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REBUTTAL TESTIMONY of

REBECCA E. FREDRICKSON, DAVID W. BOGDON, RAYMOND D. BLIVEN,

KELLY G. JOHNSON, RONALD E. MESSINGER, DENNIS E. METCALF,

GLENN A. RUSSELL, and LAUREN E. TENNEY

Witnesses for Bonneville Power Administration

SUBJECT: DELIVERY SEGMENTATION AND UTILITY DELIVERY RATE

Page

Attachments

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Section 1: Introduction and Purpose of Testimony

Q. Please state your names and qualifications.

A. My name is Rebecca E. Fredrickson, and my qualifications are contained in BP-16-Q-BPA-13

A. My name is Lauren E. Tenney, and my qualifications are contained in BP-16-Q-BPA-38.

A. My name is David W. Bogdon, and my qualifications are contained in BP-16-Q-BPA-06.

A. My name is Raymond D. Bliven, and my qualifications are contained in BP-16-Q-BPA-05.

A. My name is Kelly G. Johnson, and my qualifications are contained in BP-16-Q-BPA-20.

A. My name is Ron E. Messinger, and my qualifications are contained in BP-16-Q-BPA-30.

A. My name is Dennis E. Metcalf, and my qualifications are contained in BP-16-Q-BPA-31.

A. My name is Glenn A. Russell, and my qualifications are contained in BP-16-Q-BPA-35.

Q. What is the purpose of your testimony?

A. Our testimony responds to issues raised and proposals submitted by Iberdrola, Northwest Requirements Utilities (NRU), Pacific Northwest Generating Cooperative (PNGC), and Western Public Agencies Group (WPAG) regarding the segmentation of the Utility Delivery segment and calculation of the Utility Delivery rate.

Q. Are you proposing any changes to your Initial Proposal regarding segmentation of the Utility Delivery segment?

A. Yes. We propose to modify the segmentation of the Utility Delivery segment.

Section 2: BPA Staff's Initial Proposal

Q. Please summarize your Initial Proposal regarding segmentation of the Network and Utility Delivery segments.

A. Our Initial Proposal retained the Network and Utility Delivery segments for the BP-16 rate period. Tenney *et al.*, BP-16-E-BPA-16, at 27-28. We changed the definitions of the segments by replacing the 34.5-kV voltage threshold with a functional test for segmentation of new facilities. We did not, however, apply the functional test to existing facilities. Instead, we proposed leaving existing facilities in their current segments. *Id*. at 31. Except for re-segmentation of facilities used to deliver power to USBR loads, *id.* at 40-42, and removal of several substations that were sold to customers, we did not change the facilities that comprise the Utility Delivery segment from the segmentation in BP-14.

Q. Why did you propose a functional test?

A. A functional test creates a better balance between the principles of cost-causation and encouraging the widest possible diversified use than the 34.5-kV voltage threshold. *Id.* at 28. The functional approach is designed so that customers receiving similar services pay rates based on the same set of facilities regardless of location or voltage. *Id.*

Q. How did you determine the composition of the Utility Delivery segment in the Initial Proposal?

A. We first identified all stations where BPA provides transformation down to the customer's prevailing distribution voltage, as shown on BPA's one-line diagrams. Each substation contains major equipment (primarily transformers, reactive equipment, disconnects, and breakers), as well as station general (*e.g.*, station service equipment, control house, roads, fences, foundations, and buswork). We then assigned the delivery transformer and major equipment on both the low side and the high side of the transformer to the Utility Delivery segment. We assigned all other major equipment to the Network segment. If all of the major equipment was assigned to the Utility Delivery segment, then 100 percent of the total substation investment was assigned to the segment. If the substation also included major equipment assigned to the Network segment, we calculated the percentage of total major equipment investment in the Utility Delivery segment and the percentage in the Network segment and assigned the total substation investment based on these percentages. *See* Transmission Segmentation Study and Documentation, BP-16-E-BPA-06, at 10-11.

Q. Why did you segment in this manner?

A. This method of segmentation was essentially premised on a "but for" test. Any equipment that BPA did not need but for providing low-voltage delivery of power to a customer was assigned to a delivery segment.

Q. When did BPA develop this approach to segmentation?

A. BPA developed this methodology in the 1979 rate case to identify lower-voltage equipment that was used only to deliver Federal power. It included the cost of the delivery facilities in bundled power rates. BPA used this segmentation methodology until the 1996 rate case.

Q. What happened in 1996?

A. BPA moved most facilities at or above 34.5 kV from the Fringe and delivery segments into the Network segment. (The Fringe segment consisted of higher-voltage facilities used to transmit Federal power.) Facilities delivering power below 34.5 kV remained in the delivery segments.

Q. How did BPA's historical treatment of delivery facility costs affect Utility Delivery rates?

A. In many instances, BPA constructed delivery facilities for its customers decades ago when BPA sold bundled power—there was no separate charge for transmission—and the costs of the facilities were recovered through power rates. Therefore, customers using delivery facilities paid the same rate as all other customers. With the advent of unbundled transmission rates in the 1996 rate case, BPA established a new delivery rate to charge for this service. However, BPA agreed to include a significant portion of delivery costs in power rates to shield delivery customers from the full effects of a cost-based rate. *See* 1996 Wholesale Power and Transmission Rate Proposal, Administrator's Record of Decision, WP-96-A-02, at 419 (July 1995). Settlements of every transmission rate case between 1996 and 2014 continued to shield utility delivery customers from the full cost of service.

Q. Did BPA's policy regarding the level of the Utility Delivery rate change in the BP-14 rate case?

A. Yes. The BP-14 rate case was the first litigated transmission rate case since 1996. In the BP-14 rate case, the Utility Delivery rate increased by 25 percent, with the expectation that the rate would continue to increase until full cost recovery was achieved in the BP-18 rates. *See* BP-14 Power and Transmission Rate Proceeding, Administrator's Final Record of Decision, BP-14-A-03, at 171-74 (July 2014).

Section 3: Modification to the Initial Proposal Regarding the Utility Delivery Segment

Q. What modification are you now proposing to the segmentation of the Utility Delivery segment?

A. We propose to assign to the Utility Delivery segment only the step-down transformers and low-voltage equipment, such as breakers and switches on the low side of the transformer, that connects the customer to BPA's transmission system at the customer's prevailing distribution voltage. We propose to assign everything else at the substation to the Network segment.

Q. Please provide an example of how your proposal changes the existing segmentation.

A. BPA's Potlatch Substation is one example. Potlatch serves both Mason Public Utility District (PUD) No. 1 and Mason PUD No. 3. Both utilities take Network Integration Transmission Service (NT) for power delivered at Potlatch. Mason PUD No. 1 takes service at 34.5 kV and is charged only for NT service. Mason PUD No. 3 takes service at 12.5 kV and is charged for Utility Delivery service and NT service.

In our Initial Proposal, we determined that the major equipment at Potlatch that serves Mason PUD No. 3, including equipment on both the low and high sides of the delivery transformer, comprised 17 percent of the major equipment investment at Potlatch. Therefore, we assigned 17 percent of the entire Potlatch substation investment to the Utility Delivery segment.

However, the delivery service provided to Mason PUD No. 3 is the transformation down to the customer's prevailing distribution voltage. The 115/12.5-kV transformer and 12.5-kV breaker are the only equipment needed to perform this service. Under our modified proposal, only this major equipment investment is assigned to the Utility Delivery segment. The high-side disconnects and all of the station general are assigned to the Network segment. The result under our modified proposal is that

11 percent of the total Potlatch investment is assigned to the Utility Delivery segment. A simplified diagram of Potlatch substation is included as Attachment 1.

Q. Why are you proposing this modification now?

A. Under the Initial Proposal, the BP-16 Utility Delivery rate increased by 25 percent with the likelihood of another large increase in BP-18 rates. Several parties raised issues and concerns regarding the rate increase that persuaded us to re-evaluate the Initial Proposal. PNGC asserted that the 25 percent increase in the Utility Delivery rate would result in a rate nearly identical to the rate for NT service and that, given the Utility Delivery rate's current trajectory, the rate will surpass the NT rate in the next rate case. PNGC asserts that such large increases are not viable. Scott, BP-16-E-PN-01, at 4. PNGC and WPAG asserted that the rate increase will cause severe economic harm to customers taking Utility Delivery service and is counter to BPA's most widespread use directive. Scott, BP-16-E-PN-01, at 4, 5; Saleba *et al*., BP-16-E-WG-01, at 42. Finally, PNGC testified that the Utility Delivery rate is no longer an effective mechanism to encourage the sale of the remaining facilities in the segment due to their age, environmental issues, low use, and joint service obligations. Scott, BP-16-E-BPA-01, at 2.

Q. Do you agree with their concerns?

A. Yes. With the combination of the NT rate and the Utility Delivery rate, these customers would pay approximately twice the NT rate for transmission service during the BP-16 rate period and potentially much more than double in BP-18. Yet delivery service represents the last and shortest part of the customer's total transmission path, often only just a few feet of the total transmission path, and the last of the series of voltage transformations provided by BPA. We believe that a Utility Delivery rate at this level would place too great a financial burden on Utility Delivery customers and is not a

sustainable, long-term solution to the question of how BPA can provide viable Utility Delivery service.

Q. Why has the Utility Delivery rate increased so much?

A. We believe there are a couple of reasons. First, for the last 20 years BPA has been selling Utility Delivery facilities. As a result, the Utility Delivery segment has shrunk in terms of the number of facilities and customers, and the remaining facilities are often the more expensive ones. Thus, the costs per customer are significantly greater than they once were.

Second, the loads taking service over these facilities are often quite small compared to the capacity of the transformers. For its own convenience, BPA typically installed standard-sized transformers that were larger than needed for the customers' loads. This approach was cost-effective because it allowed BPA to easily interchange transformers and spare parts across the system. Thus, the Utility Delivery segment includes fewer customers with smaller loads supporting larger and therefore more expensive facilities.

Q. How did you address this problem?

A. We re-evaluated our approach to segmentation to determine if there is an alternative approach that addresses the customers' concerns yet still recognizes that Utility Delivery customers are receiving an additional service for which they should pay an additional charge.

Q. What is the basis for moving the high-side equipment to the Network segment?

A. The high-side equipment serves a Network function. BPA's current segmentation methodology is instructive. Most of BPA's substations transform power from one high-voltage level to another; for example, the power enters the substation on a 115-kV line and is transformed to 69 kV before being delivered to the customer. In such case, all of

the high-side equipment—such as disconnects and breakers—supports the Network. This equipment allows BPA to separate BPA's Network from the customer's system for operational, maintenance, and reliability purposes. The function of this equipment is not delivery service. BPA can properly operate the Network only if it has the capability the equipment provides.

At some substations, however, the power is transformed down to 12.5 kV. These substations typically also have high-side equipment necessary to ensure system reliability. This equipment also serves a Network function. Only the delivery transformer and low-side equipment are needed to provide delivery service. As noted earlier, however, BPA applied a "but for" test to the segmentation of these substations: if not for the particular needs of the customer, BPA would not have built a substation with equipment that transformed the power all the way down to 12.5 kV. Therefore, despite the network function of much of the equipment, BPA assigned the entire substation to the Utility Delivery segment. On reviewing the Utility Delivery segment under the functional segmentation test again, however, we determined that it is more appropriate to segment this equipment to the Network.

Q. What is the basis for assigning the station general to the Network segment in substations where delivery transformation occurs?

A. As explained above, equipment in these stations serves both delivery and network functions. This is true of station general as well. As explained below, BPA's past segmentation methodology treated the assignment of station general differently depending on whether the substation was used only to transform power down to a customer's distribution voltage or to transform power down to both higher and lower voltages. Upon reconsideration, we believe station general should be allocated entirely to the Network segment.

BPA's network extends to the substation where the delivery transformation occurs. That is, the substation is the terminus of the network line. As with the high-side equipment, if the power is being transformed down to a voltage above delivery voltage, such as 69 kV, BPA assigns all of the station general associated with the substation to the Network. The only difference between that substation and a delivery substation is that a delivery substation transforms power down to customer's prevailing distribution voltage. Both substations exist to deliver power transmitted over BPA's network to the customer; the existence of delivery equipment does not change the Network function of the remaining equipment.

Q. Do Utility Delivery customers pay twice for station general under the existing segmentation?

A. We would not say they pay twice; that is, they do not pay for the same costs in two different rates. However, Network-only customers pay only their share of station general that is assigned to Network rates. Utility Delivery customers must pay this share plus the share that is assigned to the Utility Delivery segment. Moreover, since Utility Delivery costs are spread over a much smaller customer base than Network costs, the share of each Utility Delivery customer's costs is greater than the share of Network costs incurred by each Network customer.

Q. Can you provide an example?

A. Yes. Consider a substation with two transformers and two NT customers, one of which also takes Utility Delivery service. One transformer is a 115/34.5-kV transformer, the other a 115/12.5-kV transformer (12.5 kV is the customer's distribution voltage). The first transformer serves the Network-only customer, while the second serves the Utility Delivery customer. Assume there is $10,000,000 investment in each transformer.

Assume also that station general annual costs are $1,000,000 and, to simplify things, that this is BPA's only substation.

The direct investment in the major equipment in the substation serves as the allocator for station general. Thus, under the Initial Proposal, 50 percent of the station general costs ($500,000) would be assigned to the Network segment and 50 percent ($500,000) to the Utility Delivery segment. As both customers take NT service, each would pay half of the amount assigned to the Network, or 25 percent ($250,000) of the annual station general costs. The delivery customer, however, would also pay the 50 percent assigned to the Utility Delivery segment, for a total of 75 percent of the total ($750,000). The Utility Delivery customer pays three times what the Network customer pays with no corresponding benefit. Under the modified proposal, with station general assigned entirely to the Network, each customer pays 50 percent of station general costs, or $500,000.

Q. Does your modified proposal segment similar equipment more consistently than the segmentation in the Initial Proposal?

A. Yes. This is evident in multi-segmented substations (substations with equipment assigned to two or more segments).

Q. Please explain the inconsistency.

A. The Initial Proposal treated equipment differently depending on whether it was in a facility segmented to a single segment or in a multi-segmented facility, even if the equipment performed the same function. If the only transformer in a substation is a low-voltage transformer, the high-side circuit breakers and disconnect switches associated with the transformer are typically located in a different substation, which supplies power to the delivery substation. Under the Initial Proposal, we assigned the high-side equipment in the upstream substation to the Network segment.

If the substation with the delivery transformer is multi-segmented, however, the high-side circuit breakers and disconnect switches are in that substation. Under the Initial Proposal, we assigned that equipment to the Utility Delivery segment even though it performed the same function as the equipment in the upstream station mentioned above. The segmentation was different solely because in the first scenario the high-side equipment is geographically separate from the delivery transformer, while in the second scenario all of the equipment is in the same substation. Under the new proposal, the high-side equipment in both substations is assigned to the Network.

Q. Can you give an example?

A. Yes. Compare the Reedsport substation to the Gardiner and Tahkenitch substations. Reedsport serves an NT-only customer and a Utility Delivery customer. It has one low-voltage transformer (the NT-only customer takes service at 115 kV and therefore the power for that customer is not transformed at Reedsport). Because it has both Network and delivery equipment, Reedsport is a multi-segmented substation. Under our existing segmentation, the high-side disconnect switches associated with the low-voltage transformer are assigned to the Utility Delivery segment. Therefore, in the Initial Proposal we assigned the high-side disconnect switches to that segment.

Compare this situation to the Gardiner-Tahkenitch scenario. The Gardiner substation includes a delivery transformer that provides delivery service to both Central Lincoln and Douglas. However, the high-side circuit breaker associated with the delivery transformer is in the Tahkenitch substation. As at Reedsport, the delivery transformer at Gardiner was assigned to the Utility Delivery segment. Because Tahkenitch is geographically remote from Gardiner, however, the circuit breaker at Tahkenitch was assigned to the Network segment, even though it performs the same function as the disconnect switches at Reedsport. Under our modified proposal the inconsistency is

resolved because the disconnect switches at Reedsport and the circuit breaker at Tahkenitch are both segmented to the Network. A simplified diagram of these substations is included as Attachment 2.

Q. Does your modified proposal create a long-term, sustainable solution to the Utility Delivery charge?

A. Yes, we believe it does. We are concerned that the Utility Delivery rate in our Initial Proposal will cause economic harm to Utility Delivery customers and is not sustainable. Therefore, it is appropriate to consider alternatives that retain a cost basis and fulfill our mission to encourage the most widespread use of electric power consistent with sound business principles. Our revised proposal assigns to the Utility Delivery segment only the equipment necessary to provide the service and therefore creates a rate reflective of the costs of the service without imposing an undue economic burden. It retains the Utility Delivery segment as a separate and distinct set of facilities that provide a specific service to a small subset of BPA's transmission customers, thereby establishing a basis for the additional charge for this service. It also continues to provide some incentive for customers to consider purchasing the equipment as an alternative to paying the Utility Delivery rate.

Q. Does the modified proposal achieve an appropriate balance between the cost causation principle and the widest possible diversified use requirement?

A. Yes. We believe the proposal achieves a better balance than the Initial Proposal because it more accurately reflects cost causation while establishing a sustainable Utility Delivery rate.

Section 4: Modification to the Initial Proposal Regarding the DSI Delivery Segment

Q. Are you proposing changes to the methodology used to assign investment to any other segments?

A. Yes. In the Initial Proposal, we assigned investment to the DSI Delivery segment based on the same functional test we used for the Utility Delivery segment. We propose to treat the three substations that provide DSI delivery service (Conkelley, Intalco and Trentwood) consistently with the proposal for substations that provide Utility Delivery service—assigning to the DSI Delivery segment only the investment in the transformers and low-voltage equipment that connect the customer to BPA's transmission system at the customer's prevailing voltage.

Section 5: Impacts of the Proposed Modifications

Q. How does the modified proposal change the amount of investment assigned to the Utility Delivery and DSI Delivery segments?

A. As shown in the table below, under our modified proposal the investment assigned to the Utility Delivery segment is 0.3 percent of the total BPA substation investment, compared to 0.9 percent in our Initial Proposal. The investment assigned to the DSI Delivery segment is 0.3 percent of the total substation investment compared to 0.8 percent in the Initial Proposal. The change in substation investment for each segment from the Initial Proposal to the modified proposal, labeled "Rebuttal Estimate," is shown in the table below. The comparison of the Initial Proposal to the modified proposal for Utility Delivery and DSI is included in Attachment 3.

Difference between Substation Investment in Initial Proposal and Rebuttal Estimate
From Table 2, line 1, BP-16-E-BPA-06 at 23
($000)

	A	B	C	D	E	F	G	H	I
		Generation Integration	Network	Southern Intertie	Eastern Intertie	Utility Delivery	DSI Delivery	Segmented Total	Un-segmented
1	**Initial Proposal**	61,762	2,356,545	595,820	24,402	26,844	26,196	**3,091,570**	15,524
2	% of Total	2.0%	75.8%	19.2%	0.8%	0.9%	0.8%		0.5%
3	**Rebuttal Estimate**	61,762	2,392,763	595,820	24,402	10,333	9,660	**3,094,741**	12,354
4	% of Total	2.0%	77.0%	19.2%	0.8%	0.3%	0.3%		0.4%
5	**Difference**	-	36,218	-	-	(16,511)	(16,536)	**3,170**	(3,170)

Q. What change does this proposal make to the determination of historical O&M?

A. For multi-segmented facilities, in the Initial Proposal we calculated the historical O&M costs at each substation based on the percentage of the gross investment assigned to each segment. *See* Transmission Segmentation Study and Documentation, BP-16-E-BPA-06, at 17-18. Since under the modified proposal the investment assigned to the Utility and DSI Delivery segments is reduced, the O&M costs assigned to the delivery segments are also reduced. Specifically, under our modified proposal the Utility Delivery segment historical O&M is 0.6 percent of the 7-year average historical total BPA substation O&M, compared to 1.5 percent in the Initial Proposal. For the DSI segment, the historical O&M is 0.4 percent of the 7-year average historical substation O&M, compared to 1.0 percent in the Initial Proposal. The changes are shown in the table below.

Difference between Station O&M in Initial Proposal and Rebuttal Estimate
From Table 4, line 1 + line 5, BP-16-E-BPA-06 at 28
($000)

	A	B	C	D	E	F	G	H	I
		Generation Integration	Network	Southern Intertie	Eastern Intertie	Utility Delivery	DSI Delivery	Segmented Total	Un-segmented*
1	**Initial Proposal**	840	26,132	5,170	172	581	401	**33,296**	6,074
2	% of Total	2.1%	66.4%	13.1%	0.4%	1.5%	1.0%		15.4%
3	**Rebuttal Estimate**	840	26,762	5,170	172	241	148	**33,333**	6,037
4	% of Total	2.1%	68.0%	13.1%	0.4%	0.6%	0.4%		15.3%
5	**Difference**	-	630	-	-	(340)	(253)	**37**	(37)

* Unsegmented numbers pulled from line 4 of table 4

Q. Did you make any other changes to the investment in the Utility Delivery segment?

A. Yes. We removed investment in the Moyie substation from the Utility Delivery segment, since this substation has been sold since we developed the Initial Proposal. We incorporated the change into this analysis to derive a more accurate estimate of the effect of the proposal on rates.

Q. What is the impact of the modified proposal on the Utility Delivery rate?

A. The rate would be reduced by approximately 9 percent from the BP-14 rate.

Q. How will this change affect the rates for service using DSI Delivery facilities?

A. Customers using the DSI Delivery facilities pay UFT rates. These rates are not based on the DSI Delivery segment revenue requirement, so they will not be affected by this change.

Q. What are the effects of the proposed changes on Network rates?

A. Average Network rates would increase by 0.7 percent from the BP-14 rates.

Section 6: The Parties' Other Concerns and Proposals

Q. What are your concerns with NRU's proposal that BPA increase the Utility Delivery rate based on the change in Network segment sales revenues and PNGC's proposal to increase the rate by the average percentage increase in Network rates? Saven et al., BP-16-E-NR-01, at 2; Scott, BP-16-E-PN-01, at 4.

A. We are concerned about delinking the charge for Utility Service from the cost of providing the service.

Q. Do you believe that post-rate case workshops are necessary to address this issue, as PNGC proposes? Scott, BP-16-E-PN-01, at 1.

A. We do not think it is necessary to commit to workshops at this time. We believe our modified proposal, if adopted, is likely a long-term, sustainable solution that will resolve the issues raised by the parties and will obviate the need for workshops.

Q. Do you agree with NRU's claim that the average age of transformers in the Utility Delivery segment results in BPA overvaluing Utility Delivery facilities in its Initial Proposal? Saven et al., BP-16-E-NR-01, at 5, 6.

A. No. NRU claims that the average age of transformers in the Utility Delivery segment is 55 years. In consideration of NRU's testimony, we reviewed the average age of delivery transformers and found that their average age is 43.6 years.

Q. Do you agree with NRU's claim that Utility Delivery customers are being inappropriately charged twice for overhead costs such as marketing, business support, system engineering, and corporate costs since these costs are included in both Network and Utility Delivery rates? Id. at 5-6.

A. No. Utility Delivery customers are not being charged twice since the same overhead costs are not included in both segments. Instead, each segment pays a proportionate share of the total overhead costs. That said, we note that under our modified proposal the amount of overhead allocated to the Utility Delivery segment will significantly decrease as a result of the decrease in the investment and historical O&M assigned to that segment.

Q. Do you agree with NRU's proposal to eliminate the Utility Delivery segment by rolling it into the Network segment?

A. No. BPA assigns transmission facilities to segments based on the functions the facilities serve. Tenney *et al.*, BP-16-E-BPA-16, at 2. This segmentation ensures that customers pay for the facilities they use and the various transmission services they receive. As

explained in the Initial Proposal, the Utility Delivery segment serves a different function from the Network segment—a delivery function versus a network function. *Id*. at 26-28. The cost of providing delivery service is reflected in the Utility Delivery rate, which is based on the costs of facilities assigned to the Utility Delivery segment. Thus, it is appropriate to maintain separate segments for Network and Utility Delivery facilities.

Q. Is it appropriate, as WPAG proposes, that BPA assign the portion of the Utility Delivery segment's revenue requirement associated with facilities used to make deliveries to preference customers costs to BPA Power Services' Composite Cost Pool? Saleba et al., BP-16-E-WG-01, at 43-46.

A. No. WPAG bases its proposal on the premise that most Utility Delivery customers are using the facilities to take delivery of Federal Power. When we examined the usage of Utility Delivery facilities for the BP-14 rate proposal, we found that a majority of the facilities were used for a combination of Federal and non-Federal power deliveries, as shown in the table below. There have been no significant changes in usage since the BP-14 rate case.

	Delivery	
	POD voltage < 34.5 kV	
	# cust.	**# POD**
Fed + non-Fed power	28	92
Fed power only	34	47
Total	**62**	**139**
pctg Fed + non-Fed	45%	66%

WPAG's proposal is also inconsistent with BPA's determination in the WP-96 rate case to adopt open access and functionally unbundle power and transmission rates. In fact, WPAG's argument that that Utility Delivery facilities were originally built to deliver Federal power could also be used as a basis for recreating the Fringe segment (a

segment that existed before BPA adopted open access and that included facilities used to deliver Federal power) and assigning those costs to power as well. BPA rejected a proposal in the BP-14 rate case to recreate the Fringe segment because customers use those facilities to deliver Federal and non-Federal power under open access rules today, much as customers use Utility Delivery facilities. *See* BP-14 Power and Transmission Rate Proceeding, Administrator's Final Record of Decision, BP-14-A-03, at 81-85 (July 2013).

Q. Do you agree with WPAG's assertion that BPA's treatment of the Generation Integration segment is precedent for including Utility Delivery costs in power rates? See Saleba et al., BP-16-E-BPA-01, at 44.

A. No. The Generation Integration segment integrates only Federal power. Thus, it is appropriate to assign the costs of the Generation Integration segment to power rates. Moreover, Generation Integration facilities provide service to all Federal power customers. The Utility Delivery segment benefits only a subset of customers and is used to deliver both Federal and non-Federal power.

Q. Do you agree with WPAG's assertion that the GTA Delivery rate is an appropriate proxy for a rate for Utility Delivery service? See id. at 45-48.

A. No. The GTA Delivery rate is based on costs that BPA incurs on behalf of transfer customers that use third-party delivery facilities for delivery of preference power. Thus, WPAG's proposal would set the Utility Delivery rate based on costs that BPA does not incur for Utility Delivery customers; indeed that BPA does not incur at all except when it purchases third-party transmission. The proposal ignores the costs that BPA incurs to serve Utility Delivery customers.

Q. What concerns do you have about Iberdrola's proposal that BPA increase the Utility Delivery Charge to recover half of the segmented revenue requirement in BP-16—based on the Initial Proposal, an increase of approximately 58 percent—and attain full cost recovery in BP-18? Wrigley & Kester, BP-16-E-IR-01, at 20.

A. Our modified segmentation proposal makes this issue moot because the Utility Delivery rate now results in full cost recovery. That said, if the under-recovery remained and we implemented Iberdrola's proposal, Utility Delivery customers, whose rates already increased 25 percent in BP-14, would experience a rate increase of 58 percent in BP-16 and approximately 58 percent in BP-18. (Iberdrola actually proposed a 42 percent rate increase based on the revenue requirement originally identified in our Initial Proposal. *Id*. We corrected the revenue requirement figure in an erratum.) We believe these rate increases would result in rate shock and rate instability, which are inconsistent with Bonbright's principles for utility rates and with Bonneville's basic ratemaking principles. *See* Bonbright, James C., Albert L. Danielsen, and David R. Kamerschen, *Principles of Public Utility Rates*, Second Edition (Arlington, Virginia, Public Utilities Reports, Inc., 1988), at 383.

Section 7: Replacement of Grandfathered Facilities

Q. WPAG requests clarification that your proposal to grandfather facilities into the Network segment also includes future replacement of those facilities. Saleba et al., BP-16-WG-01, at 35. Does the proposal include replacements?

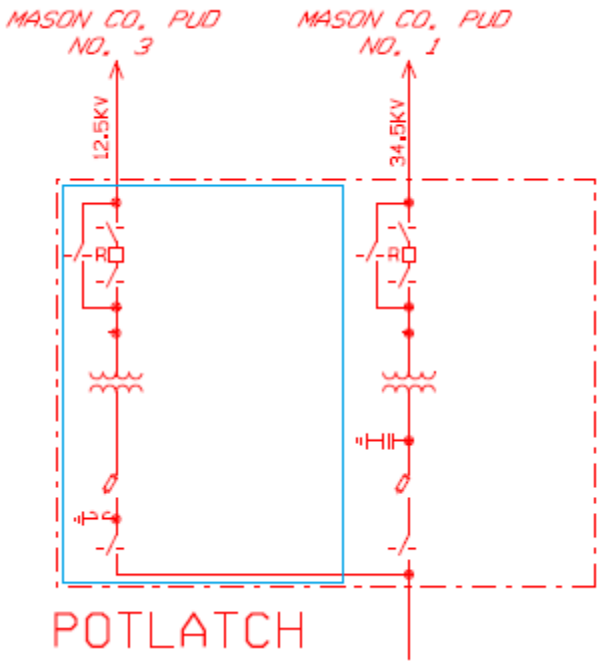
A. Our proposal to grandfather existing facilities did not specifically address the segmentation of facilities that replace grandfathered facilities. Tenney *et al.*, BP-16-E-BP-16, at 32. Segmentation of replacement facilities will be done on a case-by-case basis because a number of considerations may influence how a facility is segmented. For

example, replacement facilities that provide the equivalent capacity as the prior facilities would most likely be segmented in the same manner. Segmentation of replacement facilities that provide greater capacity than needed to serve a customer would likely depend on whether the customer requested the additional capacity or BPA installed the greater capacity for its own purposes. Replacement facilities determined to be BPA's cost responsibility under the Facility Ownership and Cost Assignment Guidelines would be assigned to the appropriate segment based on the definitions in the Segmentation Study. *Id*. For more information about the assignment of costs of replacement facilities, please see the Guidelines at: *http://www.bpa.gov/transmission/Doing%20Business/Interconnection/Pages/default.aspx*.

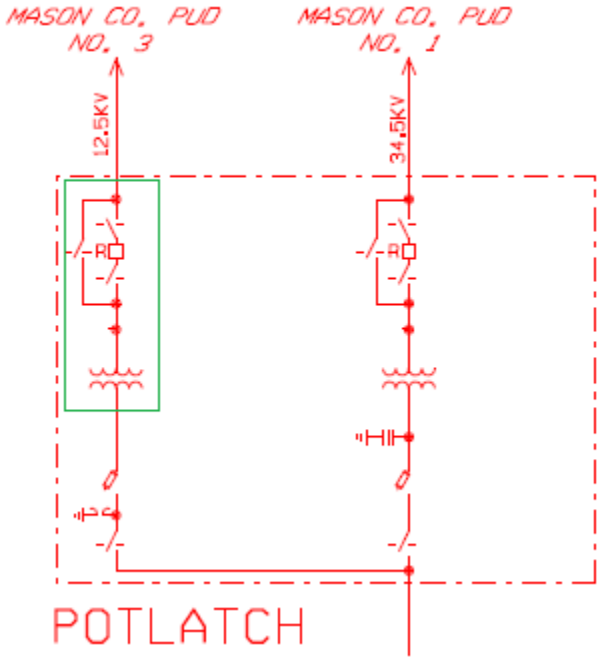
Q. Does this conclude your testimony?

A. Yes.

Potlatch Substation



Utility Delivery equipment under former method outlined in blue



Utility Delivery equipment under revised method outlined in green

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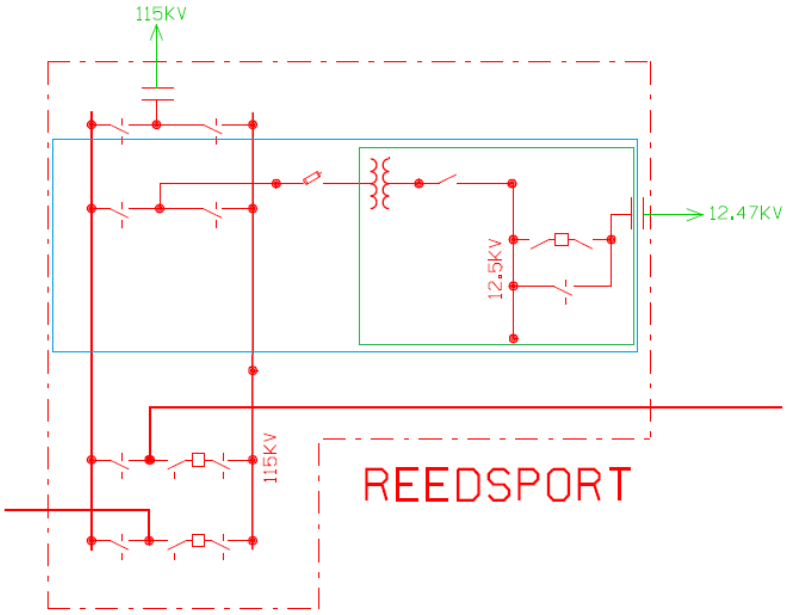
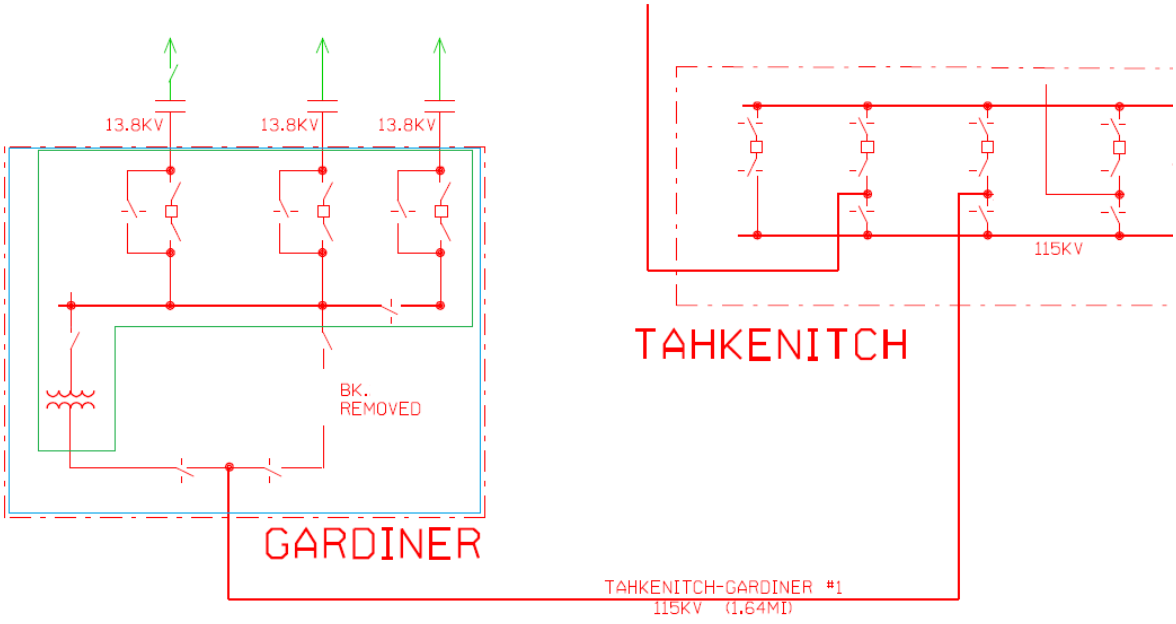
Reedsport Substation



Utility Delivery equipment under former method outlined in blue; revised in green

Gardiner and Tahkenitch Substations



Utility Delivery equipment under former method outlined in blue; revised in green

Witnesses: Rebecca E. Fredrickson, David W. Bogdon, Raymond D. Bliven, Kelly G. Johnson, Ronald E. Messinger, Dennis E. Metcalf, Glenn A. Russell, and Lauren E. Tenney

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Attachment 3
Comparison of Initial Proposal to Modified Proposal for Delivery Segment

	B	C	D	E	F	G	H	I	J	K	L	M	N
1													
2	**Investment (through FY13)**	**Initial Proposal ($)**				**Modified Proposal ($)**				**Difference (Modified - Initial) ($)**			
3	**Location**	**Network**	**Utility Delivery**	**DSI Delivery**	**"Unseg"**	**Network**	**Utility Delivery**	**DSI Delivery**	**"Unseg"**	**Network**	**Utility Delivery**	**DSI Delivery**	**"Unseg"**
4	**Utility Delivery Substations**												
5	ACTON SUBSTATION	-	163,592			119,422	44,170			119,422	(119,422)		-
6	ALBANY SUBSTATION	11,467,254	1,591,607			12,170,859	888,003			703,605	(703,605)		-
7	ALDERWOOD SUBSTATION		677,667			323,247	354,420			323,247	(323,247)		-
8	BANDON SUBSTATION	4,085,324	797,332			4,653,171	229,485			567,847	(567,847)		-
9	BONNERS FERRY SUBSTATION	1,689,233	615,682			1,973,008	331,908			283,774	(283,774)		-
10	BURBANK SUBSTATION	-	516,445		103,059	426,219	114,608		78,677	426,219	(401,837)		(24,382)
11	BURNT WOODS SUBSTATION		319,577			178,324	141,253			178,324	(178,324)		-
12	CASCADE LOCKS SUBSTATION		518,714			319,528	199,186			319,528	(319,528)		-
13	DAVIS CREEK SUBSTATION		545,221			73,605	471,616			73,605	(73,605)		-
14	DIXIE SUBSTATION	-	519,936			283,885	236,051			283,885	(283,885)		-
15	DRAIN SUBSTATION	2,664,627	277,801			2,659,955	282,473			(4,672)	4,672		-
16	EAGLE LAKE SUBSTATION	-	372,510		8,024	167,435	205,489		7,611	167,435	(167,022)		(414)
17	GARDINER SUBSTATION		635,523			402,922	232,602			402,922	(402,922)		-
18	GLADE SUBSTATION		444,475		53,296	154,807	290,201		52,764	154,807	(154,275)		(532)
19	HARRISBURG SUBSTATION		218,361			210,063	8,298			210,063	(210,063)		-
20	HOOD RIVER SUBSTATION	607,958	627,556			974,821	260,694			366,863	(366,863)		-
21	IONE SUBSTATION	582,192	210,675			662,044	130,823			79,852	(79,852)		-
22	LACLEDE SUBSTATION		31,715				31,715			-	-		-
23	LANGLOIS SUBSTATION		1,101,133			897,423	203,710			897,423	(897,423)		-
24	LYNCH CREEK SUBSTATION		1,271,810			726,204	545,607			726,204	(726,204)		-
25	MAPLETON SUBSTATION	387,996	183,012			530,467	40,542			142,470	(142,470)		-
26	MINIDOKA SUBSTATION		385,789			139,270	246,519			139,270	(139,270)		-
27	MONMOUTH SUBSTATION		1,244,686			668,396	576,290			668,396	(668,396)		-
28	MOUNTAIN AVENUE SUBSTATION		2,098,603			1,641,108	457,495			1,641,108	(1,641,108)		-
29	MOYIE SUBSTATION		168,870						168,870	-	(168,870)		168,870
30	NECANICUM SUBSTATION		127,264			86,667	40,597			86,667	(86,667)		-
31	NORTH BENCH SUBSTATION		527,396			512,101	15,294			512,101	(512,101)		-
32	NORTH BUTTE SUBSTATION		168,857			110,095	58,762			110,095	(110,095)		-
33	PARKDALE SUBSTATION	628,684	604,963			1,072,039	161,608			443,355	(443,355)		-
34	PORT ORFORD SUBSTATION	38,845	407,963			281,043	165,766			242,197	(242,197)		-
35	POTLATCH SUBSTATION(BPA)	932,667	188,784			1,003,699	117,752			71,032	(71,032)		-
36	REEDSPORT SUBSTATION (BPA)	2,819,692	734,116			3,354,795	199,013			535,102	(535,102)		-
37	RINGOLD SUBSTATION		411,773		110,507	309,712	115,946		96,622	309,712	(295,827)		(13,885)
38	SANDPOINT SUBSTATION(BPA)	991,943	312,508			1,106,174	198,277			114,232	(114,232)		-
39	SCOOTENEY SUBSTATION	913,406	386,934			1,180,708	119,631			267,303	(267,303)		-
40	SELLE SUBSTATION		565,619			233,035	332,584			233,035	(233,035)		-
41	STATELINE SUBSTATION		141,727			35,999	105,728			35,999	(35,999)		-
42	STEILACOOM SUBSTATION		1,101,095			754,250	346,845			754,250	(754,250)		-
43	SURPRISE LAKE SUBSTATION		760,077			605,021	155,056			605,021	(605,021)		-
44	SWAN VALLEY SUBSTATION	5,493,001	495,513			5,844,790	143,724			351,789	(351,789)		-
45	TROY SUBSTATION	114,273	815,848			511,566	418,554			397,293	(397,293)		-
46	TUMBLE CREEK SUBSTATION		979,279			808,884	170,394			808,884	(808,884)		-
47	TWO MILE ROAD SUBSTATION		1,517,678			1,074,516	443,162			1,074,516	(1,074,516)		-
48	WALTON SUBSTATION	21,204	321,529			220,035	122,699			198,831	(198,831)		-
49	WINTHROP SUBSTATION	1,167,692	361,348			1,348,613	180,427			180,921	(180,921)		-
50	YAAK SUBSTATION		375,561			177,640	197,921			177,640	(177,640)		-
51	**Total Utility Delivery Stations**	**34,605,992**	**26,844,123**		**274,886**	**50,987,563**	**10,332,895**		**404,543**	**16,381,571**	**(16,511,228)**		**129,657**

Witnesses: Rebecca E. Fredrickson, David W. Bogdon, Raymond D. Bliven,
Kelly G. Johnson, Ronald E. Messinger, Dennis E. Metcalf, Glenn A. Russell, and Lauren E. Tenney

Comparison of Initial Proposal to Modified Proposal for Delivery Segment

	B	C	D	E	F	G	H	I	J	K	L	M	N
52	**DSI Delivery Substations**												
53	CONKELLEY SUBSTATION	5,164,221		6,258,745		9,149,796		2,273,170		3,985,575	-	(3,985,575)	-
54	INTALCO SUBSTATION	659,933		16,403,546		10,971,817		6,091,662		10,311,884	-	(10,311,884)	-
55	TRENTWOOD SUBSTATION	3,391,935		3,533,679		5,616,673		1,295,090	13,851	2,224,738	-	(2,238,589)	13,851
56	**Total DSI Delivery Stations**	**9,216,089**		**26,195,970**	**-**	**25,738,286**		**9,659,922**	**13,851**	**16,522,197**	**-**	**(16,536,048)**	**13,851**
57	**Retired in Place Facilities**												
58	VALHALLA SUBSTATION	3,639,321		-	317,754	3,639,321		-	317,754	-	-	-	-
59	ALCOA SUBSTATION	7,740,270		-	1,091,469	8,354,826		-	476,914	614,555	-	-	(614,555)
60	TACOMA SUBSTATION	17,545,371		-	1,419,016	18,224,776		-	739,611	679,405	-	-	(679,405)
61	ADDY SUBSTATION	7,221,024		-	3,092,383	9,240,813		-	1,072,594	2,019,789	-	-	(2,019,789)
62	**Total Retired in Place Facilities**	**36,145,986**		**-**	**5,920,623**	**39,459,735**		**-**	**2,606,874**	**3,313,749**	**-**	**-**	**(3,313,749)**
63													
64	**Total segmented investment**	**2,356,545,168**	**26,844,123**	**26,195,970**	**15,524,395**	**2,392,762,685**	**10,332,895**	**9,659,922**	**12,354,155**	**36,217,517**	**(16,511,228)**	**(16,536,048)**	**(3,170,241)**
65	*Note - other segments not impacted*												
66	**Percentage of total investment**	**75.8%**	**0.9%**	**0.8%**	**0.5%**	**77.0%**	**0.3%**	**0.3%**	**0.4%**	**1.2%**	**-0.5%**	**-0.5%**	**-0.1%**
67													
68													
69	**Historical O&M (FY07-FY13)**	**Initial Proposal ($)**				**Modified Proposal ($)**				**Difference (Modified - Initial) ($)**			
70	**Location**	**Network**	**Utility Delivery**	**DSI Delivery**	**"Unseg"**	**Network**	**Utility Delivery**	**DSI Delivery**	**"Unseg"**	**Network**	**Utility Delivery**	**DSI Delivery**	**"Unseg"**
71	**Utility Delivery Substations**												
72	ACTON SUBSTATION	-	10,339			7,547	2,791			7,547	(7,547)		-
73	ALBANY SUBSTATION	104,068	14,444			110,453	8,059			6,385	(6,385)		-
74	ALDERWOOD SUBSTATION		8,302			3,960	4,342			3,960	(3,960)		-
75	BANDON SUBSTATION	57,378	11,198			65,353	3,223			7,975	(7,975)		-
76	BONNERS FERRY SUBSTATION	32,486	11,840			37,943	6,383			5,457	(5,457)		-
77	BURBANK SUBSTATION	-	8,848		1,766	7,302	1,964		1,348	7,302	(6,884)		(418)
78	BURNT WOODS SUBSTATION		16,875			9,416	7,459			9,416	(9,416)		-
79	CASCADE LOCKS SUBSTATION		14,221			8,760	5,461			8,760	(8,760)		-
80	DAVIS CREEK SUBSTATION		14,090			1,902	12,188			1,902	(1,902)		-
81	DIXIE SUBSTATION	-	15,162			8,279	6,884			8,279	(8,279)		-
82	DRAIN SUBSTATION	35,132	3,663			35,071	3,724			(62)	62		-
83	EAGLE LAKE SUBSTATION	-	12,306		265	5,531	6,788		251	5,531	(5,518)		(14)
84	GARDINER SUBSTATION		26,269			16,655	9,615			16,655	(16,655)		-
85	GLADE SUBSTATION		9,642		1,156	3,358	6,296		1,145	3,358	(3,347)		(12)
86	HARRISBURG SUBSTATION		16,394			15,771	623			15,771	(15,771)		-
87	HOOD RIVER SUBSTATION	17,390	17,950			27,883	7,457			10,494	(10,494)		-
88	IONE SUBSTATION	19,826	7,174			22,545	4,455			2,719	(2,719)		-
89	LACLEDE SUBSTATION		8,555				8,555			-	-		-
90	LANGLOIS SUBSTATION		18,824			15,342	3,483			15,342	(15,342)		-
91	LYNCH CREEK SUBSTATION		23,805			13,593	10,212			13,593	(13,593)		-
92	MAPLETON SUBSTATION	19,533	9,213			26,706	2,041			7,172	(7,172)		-
93	MINIDOKA SUBSTATION		11,840			4,274	7,566			4,274	(4,274)		-
94	MONMOUTH SUBSTATION		24,829			13,333	11,496			13,333	(13,333)		-
95	MOUNTAIN AVENUE SUBSTATION		16,825			13,157	3,668			13,157	(13,157)		-
96	MOYIE SUBSTATION		7,391						7,391	-	(7,391)		7,391
97	NECANICUM SUBSTATION		8,156			5,554	2,602			5,554	(5,554)		-
98	NORTH BENCH SUBSTATION		5,816			5,647	169			5,647	(5,647)		-
99	NORTH BUTTE SUBSTATION		4,062			2,649	1,414			2,649	(2,649)		-
100	PARKDALE SUBSTATION	10,296	9,908			17,558	2,647			7,261	(7,261)		-
101	PORT ORFORD SUBSTATION	1,504	15,794			10,880	6,417			9,376	(9,376)		-

Witnesses: Rebecca E. Fredrickson, David W. Bogdon, Raymond D. Bliven,
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Comparison of Initial Proposal to Modified Proposal for Delivery Segment

	B	C	D	E	F	G	H	I	J	K	L	M	N
102	POTLATCH SUBSTATION(BPA)	20,182	4,085			21,719	2,548			1,537	(1,537)		-
103	REEDSPORT SUBSTATION (BPA)	35,352	9,204			42,061	2,495			6,709	(6,709)		-
104	RINGOLD SUBSTATION		11,773		3,159	8,855	3,315		2,762	8,855	(8,458)		(397)
105	SANDPOINT SUBSTATION(BPA)	23,438	7,384			26,137	4,685			2,699	(2,699)		-
106	SCOOTENEY SUBSTATION	16,682	7,067			21,564	2,185			4,882	(4,882)		-
107	SELLE SUBSTATION		9,092			3,746	5,346			3,746	(3,746)		-
108	STATELINE SUBSTATION		20,977			5,328	15,649			5,328	(5,328)		-
109	STEILACOOM SUBSTATION		13,204			9,045	4,159			9,045	(9,045)		-
110	SURPRISE LAKE SUBSTATION		15,504			12,341	3,163			12,341	(12,341)		-
111	SWAN VALLEY SUBSTATION	55,051	4,966			58,577	1,440			3,526	(3,526)		-
112	TROY SUBSTATION	3,278	23,405			14,676	12,007			11,398	(11,398)		-
113	TUMBLE CREEK SUBSTATION		14,346			11,849	2,496			11,849	(11,849)		-
114	TWO MILE ROAD SUBSTATION		14,290			10,118	4,173			10,118	(10,118)		-
115	WALTON SUBSTATION	1,129	17,114			11,712	6,531			10,583	(10,583)		-
116	WINTHROP SUBSTATION	27,434	8,490			31,685	4,239			4,251	(4,251)		-
117	YAAK SUBSTATION		16,850			7,970	8,880			7,970	(7,970)		-
118	**Total Utility Delivery Stations**	**480,160**	**581,488**		**6,346**	**813,806**	**241,291**		**12,897**	**333,646**	**(340,197)**		**6,551**
119	**DSI Delivery Substations**												
120	CONKELLEY SUBSTATION	93,812		113,694		166,212		41,294		72,401	-	(72,401)	-
121	INTALCO SUBSTATION	10,253		254,840		170,455		94,638		160,202	-	(160,202)	-
122	TRENTWOOD SUBSTATION	31,139		32,440		51,562		11,889	127	20,423	-	(20,551)	127
123	**Total DSI Delivery Stations**	**135,203**		**400,975**	**-**	**388,229**		**147,821**	**127**	**253,026**	**-**	**(253,154)**	**127**
124	**Retired in Place Facilities**												
125	VALHALLA SUBSTATION	125,270		-	10,937	125,270		-	10,937	-	-	-	-
126	ALCOA SUBSTATION	132,586		-	18,696	143,113		-	8,169	10,527	-	-	(10,527)
127	TACOMA SUBSTATION	447,441		-	36,188	464,767		-	18,862	17,326	-	-	(17,326)
128	ADDY SUBSTATION	55,953		-	23,962	71,603		-	8,311	15,650	-	-	(15,650)
129	**Total Retired in Place Facilities**	**761,250**		**-**	**89,783**	**804,753**		**-**	**46,279**	**43,504**	**-**	**-**	**(43,504)**
130													
131	**Total historical O&M**	**26,131,989**	**581,488**	**400,975**	**6,073,679**	**26,762,166**	**241,291**	**147,821**	**6,036,854**	**630,176**	**(340,197)**	**(253,154)**	**(36,825)**
132	*Note - other segments not impacted*												
133	**Percentage of total O&M**	**66.4%**	**1.5%**	**1.0%**	**15.4%**	**68.0%**	**0.6%**	**0.4%**	**15.3%**	**1.6%**	**-0.9%**	**-0.6%**	**-0.1%**
134													
135	NOTE: The modified proposal is based on analysis of station investment through FY14, but the percent allocation is applied to the initial proposal investment (through FY13) for comparison purposes.												

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