Transmission Cost of Service Analysis Workshop

February 8, 2012

Agenda

- COSA Process Scope
- FERC 12 CP Tests
  - FERC Staff Discussion Summary
  - BPA Transmission Planning
  - FERC 12 CP Tests with BPA Data
- ATC: Base Case NT Modeling

COSA Process Scope

- BPA Proposal
- Customer Comments

FERC 12 CP Tests: Summary of Discussion with Commission Staff

Discussion Summary

- 12 CP Analysis
  - Staff has not seen any 12 CP issues recently.
  - 12 CP analysis has usually been for allocation of generation demand cost.
  - Have not seen any cases for pure transmission situations.

Discussion Summary (cont'd)

- 12 CP Tests – Data used for test
- Basic principle is that the CP tests and subsequent cost allocation should be based on utility's system planning.
- For example, if utility plans its system based on long-term firm commitments, then CP tests should reflect:
  - Firm uses only.
  - NITS (NT Service) is load at time of system peak.
  - PTP Service should use long-term reservations.
  - No short-term or nonfirm (should only be included if planned for).
  - Legacy Contracts should be included with long-term demands.
- Analysis should reflect 5 – 10 years of data.

Discussion Summary (cont'd)

- Use of other than 12 CP
  - Staff estimated that 80% of filings are 12 CP.
  - Staff noted that a 3 CP cost allocation was approved for Detroit Edison (1997).
  - Staff was not aware of any recent filings that used 1 CP.

Discussion Summary (cont'd)

- Consideration of "Operating Realities" in addition to system demand.
  - Includes scheduled maintenance, outages, diversity, reserve requirements, and planned off-system sales.
  - Staff said that when 12 CP was developed it was for allocation of generation demand costs.
    - Most of these factors do not apply to transmission.
  - Staff noted they would need to consider how these factors might apply to transmission.

BPA Transmission Planning

BPA Transmission Planning

- BPA plans the transmission system so it will operate reliably to meet its obligations.
- The system must meet NERC and WECC transmission planning performance standards.
- BPA tests system performance using various simulation models (such as power flows).

BPA Transmission Planning

- The power flow models used represent different load-resource patterns.
  - BPA models normal non-coincidental summer and winter peak load conditions, as well as some other conditions as off-peak or heavy winter.
  - Resource patterns vary with season.
  - Base cases have all transmission facilities in service.

BPA Transmission Planning

- Performance testing.
  - Tests are made for a range of probable contingencies so that the system meets NERC and WECC performance requirements.
  - Peak loads conditions must meet all reliability requirements. Normal peak loads used are generally based on a 1 in 2 year probability of occurring.
  - An extra heavy load condition with a 1 in 20 probability is also studied for the main grid for winter, but must meet only single contingencies.

BPA Transmission Planning

- BPA adds facilities to the system for two primary reasons.
  - Reliability – facilities needed to meet existing commitments.
  - Capacity Expansion – to meet new requests for capacity, such as to deliver new generation to loads.
- The need for these facilities is based on the load/resource condition(s) where the performance requirements are not met.

FERC 12 CP Tests with BPA Data

FERC Coincidental Peak Test

- The following shows the results of the FERC 12 CP test for:

1. Total Transmission System Loading (TTSL) data
2. Long Term Firm Network Billing Factors data

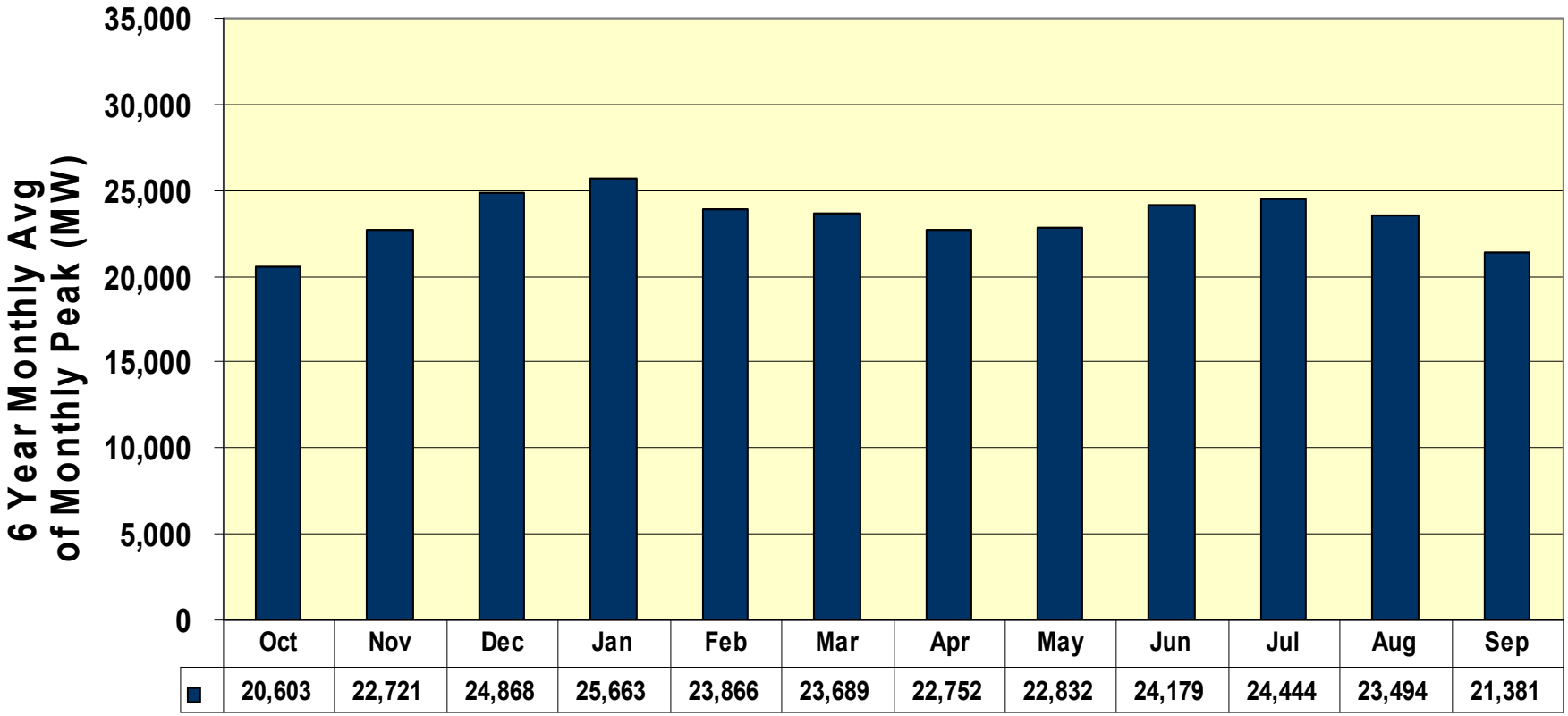
Data based on FY 2006 - 2011

FERC Coincidental Peak Test based on TTSL

	(A)	(B)	(C)	(D)	(E)	(F)	(G)
	Fiscal	**Annual Peak**	**Annual Average**	**Avg of 11 off-peak**	**Annual Minimum**	**Test #1**	**Test #2**	**Test #3**
1	**Year**	**(MW)**	**(MW)**	**Months (MW)**	**(MW)**	**1-(C)/(A)**	**(D) / (A)**	**(B) / (A)**
2	**2006**	26,153	22,562	22,236	18,983	15%	73%	86%
3	**2007**	27,925	24,250	23,915	20,946	14%	75%	87%
4	**2008**	26,397	24,504	24,332	21,244	8%	80%	93%
5	**2009**	26,397	22,765	22,435	20,581	15%	78%	86%
6	**2010**	26,219	22,404	22,057	20,291	16%	77%	85%
6	**2011**	26,690	23,761	23,495	20,965	12%	79%	89%
7					**Average over 6 years:**	**13%**	**77%**	**88%**
8					**12 CP condition:**	**≤ 19%**	**≥ 66%**	**≥ 81%**

9 Data is monthly transmission system peak (maximum hourly TTSL)

Six year Monthly Average of Monthly Peak TTSL (2006 - 2011)

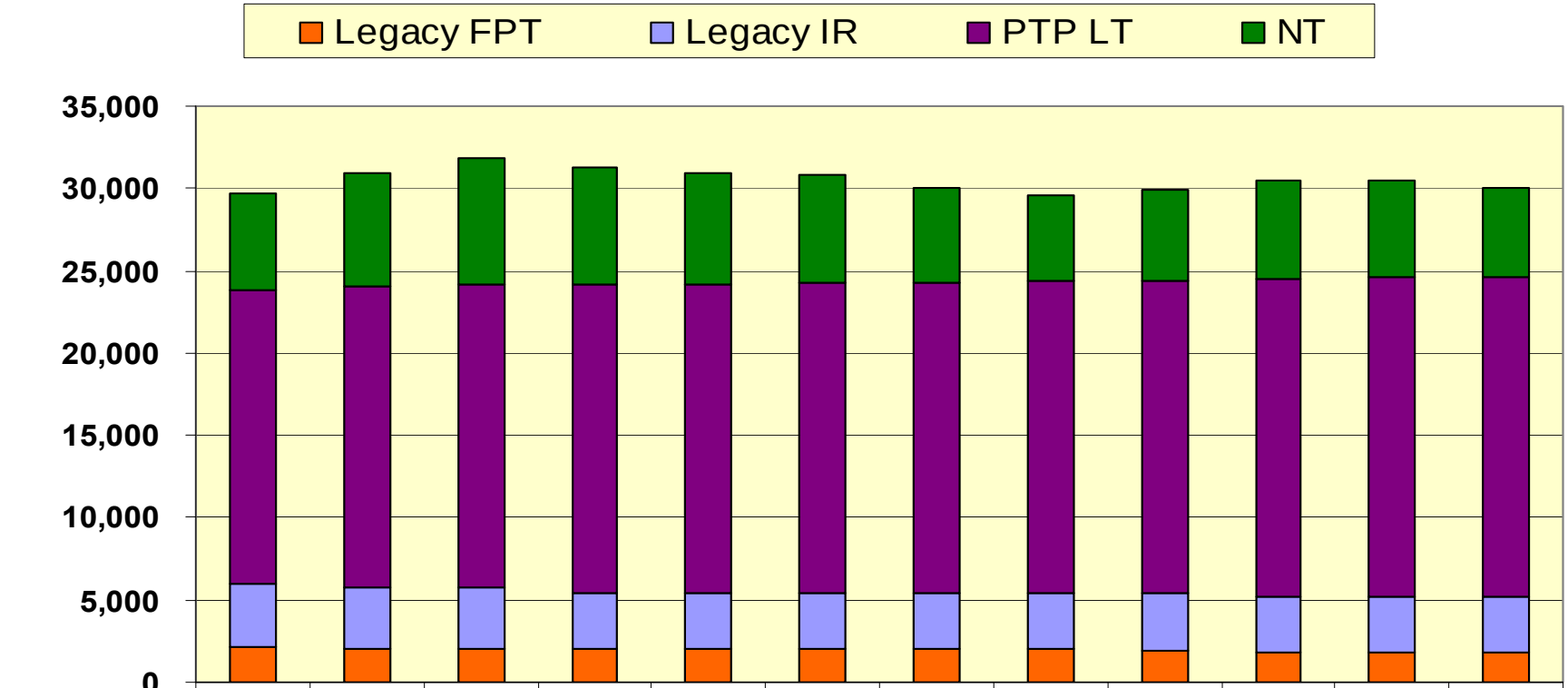


FERC Coincidental Peak Test Based on Long-Term Firm Network Billing Factors (2006 – 2011)

		(A)	(B)	(C)	(D)	(E)	(F)	(G)
	Fiscal	**Annual Peak**	**Annual Average**	**Avg 11 off-peak**	**Annual Minimum**	**Test #1**	**Test #2**	**Test #3**
1	**Year**	**(MW)**	**(MW)**	**Months (MW)**	**(MW)**	**1-(C)/(A)**	**(D) / (A)**	**(B) / (A)**
2	**2006**	28,255	27,536	27,471	26,606	3%	94%	97%
3	**2007**	31,844	29,988	29,820	28,713	6%	90%	94%
4	**2008**	31,594	30,203	30,076	29,222	5%	92%	96%
5	**2009**	33,457	30,978	30,753	29,376	8%	88%	93%
6	**2010**	35,505	31,913	31,586	30,892	11%	87%	90%
6	**2011**	33,949	32,389	32,247	31,559	5%	93%	95%
7					**Average over 6 years:**	**7%**	**90%**	**94%**
8					**12 CP condition:**	**≤ 19%**	**≥ 66%**	**≥ 81%**

9 Note: Data based on Network Integration load at Tx System Peak plus LT PTP and Legacy FPT and IR reserved capacity (billing factors)

Monthly Average Long-term Billing Factors (2006 - 2011)



	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
NT	5,790	6,982	7,743	7,039	6,768	6,507	5,743	5,128	5,445	6,017	5,813	5,385
PTP LT	17,906	18,224	18,355	18,776	18,789	18,852	18,909	19,035	19,038	19,299	19,482	19,431
Legacy IR	3,853	3,801	3,800	3,431	3,429	3,427	3,427	3,427	3,427	3,361	3,361	3,361
Legacy FPT	2,096	1,982	1,990	1,990	1,995	1,990	1,981	1,980	1,973	1,818	1,818	1,839

Modeling in Base Cases

- Regional loads are modeled in the **four** seasonal base cases.
  - January (Nov-Feb), May (Apr-May), June (June only) and August (Jul-Aug).
  - Results of the base cases are extrapolated across the remaining months.
- Each case uses **monthly** 1-in-2 non-coincidental peak load forecasts.
- Cases assume that federal generation serves **all** NT load, unless there is a DNR.
- In the real-time horizon, when schedules are received the difference between what is scheduled and reserved is released to the non-firm market.
  - For 100 MW reservation BPA receives a 75 MW schedule, therefore 25 MW is released to the non-firm market.

Next Steps

- Discussion on customer proposals for other options of allocation.
- Availability of Transmission Rate Analysis Model for customers.
- Next workshop: March 7, 2012