

Network Cost Allocation (cont.)

A Balanced Proposal on Network Segment Cost Allocation based upon BPA's Cost Causation Principles:

- BPA has explained why NT loads in NOS/Reliability studies are 20% higher than those used for cost allocation.
- We've learned a lot from the May 6th workshop on Transmission Peak Load Forecasting (pages 1-10 of that presentation) and Planning (pages 11-16) and at the June 29th workshop further discussing Network reliability planning.

Presented By

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Summary of What We Learned:

- PORs - Designed based upon “NCP Max Gen” (e.g. generator name plate, irrespective of load).
- Network “Highway” - 16 Scenarios run under “heavy” winter and “heavy” summer loads and differing generation dispatch patterns. Each scenario acts as a “ratchet” if any failure occurs on the system under a particular scenario. Generally - Designed based upon *higher of* “heavy” summer/winter flows under load resource balance (diversity benefits due to both NT and PTP services)¹.
- PODs – Designed based upon “NCP Max Load” individual POR Load.

1 – Reliability planning is blind to whether power is flowing under PTP or NT service. In the following example the Dec CP value of 8,010 MWs (TTSL Peak) is used as the basis of allocating Network costs to NT given this “*higher of*” planning criteria (see Slide 6).

PTP vs NT POR/POD/Network Design and Concepts

- PTP – Contract Demand (CD) = Higher of POR or POD and includes use of system for load service and marketing (PTP is allocated costs and billed based upon CD on a take or pay basis).
- CD can be roughly thought of as Max NCP(POD) “on steroids”¹.
- NT PORs - 65% of FBS standing ready to serve NT peak loads (~18,300 MW).
- NT PORs and Network “Highway” - Built stout to allow economic dispatch and re-dispatch of FBS resources to serve NT load.
- NT PODs – Built to each POD “NCP Max Peak Load” = 10,849 MW (Sum of highest monthly individual POD Peaks)².

1 - PTP must be contracted for over the long term and in an amount that covers the entities single highest extreme peak at POR or POD over that longer term (sum of max NCP each customer).

2 – NT PORs, Network “Highway”, and PODs are planned and built to handle load growth and generally stout enough to handle other than 1-in-2 weather peaks. But NT is only allocated cost based upon near-term forecasted 1-in-2 peaks.

Following is an Example Cost Allocation building upon the prior concepts!

- Network MW allocators and Network Revenue Requirement are from BP-16 in the following example.
- Examples are simplified for ease of illustration and results are indicative.
- Changes in Network cost allocation have implication on Scheduling Control and Dispatch (SCD) rates and BPA Power Rates (BPA Power is one of the Network's largest PTP customers).

Cost Causation vs Current Cost Allocation (Metrics)

<u>Cost Causation (Design Criteria):</u>		<u>PTP</u>	<u>NT</u>
	PORs	Individual POR (Max Gen)	Individual POR (Max Gen)
Network "Highway"		1CP Flows (Higher of S/W)	1CP Flows (Higher of S/W)
	PODs	Individual POD (Max Peak Delivery)	Individual POD (Max Peak Load)
<u>Current Cost Allocation:</u>		<u>PTP</u>	<u>NT</u>
	PORs	CD	12"NCP"
Network "Highway"		CD	12"NCP"
	PODs	CD	12"NCP"

Note – Current 12"NCP" includes a mix of "NCP POD" values and Customer "CP POD" values and is discussed later.

Cost Causation vs Current Cost Allocation (MWs)

<u>Cost Causation (Design Criteria):</u>		<u>PTP</u>	<u>NT</u>	<u>Source of Data:</u>
	PORs	27,301	10,849	PTP&IR CD - BP16 Table 7 / NT - BP16 Individual POD Peak Sum
	Network "Highway"	20,158	8,010	PTP - Scaled from NT / NT - TTSL Peak (Dec)
	PODs	27,301	10,849	PTP&IR CD - BP16 Table 7 / NT - BP16 Individual POD Peak Sum
<u>Current Cost Allocation:</u>		<u>PTP</u>	<u>NT</u>	
	PORs	27,301	7,530	PTP&IR CD - BP16 Table 7 / NT - 12NCP BP16 Table 7
	Network "Highway"	27,301	7,530	PTP&IR CD - BP16 Table 7 / NT - 12NCP BP16 Table 7
	PODs	27,301	7,530	PTP&IR CD - BP16 Table 7 / NT - 12NCP BP16 Table 7

Cost Allocation based upon Cost Causation

PORs
Network "Highway"
PODs
Network Rev Req
PORs
Network "Highway"
PODs
Network Rev Req

Design Criteria Allocation	
<u>MWs</u>	<u>MWs</u>
27,301	10,849
20,158	8,010
27,301	10,849
21,587	8,578
Current Cost Allocation	
<u>PTP MWs</u>	<u>NT MWs</u>
27,301	7,530
27,301	7,530
27,301	7,530

Cost Allocation (add Revenue Requirement)

		Design Criteria Allocation	
	<u>Revenue Req</u>	<u>MWs</u>	<u>MWs</u>
PORs	\$50,908,000	27,301	10,849
Network "Highway"	509,080,000	20,158	8,010
PODs	76,362,000	27,301	10,849
Network Rev Req	\$636,350,000	21,587	8,578
		Current Cost Allocation	
	<u>Revenue Req</u>	<u>PTP MWs</u>	<u>NT MWs</u>
PORs	\$50,908,000	27,301	7,530
Network "Highway"	509,080,000	27,301	7,530
PODs	76,362,000	27,301	7,530
Network Rev Req	\$636,350,000		

Cost Allocation (Allocate Rev. Req.)

		Design Criteria Allocation			
	<u>Revenue Req</u>	<u>MWs</u>	<u>MWs</u>	<u>PTP Alloc.</u>	<u>NT Alloc.</u>
PORs	\$50,908,000	27,301	10,849	\$36,431,000	\$14,477,000
Network "Highway"	509,080,000	20,158	8,010	364,312,000	144,768,000
PODs	76,362,000	27,301	10,849	54,647,000	21,715,000
Network Rev Req	\$636,350,000	21,587	8,578	\$455,390,000	\$180,960,000
		Current Cost Allocation			
	<u>Revenue Req</u>	<u>PTP MWs</u>	<u>NT MWs</u>	<u>PTP Alloc.</u>	<u>NT Alloc.</u>
PORs	\$50,908,000	27,301	7,530	\$39,902,000	\$11,006,000
Network "Highway"	509,080,000	27,301	7,530	399,018,000	110,062,000
PODs	76,362,000	27,301	7,530	59,853,000	16,509,000
Network Rev Req	\$636,350,000			\$498,773,000	\$137,577,000

Cost Allocation (Inequitable Subsidy)

		Design Criteria Allocation			
	<u>Revenue Req</u>	<u>MWs</u>	<u>MWs</u>	<u>PTP Alloc.</u>	<u>NT Alloc.</u>
PORs	\$50,908,000	27,301	10,849	\$36,431,000	\$14,477,000
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		Current Cost Allocation			
	<u>Revenue Req</u>	<u>PTP MWs</u>	<u>NT MWs</u>	<u>PTP Alloc.</u>	<u>NT Alloc.</u>
PORs	\$50,908,000	27,301	7,530	\$39,902,000	\$11,006,000
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PODs	76,362,000	27,301	7,530	59,853,000	16,509,000
Network Rev Req	\$636,350,000			\$498,773,000	\$137,577,000
Inequitable Subsidy (Current Alloc - Design Criteria Alloc)				<u>Shift to PTP</u>	<u>NT Subsidy</u>
			PORs	\$3,471,000	(\$3,471,000)
			Network "Highway"	34,706,000	(34,706,000)
			PODs	5,206,000	(5,206,000)
				\$43,383,000	(\$43,383,000)

Cost Allocation (Explanation of Subsidy)

		Design Criteria Allocation				
	<u>Revenue Req</u>	<u>MWs</u>	<u>MWs</u>	<u>PTP Alloc.</u>	<u>NT Alloc.</u>	
PORs	\$50,908,000	27,301	10,849	\$36,431,000	\$14,477,000	
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			PODs	5,206,000	(5,206,000)	
				\$43,383,000	(\$43,383,000)	

- POR subsidy of \$3.5M due to the fact that design criteria is based upon individual POR Max Gen but cost are allocated to NT based upon 12 NCP (Rate Period average annual peak load 1-in-2 weather peaks).

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		Current Cost Allocation				
	<u>Revenue Req</u>	<u>PTP MWs</u>	<u>NT MWs</u>	<u>PTP Alloc.</u>	<u>NT Alloc.</u>	
PORs	\$50,908,000	27,301	7,530	\$39,902,000	\$11,006,000	
Network "Highway"	509,080,000	27,301	7,530	399,018,000	110,062,000	
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- Network "Highway" subsidy of \$34.7M due to the fact design criteria is based upon diversity of gen and load ("higher of" heavy W/S Flows) but allocated to PTP based upon full CD and to NT based upon 12NCP.

Cost Allocation (Explanation of Subsidy)

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	<u>Revenue Req</u>	<u>MWs</u>	<u>MWs</u>	<u>PTP Alloc.</u>	<u>NT Alloc.</u>
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		Current Cost Allocation			
	<u>Revenue Req</u>	<u>PTP MWs</u>	<u>NT MWs</u>	<u>PTP Alloc.</u>	<u>NT Alloc.</u>
PORs	\$50,908,000	27,301	7,530	\$39,902,000	\$11,006,000
Network "Highway"	509,080,000	27,301	7,530	399,018,000	110,062,000
PODs	76,362,000	27,301	7,530	59,853,000	16,509,000
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		Inequitable Subsidy (Current Alloc - Design Criteria Alloc)		<u>Shift to PTP</u>	<u>NT Subsidy</u>
			PORs	\$3,471,000	(\$3,471,000)
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- Network "Highway" subsidy of \$34.7M due to the fact design criteria is based upon diversity of gen and load ("higher of" heavy W/S Flows) but allocated to PTP based upon full CD and to NT based upon 12NCP.
- POD subsidy of \$5.2M due to the fact that design criteria at each individual POD is 1NCP but allocated to NT based upon 12NCP (mix of CP v NCP PODs issue too).

Other PTP vs NT Cost Allocation Issues

- PTP are allocated costs based upon full contract demand completely ignoring their contribution to Network “Highway” diversity benefits.
- NT gets allocated costs on the average of 24 months rate period expected peaks (1-in-2 peaks) and billing on monthly peak usage completely ignoring their “rights to capacity”.
- Result? - PTP pays a disproportionate share of cost associated with PORs, Network “Highway” and PODs.
- New lower NT load forecast further shifts cost to PTP (system cost didn’t change!).
- Power’s Tiered Rates Methodology (TRM) was carefully designed to eliminate cross subsidies and allows product conversion without any cost shifts.

Current Cost Allocation Violates BPA's Long-Standing Rate Principles...

B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

BP-18 Rate Principles

- Full and timely cost recovery.
- Lowest possible rates consistent with sound business principles.
- Cost causation – fairly allocate costs to customers based on proportionate use.
- Statutory requirement of equitable allocation.
- Simplicity, understandability, public acceptance, and feasibility of application.
- Avoid rate shock and maintain rate stability from rate period to rate period (e.g., magnitude of rates and rate design).

...And, FERC Recognized “one size doesn’t fit all”

FERC Order 888 Section 6:

- *“In the NOPR, the commission discussed the procedures to be used in establishing Stage One Rates. These Stage One rates were proposed as an administrative convenience.”(p92)*
- *“We wish to emphasize further that in taking this approach we are not endorsing the traditional contract path approach as the only available approach. We continue to approve contract path pricing because it is the long established pricing methodology that comes to us in rate filings by the electric industry, is administratively convenient and feasible, and thus is a practical way to move forward now.”(p97)*
- *“Other versions (of flow-based pricing) could more accurately assign capacity rights in accordance with a party’s contribution to capacity costs.” (p96)*

BP-14 Final ROD (p 154):

- “BPA uses non-coincident peak load data in its planning studies. Because BPA incurs costs based on its transmission system planning, its planning approach is an important consideration for cost allocation.”

A Balanced Allocation Proposal

Recommendation: BPA allocate cost to PTP/IR based upon long-term contract demand and to NT based upon forecast 1NCP. This cost allocation strikes a better balance that recognizes long-term system planning, rights to capacity, and the allocation of diversity benefits. At a very minimum use 12NCP(POD Peak)¹!

- Phase-In NT Rate Increase by BP-20 if Needed.
- Adopt a permanent equitable cost allocation fix by BP-20 prior to the product conversion election window to minimize revenue loss.

1- The calculation of the current “12NCP” cost allocator is a mix of NT customer’s CP and NCP peak loads. NT Customers with one POD are reflected at NCP values, while customers with multiple PODs are reflected at CP peak loads. These two different basis of measurement are “apples and oranges” and should be remedied by using NCP POD peak loads. Same “apples and oranges” issue with current calculation of 1NCP.

Cost Allocation Results:

		Design Criteria Allocation				
	<u>Revenue Req</u>	<u>MWs</u>	<u>MWs</u>	<u>PTP Alloc.</u>	<u>NT Alloc.</u>	
PORs	\$50,908,000	27,301	10,849	\$36,431,000	\$14,477,000	
Network "Highway"	509,080,000	20,158	8,010	364,312,000	144,768,000	
PODs	76,362,000	27,301	10,849	54,647,000	21,715,000	
Network Rev Req	\$636,350,000	21,587	8,578	\$455,390,000	\$180,960,000	
Billing Determinates (incl SDD)				26,764	6,486	
Resulting Rate				\$1.418	\$2.325	
Percent Rate Change				-8.7%	31.5%	

		PTP/CD, NT/1NCP				
	<u>Revenue Req</u>	<u>MWs</u>	<u>MWs</u>	<u>PTP Alloc.</u>	<u>NT Alloc.</u>	
PORs	\$50,908,000	27,301	8,908	\$38,384,000	\$12,524,000	
Network "Highway"	\$509,080,000	27,301	8,908	383,839,000	125,241,000	
PODs	\$76,362,000	27,301	8,908	57,576,000	18,786,000	
Network Rev Req	\$636,350,000			\$479,799,000	\$156,551,000	
Billing Determinates (incl SDD)				26,764	6,486	
Resulting Rate				\$1.494	\$2.011	
Percent Rate Change				-3.8%	13.8%	

		PTP/CD, NT/12NCP(POD)				
	<u>Revenue Req</u>	<u>MWs</u>	<u>MWs</u>	<u>PTP Alloc.</u>	<u>NT Alloc.</u>	
PORs	\$50,908,000	27,301	8,425	\$38,903,000	\$12,005,000	
Network "Highway"	\$509,080,000	27,301	8,425	389,031,000	120,049,000	
PODs	\$76,362,000	27,301	8,425	58,355,000	18,007,000	
Network Rev Req	\$636,350,000			\$486,289,000	\$150,061,000	
Billing Determinates (incl SDD)				26,764	6,486	
Resulting Rate				\$1.514	\$1.928	
Percent Rate Change				-2.5%	9.1%	

Our Recommendation is already a “Compromise” Proposal.

BP-20 PTP to NT Conversion and Potential Cost Shift/Revenue Shortfall

- BPA needs to fix the subsidy both in fairness and to eliminate the further cost shift that would result from product conversion [MW shift reflects 69% NT coincident factor (7,530/10,849 Slide 6)].

<u>Revenue Req Shortfall - Current Cost Allocation</u>			
Convert from PTP	5,000	\$1.553	(\$93,180,046)
Convert to NT	3,471	\$1.768	73,617,510
	Net Revenue Shortfall		(\$19,562,536)
Average PTP & NT Rate Increase to Collect Shortfall			3.1%

A Balanced Allocation Proposal

Thank You to BPA Rates, Load Forecasting,
and Planning Folks!

Questions?