

# Segmentation Workshop

**May 7, 2014**



# Agenda

- Analysis of Snohomish Proposal
- New Proposals for the Montana Intertie
  - Gaelectric Proposal
  - PPC Proposal
- Next Steps

# Analysis of Snohomish Proposal

- Snohomish's segmentation proposal would exclude "radial" facilities in the Pacific Northwest from the network segment and assign the cost of those facilities to the customers who use those facilities
- BPA has analyzed its system and functionalized its transmission facilities based on criteria proposed by Snohomish. This presentation summarizes that analysis
- BPA is in the process of identifying billing determinants and resultant rate impacts to customers
- With respect to Snohomish's alternative, BPA staff believes that it has faithfully and accurately applied the criteria in the manner intended by Snohomish
- Snohomish reviewed and commented on staff's analysis prior to this presentation
- BPA's analysis of this or any other alternative does not mean that BPA endorses that alternative or the Snohomish definition of radial service

# Step 1) Identification of Radial Service

- Criteria presented at April 16<sup>th</sup> workshop (please refer to that presentation for the criteria)
- Voltage of facilities was not considered in this assessment—strictly a functional analysis
- Each facility was examined and assessed using the criteria (1,522 separate facilities)
- 102 candidates were identified as potentially radial (encompassing 325 separate facilities)
  - Excludes interconnections looped with other transmission owners (e.g., Sno-King Tap (PSE, SCL, SnoPUD), LaPine-Chiloquin (PAC to K-Falls))

# Step 1) Identification of Radial Service

- BPA's facilities were examined as well as facilities beyond BPA ownership
  - If the customer owns the line, it is not radial
  - If the customer interconnects with BPA or another transmission system, completing a closed loop, it is not radial
  - If the interconnection is an open loop, it is radial
- Of the 102 candidates, 31 were excluded due to disqualifying criteria (closed looped service, wheeled or federal generation)
- The 71 remaining instances were deemed to provide radial service

## Step 2) Facilities Associated with Radial Service

- For each of the 71 instances, all facilities connected to the radial line(s) are included
  - All Segmentation Study costs that are associated with the identified line(s)
  - Includes lines, substations, switchgear, and meters that are currently in the Network segment



## Step 3) Revenue Requirement Determination

- A rule of thumb was used to estimate the revenue requirement for each facility
  - Rule of Thumb = Investment  $\times$  0.07 + O&M  $\times$  3.01
  - Example: Anderson Ranch—Mountain Home No 1
  - Investment = \$4,449,861; O&M = \$38,869
  - Revenue Requirement =  $(\$4,449,861 \times 0.07) + (\$38,869 \times 3.01)$   
= \$428,490
- The total revenue requirement for the 71 instances of Radial Service is \$34.53 million
- The total network revenue requirement is \$650.46 million

## Step 3) Revenue Requirement Determination

- Radial service facilities comprise 5.3% of the network revenue requirement
  - Two radials amount to \$10K apiece (Dexter tap 0.76mi., Kennewick tap 0.54mi.)
  - 30 of the radials are less than \$100K apiece, which is 0.015% of the network revenue requirement
  - These 30 radials total \$1.52M in revenue requirement
  - The most expensive radial is \$5.08M (Coos-Curry/Bandon service)
  - 6 of the radials are more than \$1M (\$18.3M in total, or 53% of the total radial)
- 31 excluded facilities comprise 2.4% (\$15.6 million)

## Step 4) Radial Service Customer Identification

- Identify the points of delivery using the 71 instances of radial service
- 72 customers are identified with at least one POD on radial service facilities
  - Includes Avista (1), Idaho (2), and PacifiCorp (3)
  - For others: 29 are westside, 25 are eastside, 15 are southern Idaho
- 23 customers receive all or most of its service over radial service facilities

## Step 5) Transfer Service Radial Service Identification

- Same criteria used for transfer customers (independent of BPA ownership)
- If transferor owns the radial, it is deemed radial service
- If transferor's radial is also used for generation, it is not radial service
- If transfer customer owns the radial, it is not radial service
- Identified 37 instances of radial service for transfer customers
  - 5 of these are already included in the BPA identification
- 25 transfer customers have some load served over radial service
  - 6 of these receive all or most of its service over radial service

## Work Still in Progress

### Step 6) Associate Loads/Billing Determinants with Radial Service PODs

- Once complete, calculate a radial service rate
  - $\$34.5\text{M} \div$  total BPA radial service load
- Calculate new Network rates, excluding the \$34.5M
- For transfer customers with radial service, apply the BPA-based rate to the transfer radial service load
- Reduce the PF & IP rates by the transfer radial service revenue
- For each customer, calculate the total annual bill with and without radial service alternative
  - Delta will be due to lower Network rates, lower PF/IP rates, higher radial service charge (where applicable)
- Assumes static state of load service (customer does not shift load from radial POD to network POD)

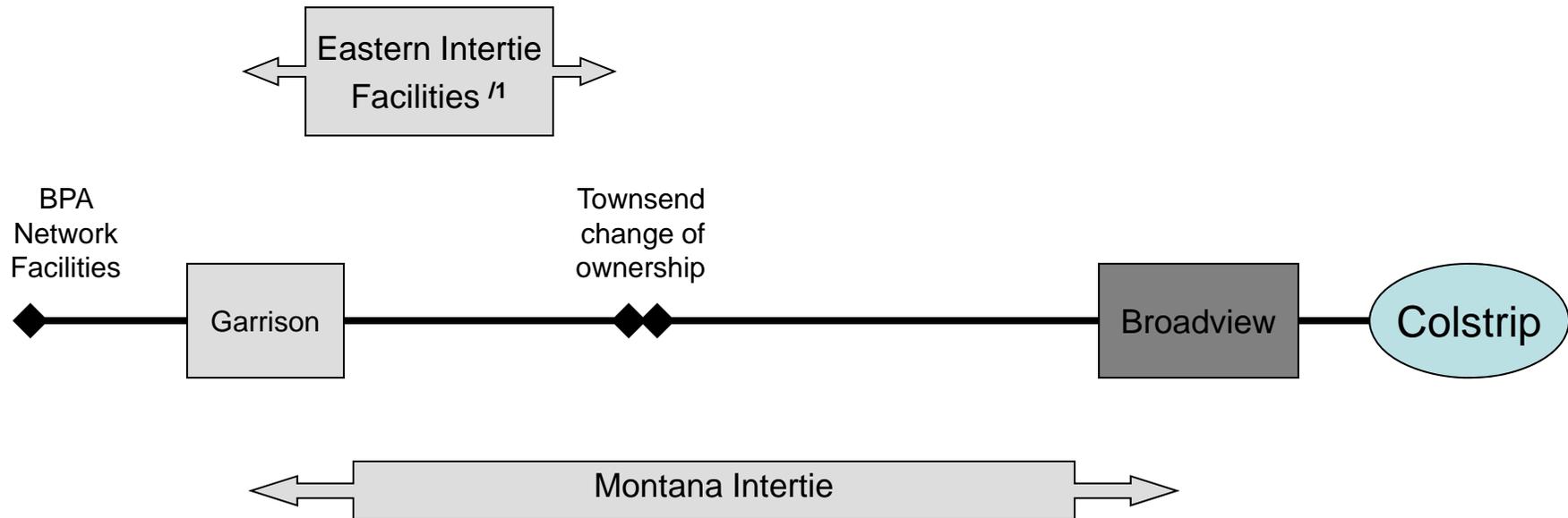
# Gaelectric Proposal for Montana Intertie



# Existing Montana Interconnections

## Eastern Intertie Facilities

- Currently 16 MW of IM Sales (BPA has rights to sell up to 200 MW)
- 1730 MW sold to Colstrip Parties



*/1* Eastern Intertie Facilities have a capacity of 1930 MW per the Montana Intertie Agreement. 1730 MW is sold to the Colstrip Parties at the TGT rate. The Eastern Intertie consists of facilities owned by BPA which are segmented separate from BPA's Network facilities.

# Montana/Eastern Intertie Analysis

- In the Segmentation analysis, BPA identifies assets related to the Eastern Intertie segment. These facilities support multiple BPA transmission services including:
  - Montana Intertie Service (IM)
  - Townsend-Garrison Transmission (TGT)
  - Eastern Intertie Hourly Product
- Any over/under recovery on costs allocated to this segment are allocated to all other segments

# Assignment of costs on Eastern Intertie

- Per the Montana Intertie Agreement, costs associated with the Eastern Intertie are \$12.5M
  - This cost is recovered on a pro rata share between sales of TGT and IM
  - For BP-14:
    - TGT = 1,730 MW (99%)
    - IM = 16 MW (1%)
      - BPA has a right to sell up to 200 MW of IM which would shift the allocation of costs between these two products
  - Eastern Intertie Hourly costs developed based on Eastern Intertie segmented costs (\$9.9M in BP-14) over possible sales (1,930 MW)
    - No use of the product forecast in BP-14

# Treatment of Revenues

- BPA recognizes revenue received as IM and TGT as credits against the segmented Revenue Requirement for the Eastern Intertie
- Any under/over recovery is allocated among other segments based on Net Plant Investment

● Ex:

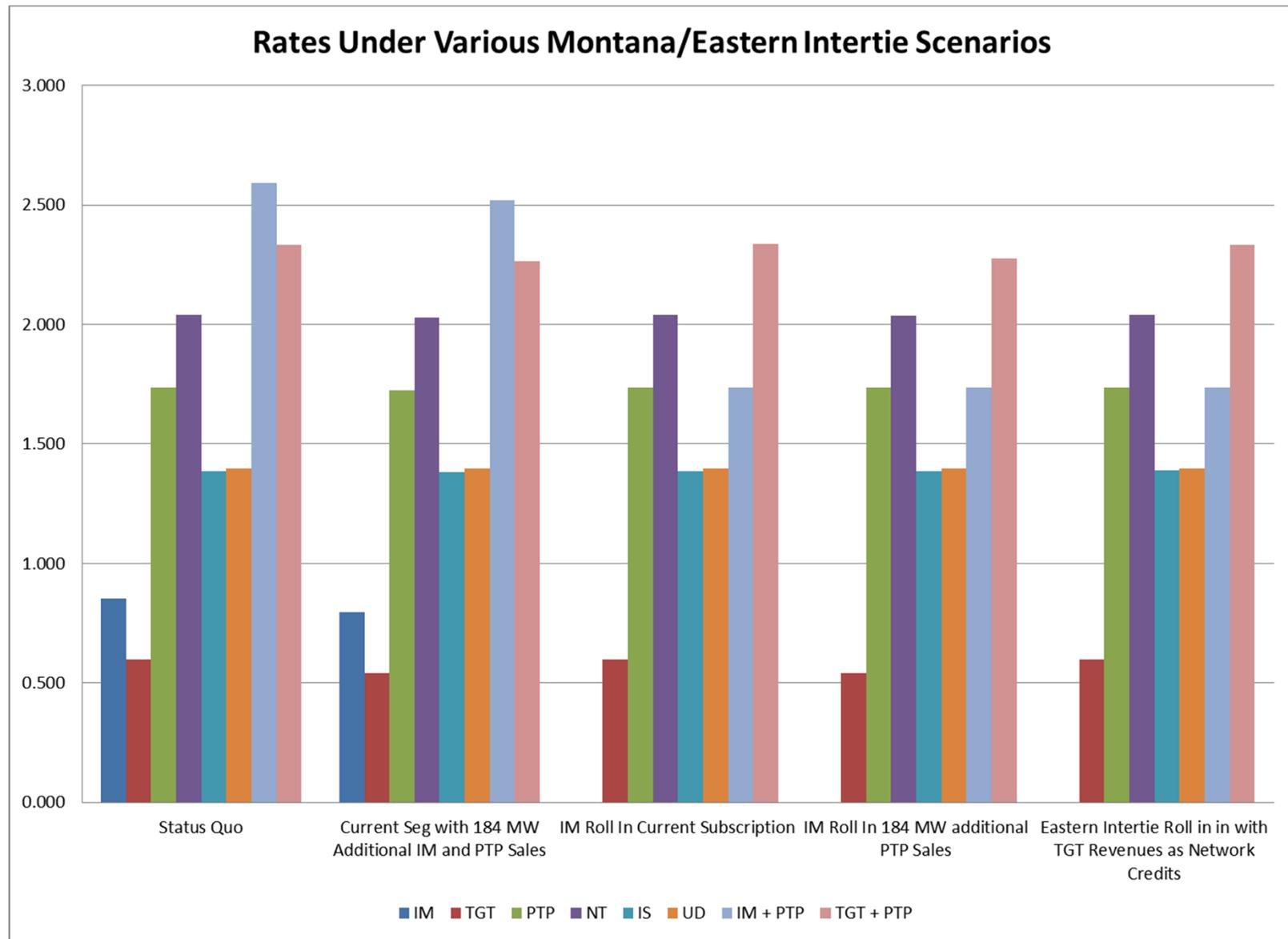
Eastern Intertie in BP-14	
Eastern Intertie Segmented Revenue Requirement	\$9.9M
Revenue Credits *	-\$0.9M
less IM Revenues	-\$0.1M
less TGT Revenues	-12.4M
Remaining Revenue Requirement	-3.5M

<----Credit allocated to all other segments based on net plant investment

\*Revenue Credits not including TGT

# Eastern/Montana Intertie Scenarios

	Scenario 1	Scenario 1a	Scenario 2	Scenario 2a	Scenario 3
	Status Quo	Current Seg with 184 MW Additional IM and PTP Sales	IM Roll In Current Subscription (16 MW)	IM Roll In 184 MW additional PTP Sales	Eastern Intertie Roll in in with TGT Revenues as Network Credits
Eastern Intertie Investment	Separate segment	Separate segment	Separate segment	Separate segment	Investment rolled into Network
IM Rate	Collected based on share of Eastern Intertie costs	Collected based on share of Eastern Intertie costs. Assumes additional sale of 184 MW on the Network and IM	Eliminated. Customers pay only Network rate	Eliminated. Customers pay only Network rate . Assumes additional sale of 184 MW on the Network	Eliminated. Customers pay only Network rate
TGT Credits	Collected based on share of Eastern Intertie costs per Montana Intertie Agreement. Credited to Eastern Intertie segment	Collected based on share of Eastern Intertie costs per Montana Intertie Agreement. Credited to Eastern Intertie segment	Collected based on share of Eastern Intertie costs per Montana Intertie Agreement. Credited to Eastern Intertie segment	Collected based on share of Eastern Intertie costs per Montana Intertie Agreement. Credited to Eastern Intertie segment	Collected based on share of Eastern Intertie costs per Montana Intertie Agreement. Credited to Network segment



# Rates and Rate Impact Under Various Montana/Eastern Intertie Scenarios

	Scenario 1	Scenario 1a	Scenario 2		Scenario 2a		Scenario 3	
	Status Quo	Current Seg with 184 MW Additional IM and PTP Sales	IM Roll In Current 16 MW Subscription		IM Roll In 184 MW additional PTP Sales		Eastern Intertie Roll in in with TGT Revenues as Network Credits	
	Rate	Rate	Rate	Change from Scenario 1	Rate	Change from Scenario 1a	Rate	Change from Scenario 1
IM	\$ 0.855	\$ 0.796	\$ -	-100.0%	\$ -	-100.0%	\$ -	-100.0%
TGT	\$ 0.598	\$ 0.541	\$ 0.598	0.0%	\$ 0.541	0.0%	\$ 0.598	0.0%
PTP	\$ 1.736	\$ 1.725	\$ 1.737	0.1%	\$ 1.734	0.5%	\$ 1.735	-0.1%
NT	\$ 2.041	\$ 2.027	\$ 2.041	0.0%	\$ 2.037	0.5%	\$ 2.040	0.0%
IS	\$ 1.385	\$ 1.381	\$ 1.385	0.0%	\$ 1.386	0.4%	\$ 1.390	0.4%
UD	\$ 1.399	\$ 1.399	\$ 1.399	0.0%	\$ 1.399	0.0%	\$ 1.399	0.0%
IM + PTP	\$ 2.591	\$ 2.521	\$ 1.737	-33.0%	\$ 1.734	-31.2%	\$ 1.735	-33.0%
TGT + PTP	\$ 2.334	\$ 2.266	\$ 2.335	0.0%	\$ 2.275	0.4%	\$ 2.333	0.0%

Rates Include SCD where applicable

# PPC Proposal for Montana Intertie



# Next Steps

- Starting in mid-May, BPA will request customer involvement in developing a white paper on the regional Segmentation discussion
  - This paper will inform the BPA executives for making the decision on a Segmentation methodology for the Initial Proposal
- June 11 workshop will conclude Segmentation discussion (just-in-case—June 25 on calendar)

# BP-16 Segmentation Timeline

JAN	FEB	MAR	APR	MAY	JUN
<p><b>Jan 28</b> Workshop: Kick-Off</p>	<p><b>Feb 19</b> Workshop: Principles development and benchmarking</p>	<p><b>Mar 20</b> Workshop: Customer Proposals</p>	<p><b>Apr 16</b> Workshop—Share work-in-progress</p>	<p><b>May 7</b> Workshop—Share work-in-progress</p> <p><b>Mid-May</b> Transmit draft white paper to customers</p> <p><b>Mid-May</b> Provide customers expectations on what feedback is needed for the white paper</p> <p><b>End of May</b> Customer’s white paper comments due</p> <p><b>May 29</b> Workshop—Share final analytical results</p>	<p><b>June 11</b> Workshop—review white paper</p> <p><b>June 25</b> Workshop, if needed</p>