Forecast Assumptions

- Normal weather conditions exist
  - 34 year average value
- Continuation of trends with known changes
  - Known changes identified through customer visits
- Numerous elements are forecasted from the same assumptions
  - kWh
  - customer peak
  - GSP
  - TSP
  - CA peak
  - Etc.

Load Forecasting Process

- Forecasts developed within the Agency Load Forecasting tool (ALF)
- Updates prepared annually
- Each customer/POD/Bus element is individually forecasted
  - Statistical based regression models using up to 10 years of historical data
  - All Energy models are independent models
  - Non-coincidental customer peak and POD non-coincidental peaks each have their own independent model *(points A, B, C)*
  - POD coincident peak and TTSL coincident peak are dependent on Customer coincident peak model using historical factors *(points C1, C2, D1, D2, D)*

Comparison of Load Forecasts

BP-16 Monthly Average NT Load Forecasts (MW)

Status Quo

	12 NCP Cust Peak	12 NCP POD Peak	12 CP*
2016	7,381	8,285	6,341
2017	7,442	8,358	6,392
Average	7,411	8,322	6,367

*12 CP forecasts are not used in BPA planning studies
**MW values do not correspond to the chart on slide 14

Using Load Forecasts for Cost Allocation – Rate Impacts

Status Quo

	12 NCP Cust Peak	12 NCP POD Peak		12 CP*	
	Rate	Rate	% Change from Status quo	Rate	% Change from Status quo
PTP	$ 1.489	$ 1.452	-2.5%	$ 1.533	3.0%
PTP + SCD	$ 1.790	$ 1.747	-2.4%	$ 1.842	2.9%
NT	$ 1.735	$ 1.900	9.5%	$ 1.535	-11.5%
NT + SCD	$ 2.085	$ 2.284	9.5%	$ 1.844	-11.6%

*12 CP forecasts are not used in BPA planning studies
Rate impacts are based on BP-16 information

Next Steps

Next Steps

- Next BP-18 Transmission Workshop is **June 8.**
- If you have any comments on the staff leanings, please send them to techforum@bpa.gov with the title "BP-18 HNF Southern Intertie Comments" **by June 3**.

Appendix

Future Customer Meetings

Date	BP-18 Rate Case	Other Workshops
June 8 (W)	• Transmission Rates o Rate Schedule Clarifications o Customer Proposal	
June 17 (F)		• Financial Reserves Policy
June 29 (W)	• Transmission Rates o Southern Intertie HNF • Gen Inputs	
June 30 (Th)		• Small Generation Integration • RHWM Process (if needed)

Future Customer Meetings

Date	BP-18 Rate Case	Other Workshops
Jul 13 (W)	• Transmission Rates o Load Forecasting o LGIA o Sales	
Jul 27 (W)	• Revenue Requirement • Transmission Rates o SDD • Gen Inputs	
Aug 9 (T)	• Power Rates o Overviews: Market Prices/Loads & Resources o TCMS for NT Secondary o Other	• RHWM Process

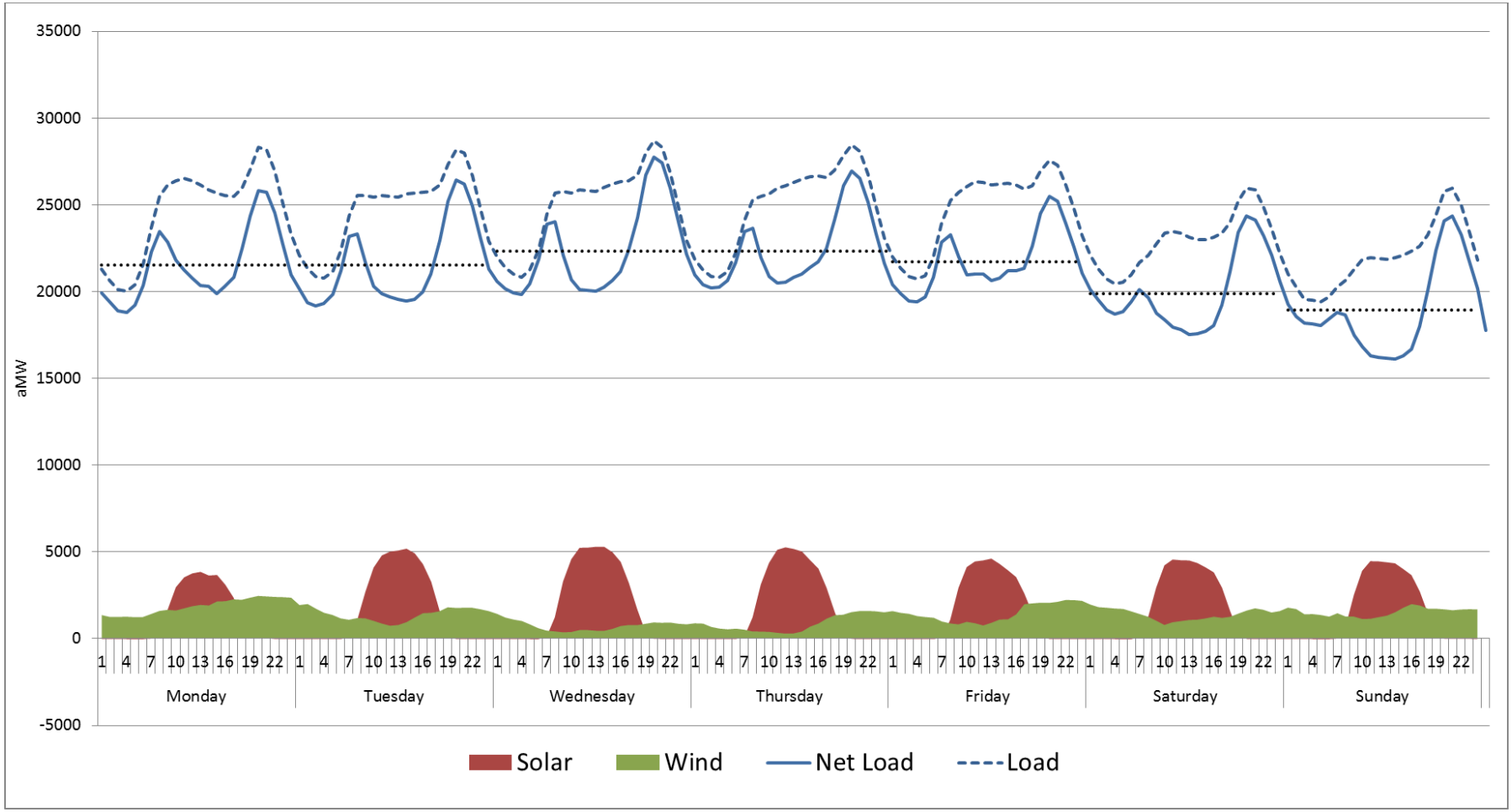
Future Customer Meetings

Date	BP-18 Rate Case	Other Workshops

Aug 10 (W)	• Risk
	• Transmission Rates
	  o Rates Models
	  o Wrap-up	

Aug 24 (W)	• Transmission Rates • Power Rates	
Sept 7 (W)	• Transmission Rates	

CAISO March 2016 Weekly Net Load Profile



Historical Hourly Original Reservations (MWHrs) on the Southern Intertie

	North to South		South to North	
FY	NF-HOURLY PTP	F-HOURLY PTP	NF-HOURLY PTP	F-HOURLY PTP
2010	606,254	38,627	131,100	6,312
2011	1,026,172	35,993	67,255	50,722
2012	877,027	10,761	39,614	62,068
2013	766,010	54,046	26,737	51,061
2014	761,732	14,469	82,503	68,427
2015	257,345	7,810	17,897	30,003
2016*	160,852	4,911	1,752	5,355

Historical Hourly Revenues on the Southern Intertie at Current Rates

	North to South		South to North	
FY	NF-HOURLY PTP	F-HOURLY PTP	NF-HOURLY PTP	F-HOURLY PTP
2010	$ 2,140,077	$ 136,353	$ 462,783	$ 22,281
2011	$ 3,622,387	$ 127,055	$ 237,410	$ 179,049
2012	$ 3,095,905	$ 37,986	$ 139,837	$ 219,100
2013	$ 2,704,015	$ 190,782	$ 94,382	$ 180,245
2014	$ 2,688,914	$ 51,076	$ 291,236	$ 241,547
2015	$ 908,428	$ 27,569	$ 63,176	$ 105,911
2016*	$ 567,808	$ 17,336	$ 6,185	$ 18,903

- 2016* Includes reservations through April
- Revenues use current Hourly Rate of 3.53 mills per kilowatthour