

Capital Investment Review (CIR)

Written Follow-Up Responses

Additional Follow-Ups will be addressed at the April 19-20 Discussion Meetings.

April 12, 2012

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Process Related / Project Prioritization/ Others

NRU Request

CIR and IPR processes, pages 7 and 8. The CIR discusses “draft asset strategies and a long term capital forecasts that will not be addressed in IPR.” The CIR however in many instances includes both an “initial” and higher “preferred” 10 year capital plan. Absent better certainty regarding probable funding mechanisms in CIR, customers should not be precluded from discussing long-term capital investment levels during IPR.

Why are preferred alternatives being proposed for Transmission, Facilities and Security are we likely to see these or other new proposals again during the IPR, and if so how will they be accommodated?

BPA Follow-Up

About three years ago, BPA developed several draft asset strategies and shared them during the 2010 IPR. As the IPR progressed, it became apparent that several capital spending conclusions increased pressure on BPA’s Treasury borrowing authority. After the IPR concluded, the agency determined a need to take at least a 10% reduction from the 10-year total capital spending levels presented in the 2010 IPR.

BPA developed and presented capital investment levels incorporating an overall 10% reduction from the 2010 IPR 10-year capital forecasts during the 2011 Strategic Capital Discussions. When the 10% reduction levels were developed (now the base forecast), it was not based on a fundamental change in drivers for the asset strategies.

After refreshing the asset strategies for the 2012 CIR, BPA found that the drivers for capital investment needs were the same as the 2010 draft asset strategies. Much of the condition and criticality assessments did not change; some investments had occurred moving the asset to lower priority, but others moved up in priority. In addition, some of the asset categories determined, as they developed or updated their asset strategies, that there are new factors that drive a need for higher spending - in the FY 2012-15 period only, in the case of Transmission, and in total over the 10-year period for Facilities and Security.

As noted in Section 2.1 of the initial CIR publication, both the base and “preferred” alternatives are under analysis and executive review. BPA welcomes comment on the alternative/preferred scenarios provided, and will consider comments in determining what forecasts to propose for FY 2013-2015 in the upcoming IPR process and then the subsequent rate case. Comments will also inform the final asset strategies.

NRU Request

What lapse factors is BPA assuming for capital spending in each functional area?

BPA Follow-Up

Each program/asset category has developed their forecasts of capital investment without a “lapse factor”. Graphs and data provided in asset strategies generally do not reflect a lapse factor. For planning/ budgeting purposes, Finance applies a lapse factor of 15% to the forecasts developed by certain asset categories, specifically Transmission, Federal Hydro, Facilities, and Security.

Snohomish/M-S-R/NRU

How will the CIR and the IPR processes intersect? How will BPA present/include the cost of debt required to support proposed capital investment in the IPR? What information will be available for customers to see costs that will be added to the FY 14/15 rate period? What decisions are made in the CIR and IPR proceedings that will become inputs to the rate determinations in the rate case? The customers have been told that unless parties speak up now, the issues cannot be addressed in the rate case.

BPA Follow-Up

As noted in section 3.1 of the CIR publication, comments received in the CIR process will be considered when finalizing draft asset strategies and will inform proposed capital investment levels for FY 2013-2015 in the 2012 IPR. In addition, depreciation and interest forecasts in support of proposed capital levels will be shared in the IPR. BPA will provide an update on Access to Capital in the summer. Customers are encouraged to comment on funding tools and proposed spending levels for capital & expense. After the close of the IPR comment period, and informed by input received in the IPR and CIR process, the BPA Administrator will determine spending levels for use in the upcoming rate case. As has been the case in the past, BPA uses the IPR process (and now the CIR process) to discuss spending levels, and does not intend to make them subject to litigation in the rate case. There are exceptions, of course, for costs that are outputs of rate design and rate case assumptions such as power purchases and ancillary services.

Regional Tour Question, March 30, 2012 Longview:

Are the forecasted hydro capital expenditures expected to be less than the forecasted depreciation?

BPA Follow-Up:

No, the forecasted hydro capital expenditures are not expected to be less than the forecasted depreciation.

M-S-R Request:

Identify which planned investments are driven by reliability requirements versus those being promoted to advance BPA's business objectives.

BPA Follow-Up:

Much of BPA's investment program is directed at reliability or availability. Reliability is central to BPA's business objectives. Part of BPA's mission statement is to "assure the Pacific Northwest an adequate, efficient, economical and reliable power supply" and the agency's vision statement includes the intent to be "a national leader in providing high reliability" as one of its four pillars.

The primary way to delineate between reliability and other investments is the "expand" and "sustain" categorization of BPA's investment program. Figure 12 on page 30 of the initial CIR publication provides that break-down. The sustain program is primarily directed at maintaining the reliability and capability of existing assets, but is not exclusively so. However, a closer look at the sustain program for FY 2012 to FY 2015 found that almost 94 percent of the sustain expenditures were categorized as reliability driven, as opposed to being driven by safety, environmental, security or business continuity concerns.

The "expand" investments are directed at adding capacity, flexibility, productivity, etc. That is not to say that these investments don't also have a reliability benefit. For example, the Big Eddy – Knight 500 kV line provides additional capacity, but it also opens alternative paths into existing load centers that will result in added system reliability.

Snohomish Request:

Please provide a new table/chart, similar to that provided on page 77 of the March 8 Kickoff PowerPoint, that identifies the capital investment for each functional area for "Sustain" and "Expand". Said another way, please identify the portions of the capital budget for each asset strategy that are "Sustain" vs. "Expand" projects.

BPA Follow-Up:

BPA's distinction between "sustain" and "expand" projects is under discussion and open to modification as part of BPA's proposed capital project prioritization. The following table is an example based on the current thinking and may evolve as BPA's capital project prioritization is further refined.

BPA Capital Investment Plan by Asset Category, Sustain/Expand												
Millions \$	FY 2012	FY 2013	FY 2014	FY 2015	4-Year Total	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	10-Year Total
Security												
Sustain	-	-	-	-	-	-	-	-	-	-	-	-
Expand	4.2	4.9	4.9	4.9	19.0	6.0	5.2	5.9	6.1	5.2	5.7	53.0
Subtotal Security	4.2	4.9	4.9	4.9	19.0	6.0	5.2	5.9	6.1	5.2	5.7	53.0
Facilities												
Sustain	8.3	6.3	9.2	6.0	29.7	16.0	11.5	9.3	8.6	8.8	4.5	88.4
Expand	6.0	19.5	16.4	13.9	55.8	14.5	19.5	11.7	12.0	12.0	12.0	137.5
Subtotal Facilities	14.3	25.8	25.6	19.9	85.5	30.5	31.0	21.0	20.6	20.8	16.5	225.9
IT												
Sustain	19.8	19.3	18.9	17.7	75.6	17.1	19.3	19.7	16.8	22.1	19.1	189.7
Expand	29.0	22.3	23.7	26.0	101.0	27.6	26.5	25.4	28.5	23.2	26.2	258.5
Subtotal IT	48.8	41.6	42.6	43.6	176.7	44.7	45.7	45.1	45.3	45.3	45.3	448.1
Fish & Wildlife												
Sustain	-	-	-	-	-	-	-	-	-	-	-	-
Expand	59.8	67.1	60.3	41.8	229.0	36.7	30.8	28.6	44.8	45.0	43.6	458.5
Subtotal F&W	59.8	67.1	60.3	41.8	229.0	36.7	30.8	28.6	44.8	45.0	43.6	458.5
Energy Efficiency												
Sustain	-	-	-	-	-	-	-	-	-	-	-	-
Expand	89.0	72.0	77.0	92.0	330.0	94.8	97.6	100.5	103.5	106.7	109.9	942.9
Subtotal Energy Efficiency	89.0	72.0	77.0	92.0	330.0	94.8	97.6	100.5	103.5	106.7	109.9	942.9
Federal Hydro												
Sustain	230.6	248.3	249.8	245.1	973.9	248.3	244.3	249.9	250.7	251.4	253.3	2,471.8
Expand	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal Federal Hydro	230.6	248.3	249.8	245.1	973.9	248.3	244.3	249.9	250.7	251.4	253.3	2,471.8
Transmission												
Sustain	208.1	424.2	444.8	368.5	1,445.7	273.1	230.1	229.0	241.9	237.7	225.8	2,883.2
Expand	400.4	327.4	257.5	241.4	1,226.7	313.4	284.0	297.2	167.1	200.1	334.0	2,822.4
Subtotal Transmission	608.6	751.6	702.3	609.9	2,672.4	586.5	514.1	526.2	409.0	437.7	559.7	5,705.6
Subtotal Asset Categories												
Sustain	466.8	698.1	722.7	637.2	2,524.9	554.4	505.2	507.9	518.1	520.0	502.6	5,633.0
Expand	588.4	513.3	439.8	420.0	1,961.6	493.0	463.5	469.4	362.0	392.1	531.3	4,672.8
Subtotal Asset Categories	1,055.3	1,211.4	1,162.5	1,057.3	4,486.4	1,047.4	968.7	977.3	880.1	912.1	1,033.9	10,305.9
Lapse												
	(126.9)	(152.9)	(144.7)	(129.6)	(554.0)	(128.3)	(116.9)	(117.2)	(99.6)	(104.4)	(122.4)	(1,243.0)
Total w/Lapse	928.3	1,058.5	1,017.8	927.7	3,932.4	919.1	851.8	860.0	780.4	807.7	911.5	9,062.9

M-S-R Request:

Examination of the past O&M decisions and the identified strategies moving forward - how much of the needed investment now is a result of deferred maintenance and how much is to keep plant in operation or to expand transmission capabilities?

BPA Follow-Up:

Over the next 10 years approximately 50% of BPA Transmission's capital budget is targeted for investment in replacing existing assets. The majority of the transmission system was built more than 40 years ago and critical infrastructure needs to be replaced or upgraded to continue to provide reliable service to customers. Section 4.3 – Strategic Challenges (pages 14-18) covers the issue of an aging infrastructure and the need to take action. The Sustain Program asset strategies have specific plans that

address the issue of aging infrastructure. BPA proposes to spend \$2.9 billion over the next 10 years to address the backlog and coming bow wave of replacements needed. The other half of BPA's Transmission planned capital expenditures will be for expansion and upgrades to the system to meet increasing demands to serve new load and to integrate wind and other renewable energy resources.

BPA recognizes that in the past there has been underinvestment in replacement of assets that were built prior to 1960. For example, in the late 90's, BPA replaced less than 100 wood poles on a system of 5,000 miles of wood pole lines with approximately 75,000 wood poles. Since the early 2000's, BPA has been increasing the rate of wood pole replacement. Over the past two years BPA has replaced 2,130 wood poles and rebuilt 146 miles of wood pole transmission line. The plan is to continue aggressive wood pole replacement and line rebuilds over the next 10 years to address the backlog and continue to provide safe, reliable transmission service.

M-S-R Request:

Do investment decisions consider cost of debt, availability of capital, or impact on rates?

BPA Follow-Up:

The issues of cost of debt, availability of capital and impact on rates are better addressed at a strategic level rather than at an individual investment level. BPA is working to refine the tools to better define "affordability" around these parameters. That work will inform the target levels that are set for the asset strategies in the future.

For individual investments, it is preferable to separate the investment decision from the financing decision. BPA first evaluates investment decisions based on the merits of the investments themselves. All capital investments require a business case that establishes the justification for the project and provides an analysis of the costs, benefits, risks, etc. To be approved, an investment proposal must establish its value independent of the particular financing that may or may not be available to it. There is certainly an awareness of what sources of financing are available to an investment as it comes through the review and approval process. However, the decision of how an investment will be financed is generally made after the project makes it through the approval process.

With respect to availability of capital, there is widespread understanding of the capital availability challenges and that concern is never far below the surface as investment proposals are brought forward and evaluated. The capital availability concerns also drove the application of constraints for investment levels in the strategy development process.

Financial impacts are often considered for major investments (over \$7 million in direct capital costs). The present value of the incremental revenue requirement is often calculated to illustrate the impact of the project on the agency's future revenue requirement (rates). In particular, this incremental revenue requirement calculation is used to evaluate the rate impact differences between alternatives considered in a project proposal.

M-S-R Request:

What analysis is done to show that a decision to build or repair will have an appreciable benefit on BPA operations - a form of what gives the agency the biggest "bang for the buck" in meeting strategic policy goals and why? (this goes beyond the standard cost- benefit analysis);

BPA Follow-Up:

Life cycle cost analysis, total economic value – is the approach BPA uses to decide whether to repair or replace an existing asset. A decision to build (expand/ upgrade system) depends on system adequacy and demands being placed on existing infrastructure, either from load serving customers, generation interconnections, or both. Many build alternatives are examined as well as non-wires alternatives such as demand response, energy conservation, energy storage and distributed generation to arrive at the most economic, biggest “bang for the buck” in meeting requirements. Capital projects that exceed \$3 million go through a rigorous agency capital review and approval process, requiring a business case that includes risk assessment, evaluation of alternatives, and economic analysis. The agency uses this approach to assure that we have consistent, standardized approach to making capital investment decisions.

M-S-R Request:

Many stakeholders have suggested that BPA has not kept up with reliability requirements, upgrades, and improvements based upon NERC requirements both as a BA and as a power marketing agency. A better understanding by its customers of what is required is important to alleviate the idea that "but for wind" these requirements would not occur.

BPA Follow-Up:

BPA does not plan to cancel or defer capital investment projects that are critical in meeting its obligations to provide adequate, efficient and reliable regional transmission and power services. Central to the asset strategies are assuring the timely maintenance, repair and replacement of equipment based on its risk of failure and consequence to reliable system operations. NERC requirements are important decision criteria in planning replacements, upgrades and system expansion. NERC requirements are evolving and BPA is adapting business practices as well as considering these new requirements in prioritizing capital investments. These requirements are one of several key drivers of capital investment in the current plan.

PPC Request:

Please include a discussion of which capital projects can use third party financing. How does third party financing affect the cost of the projects and subsequent debt service?

BPA Follow-Up:

BPA has statutory authority to utilize third party financing for its Transmission assets. In order to be lease financed, the asset must qualify for capitalization and should be limited to "physical plant" (fixtures), generally with an asset life greater than or equal to 15 years. Certain items, such as land, access roads, retirements, certain spare parts, rolling stock and jointly-owned assets are not eligible for third party financing. The cost of third party financing has averaged to be approximately 80 basis points higher than treasury borrowing. We anticipate this cost differential to increase as bank financing is becoming more expensive relative to Treasury financing.

Energy Efficiency

NRU Request:

Why are the CIR levels for energy efficiency almost half of the 2010 IPR levels? Does this mean that BPA has decided to allow more customers to self-fund conservation?

BPA Follow-Up:

There has not been a decision to change policy from having 25% of the programmatic savings be self-funded by customers. For the 2010-14 targets associated with the 6th Power Plan, BPA's Action Plan assumes that that 25% of programmatic savings would be achieved through customer self-funding over the 2012-14 period. With this assumption, updated costs for energy efficiency based on acquisition costs experienced in 2011, and a carryover of energy efficiency achieved under the 5th Power Plan in excess of the 5 year target, BPA's updated Action Plan projects that the public power's 504aMW share of the 5-year 6th Power Plan target can be achieved with the \$459 million capital budget programmed for the five-year period. In the Strategic Capital discussions that took place last Fall and Winter the numbers that are now in the CIR were shared

[http://www.bpa.gov/corporate/Finance/FinancePublicProcesses/2011-11-](http://www.bpa.gov/corporate/Finance/FinancePublicProcesses/2011-11-17_MeetingMaterial_final.pdf)

[17_MeetingMaterial_final.pdf](http://www.bpa.gov/corporate/Finance/FinancePublicProcesses/2011-11-17_MeetingMaterial_final.pdf) Slide #27). For FY 2015-21 the budget modifications reflect that spending on energy efficiency is needed to meet 85 percent of load growth. Because load forecasts have been down budgets were adjusted accordingly.

In addition, because the savings targets for the Seventh Power Plan are not yet known, BPA has made an assumption that the capital needs for FY 2015 through FY 2021 will be similar to those under the Sixth Power Plan. The capital forecasts for FY 2015 through FY 2021 were determined by taking the average annual capital spending from FY 2010 through FY 2014 and increasing it by an inflation factor. As the targets from the Seventh Plan are known, BPA expects forecast spending will be adjusted to meet the targets.

NRU Request:

What is the \$/aMW acquisition cost that was used to calculate the budget figures shown on page 70?

BPA Follow-Up:

For FY 2012–14 the \$/aMW was \$1.9m. Because the savings targets for the Seventh Power Plan are not yet known, BPA has made an assumption that the capital needs for FY 2015 through FY 2021 will be similar to those under the Sixth Power Plan. The capital forecasts for FY 2015 through FY 2021 were determined by taking the average annual capital spending from FY 2010 through FY 2014 and increasing it by an inflation factor. As the targets from the Seventh Plan are known, BPA expects forecast spending will be adjusted to meet the targets. This is also explained on page 116 of the 2012 Capital Investment Review Initial Publication.

NRU Request:

What does the chart on slide 70 show? Is this only BPA's capital budget for EE acquisitions? How much will be included in BPA's expense budget? Is it correct to assume this chart does not include the assumed 25% self-funded acquisitions by utilities?

BPA Follow-Up:

The chart on slide 70 includes capital budgets only for EE acquisitions. The chart does not include any costs for the utility self-funded savings that count toward public power's share of the Council's energy efficiency target.

BPA's expense budget will be reviewed in the IPR process, but the expense budgets at this point are not expected to be significantly different than the 2010 IPR budgets.

NRU Request:

Page 116 – Given current economic conditions in the region and limited load growth, is it appropriate to take the average spending from FY 2010 – FY 2014 and increase it by inflation?

BPA Follow-Up:

The inflation factor was used for forecast purposes only, in the absence of knowing what the 7th Power Plan regional conservation targets will be. It is reasonable to use an inflation factor given the forecast covers a 10-year time period; however, one could argue about using the approximately 3% inflation factor, but, again, this was used for forecast purposes only.

Also, concerning limited load growth, it is important to keep in mind that one reason the region is experiencing limited load growth is that the region acquired close to 260 aMW of conservation in 2011 and public power acquired close to **119** aMW.

PPC Request:

Clearly, future Energy Efficiency spending, the expenses associated with energy efficiency, and how those expenses are accounted for, are going to be a major issue, that will involve a number of BPA processes. One useful thing that should be done in CIR is to delineate which processes are going to make which decisions with regard to Energy Efficiency.

BPA Follow-Up:

The CIR process should be home to the discussion of capital vs. expense for energy efficiency. The full EE budget will be reviewed in the IPR process. The Post-2011 review will be the process for discussing making changes to the existing 75% BPA-funding, 25% utility self-funded split, as BPA stated in the Post-2011 Implementation Program.

PPC Request:

We also need to know why there is such a major forecasted increase in capital spending between the 2009 IPR and the CIR. For example, forecasted Energy Efficiency capital spending is about 50% higher in FY12-14 in the CIR than was forecast in the 2009 IPR, and later forecast energy efficiency capital spending was \$40 million a year in the 2009 IPR, but increased to about \$100 million a year in the CIR. Is this an artifact of capitalizing conservation spending, or does this reflect real spending increases. If it reflects real spending increases, what is the rationale for these forecast increases?

BPA Follow-Up:

The 2010 IPR Final Close-Out Letter (October 27, 2010) in Table 13 (pg. 28) shows Conservation Acquisition capital costs as follows:

2010 IPR

\$ millions	2012 IPR	2013 IPR	2014 IPR	2015 IPR	2016 IPR	2017 IPR
Conservation Acquisition	\$104	\$111	\$117	\$145	\$180	\$190

2012 CIR

\$ millions	2012	2013	2014	2015	2016	2017
Conservation Acquisition	\$89.0	\$75.2	\$75.2	\$94.8	\$97.6	\$100.5

The numbers have been modified since that time for 2012 – 2014 as a result of the 2011 capital spending. The subsequent years are being reviewed in the current CIR process.

Snohomish Request:

Are the figures shown in the Initial Publication for the 10-year EE capital investment accurate? Has the agency made some assumptions about allocations of investment that will be published in the IPR?

BPA Follow-Up:

The capital investment numbers shown in the Initial CIR Publication are BPA’s initial proposal of spend for EE capital. Expense budget projections will be shared in the upcoming IPR process, but should not vary significantly from the 2010 IPR process.

Federal Hydro

NRU Request:

Page 102 – We would like to discuss the selection of the 12% discount rate selected by BPA to derive the \$250 M per year capital program. What discount rates do other comparable entities use?

BPA Follow-Up:

The purpose of the cited section (8.11 on page 102) of the presentation document is to show that with a lower discount rate, a larger capital program could be justified. The spending level of \$250 million represents an affordable program given the many constraints faced by BPA, including access to capital and rate pressures. If a comparable entity used a lower discount rate than BPA, that fact would not provide justification for BPA to increase its capital spending level. Or if a comparable entity used a higher discount rate, that would not be justification for BPA to spend less on capital given BPA’s unique business needs. BPA will consider all comments as to other affordable spending levels for the hydro capital program.

Fish and Wildlife

NRU Request:

Page 121 – Please provide a breakout for FY 2013 – FY 2015 for land, hatcheries and passage of the individual projects and reference whether they are mandated by a Bi-Op, Fish Accords, or other settlement agreements.

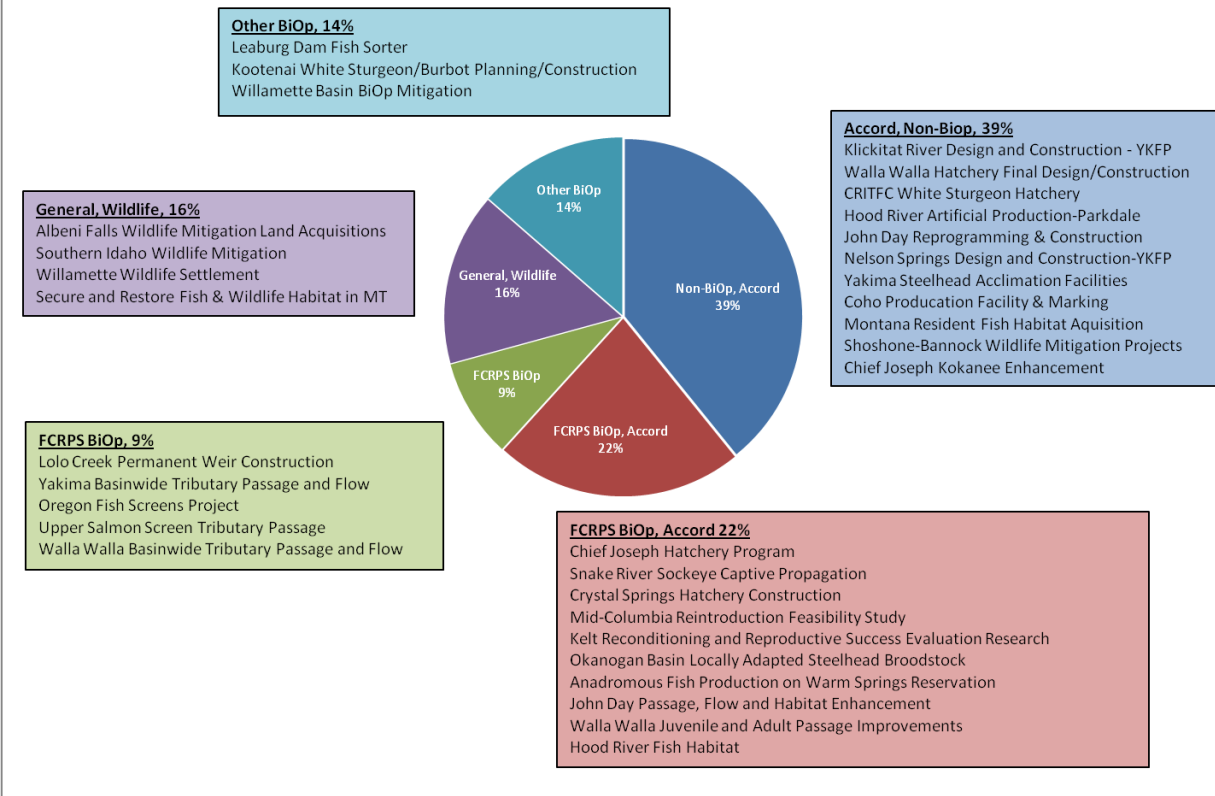
PPC Request:

Provide a listing of currently planned fish and wildlife projects over the ten-year period, divided up by the justification for the project (i.e. BiOp, fish accords, or discretionary).

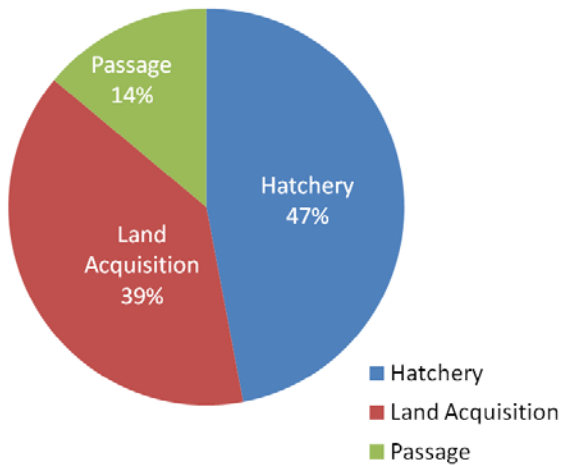
BPA Follow-Up:

See charts below

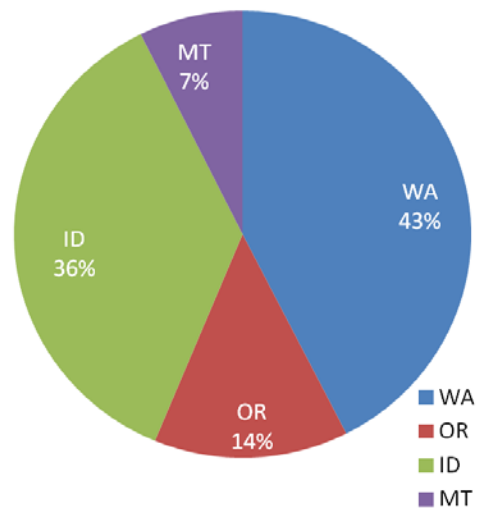
FY13-15 Total Budget \$169.2M
 (FY13=\$67.1M, FY14=\$60.3M, FY15=\$41.8M)



FY13-15 Total Budget \$169.2M



FY13-15 Total Budget \$169.2M



Transmission

NRU Request:

A floor on funding transmission replacements is set at the level of transmission expense for transmission assets. How does this compare to past practice and the capital budgets being presented here for the future?

BPA Follow-Up:

The proposed spending floor for Transmission Services sustain programs is proposed to be set based on the sum of two factors:

- Annual depreciation expense (that is, annual depreciation rates as established in the agency's depreciation study *times* gross historical plant).
- Added amounts, as approved by the agency, to compensate for years of underinvestment in select asset groups and to accommodate inflation.

The most recent depreciation study, completed in 2011, determines the depreciation total at \$128.7 million.

During 2007 - 2011, funding for the sustain programs has averaged less than \$100 million each year. The current IPR proposed capital funding for the FY 2012-21 sustain program is forecasted at an average of \$181 million each year.

The Replacement Program was developed from risk-based Sustain Asset Management plans. The approximately \$52 million above the depreciation total may represent, in part, past underinvestment and inflation. This amount is still being analyzed to determine if this provides adequate funding to meet the sustain program objectives. It should also be recognized that some equipment is also replaced due to Upgrades and Main Grid expansion projects.

NRU Request:

We are concerned that the "seven strategic objectives" says very little about BPA's obligations for Network Transmission Service and seems to over emphasize integrating non-federal wind resources. Also, we may not be aligned with the "Vision" on page 2 of Appendix A of "maximize economic value for the region," because this is not necessarily our interpretation of what NT service means. We need a better discussion of BPA's fundamental obligation to serve its native load as part of its strategic direction (see for example Page 5 of the Appendix).

BPA Follow-Up:

We believe that Strategic Initiatives I-3, I-4 and I-5 address Network Service. We are happy to discuss this further.

I-3. Improve forecasting ability, conduct screening studies for alternatives (including non-wires alternatives), and **develop long-term plans for BPA's load service areas where system reinforcement is necessary** (G4)

- Develop metrics for customer requested screening studies to help determine resource requirements and customer service levels.

I-4. Evaluate options for providing service to transfer customers that improve reliability and reduce life-cycle costs (G4)

I-5. Implement a regional expansion plan that (1) is long term and integrated with resource planning, (2) meets reliability standards and (3) is directed at minimizing total system costs (by date) (G5)

- Support and apply established WECC expansion planning process and policies

NRU Request:

Provide review of transmission capital investment benchmarking done to date with other utilities. CIR provides little quantitative information comparing BPA performance to other entities. Is the benchmarking study prepared for the 1st Qtr that compares line and substation assets with other N. American utilities available? Initial Report, pg 44

BPA Follow-Up:

BPA Transmission's organization participated in the 2010 Transmission & Distribution Benchmarking Community survey. This is a North American study with utilities participants consisting of Austin Energy, BG&E, BC Hydro, CenterPoint Energy, CPS Energy, Entergy (multiple operating companies), E.ON U.S. (LG&E and Kentucky Utilities), Exelon (PECO & ComEd), Hydro One, Hydro-Quebec, National Grid (multiple operating companies), Oncor Electric Delivery, Puget Sound Energy, Westar, Arizona Public Service, Kansas City Power & Light, Northwestern Energy, Omaha Public Power District, PEPCO (3 operating companies), PSE&G, Tennessee Valley Authority, Tucson Electric Power, PG&E, and We Energies. The years examined in the study are 2006 to 2009.

The following are FY 2009 comparisons for line and substation capital programs:

- The line replacement capital spending percentage to installed asset base is lower than average. BPA's replacement rate is 2.2% while the mean is 3%.
- The line expansion capital spending percentage to installed asset base is also lower than average. BPA's spending rate is 1% while the mean is 1.7%.
- The substation capital spending percentage to installed asset base is also lower than average. BPA's spending rate is 5% while the mean is 9.2%.

With a unique electric system, longer circuits, higher line voltages, and lower substation delivery voltages than the average transmission system within the benchmarking community, BPA is one of the Big 5 in the panel with: >1k circuit miles; 10 M MWh transmitted; 500kV circuits. It also has some "ISO-like" responsibilities (scheduling, ancillary services, etc.) in the Northwest that other transmission operators don't have. It is therefore important to appropriately normalize the data for benchmarking purposes.

BPA's transmission O&M spending in FY 2009 was higher than average on all three normalizing variables, but demographics influence these costs (e.g. extensive 500 kV system and large territory). When FY 2009 costs are adjusted for the relatively higher proportion of 500 kV on BPA's system versus the benchmark community then O&M costs are less than average.

Overall capital spending (activity-based) is lower than average, and the percentage rate of replacement rate is low, but has been increasing steadily over the last 4 years. For example, on an activity basis, Transmission line capital spending less new lines per asset is in the 4th quartile (lowest spend) with a

2.16% spend level versus a mean of 4.67%. Additionally, Transmission Line capital additions rate per asset is low compared to the group and has been decreasing over the last few years

In the substation area the benchmarking analysis is based on the usage definition, with all stations included, since their primary purpose is transmission to the distribution systems of the customers. For BPA, substation spending is higher than average for the benchmark group, both in O&M and in capital replacement. It's important to note that O&M costs for distribution substations (i.e. the smaller stations) are consistently higher than those for transmission substations. By including all BPA stations in the transmission analysis, results may possibly be skewed as a result of comparing substations for distribution against transmission stations for others.

NRU Request:

Regarding the Investments being made as a result of PTSAs, how is BPA reviewing its forecasts of planned spending in light of the wind fall off? We should have a discussion with Jim Haller regarding this handout. Are the assumptions in here still correct?

BPA Follow-Up:

As part of the budgeting process, BPA Transmission reviews the need and timing for each of the projects identified in its 10 year portfolio. From year to year, system conditions change. Where appropriate, projects have been delayed, deferred or cancelled if warranted. Presently, many of the funds being spent on Expansion capital projects are in the Non-Discretionary category, meaning that they must be completed in response to a law, appropriations act, regulation, tariff, or contract requirements.

BPA Transmission reviews each of the projects with the signatories to the PTSA prior to moving forward with construction. In the case of Central Ferry-Lower Monumental, a decision to delay the project was made with those signatories to the agreement based upon current market conditions. Likewise, the I5 Corridor Reinforcement project has been deferred 2 years and is presently forecast to begin in FY15.

Additionally, predicated upon today's market forces, we believe that several of the GI projects will be placed in service later than what was originally identified in the GI Strategy. These actions may or may not impact the timeframe for the PTSA agreements that we have with our customers.

Lastly, it is important to note also that the projects identified through these agreements provide far reaching benefits to the region in that each project addresses longstanding system deficiencies. For example, Big Eddy-Knight ensures reliable service to the Portland-Vancouver area for winter peak loads. The concern about terminated PTSA's impact may be offset by the eventual need for the region to meet the RPS requirements in later years.

NRU Request:

Reference is made to a regional imbalance market and the potential demand to invest capital to increase dynamic transfer capability. Are there any funds assumed in CIR for that purpose? Initial Report, pg 49

BPA Follow-Up:

There are no funds included in the CIR to fund, support, or develop systems for an energy imbalance market per se. BPA is working with the Northwest Power Pool's new Market Assessment and Coordination Committee to (NWPP-MC) to explore various operational and market mechanisms that may augment our ability to integrate variable resources while maintaining system reliability and cost-effective operations. The mechanisms that are to be explored include, but are not limited to, a regional

energy imbalance market. When and *if* this process leads to a regional decision to pursue an energy imbalance market, BPA will make appropriate capital investment plans supportive of that change. In parallel, BPA has been and will continue to mature our capability to integrate variable resources via system and process improvements. Examples of this include implementation of intra-hour scheduling, potential expansion of tools such as dynamic transfer capability, and consideration of investment in complimentary resource types such as demand response and pump storage.

BPA continues to work with the Dynamic Transfer Capability Task Force under the Wind Integration Study Team to examine the need for additional DTC. A next step is to identify potential investments that may be required. No funds are assumed in CIR. Also see response to comment #59.

NRU Request:

Regarding Celilo and the major investments made in the past (2001 to 2004), how do they work with proposed new investments? Initial Report, pg 52

BPA Follow-Up:

Between 2001 and 2004, the mercury arc valves in Celilo converters 3 and 4 were replaced with equivalently rated and configured solid-state thyristor valves as roll in replacements. The mercury arc valves had far exceeded their design life and required extensive ongoing maintenance effort to keep them in service. Failure to replace the mercury arc valves would have resulted in derating the PDCI from 3100MW to 1100MW. There were also significant environmental and risk reduction benefits from removal of mercury from the Celilo site.

In depth studies completed in 2011 looked at the projected investments needed over the next 30 years to maintain reliable performance of the 3100MW capacity. The present worth cost of the stream of incrementally replacing aging equipment at the end of their service lives was substantially higher than the cost of a new, modern converter terminal. This new converter would also allow upgrading the PDCI rating by 120MW initially and ultimately by 700MW for north to south transfers at modest additional cost for the converter station.

The replacement valves installed in 2001-2004 will be retired from service at the end of 2016, five to eight years ahead of their 20 year expected service life. BPA is studying the possibility of reconfiguring these retired valves and transformers from converters 3 and 4 as a static VAR compensator (SVC) to provide needed dynamic reactive reserve in The Dalles area. This duty would be much less demanding on this older equipment extending the service life.

NRU Request:

What is Endeavor?

BPA Follow-Up:

Endeavor is the name given to a Transmission Services initiative being launched this year to address the need for an integrated solution to execute Transmission's asset management strategy. Endeavor will provide a centralized 10-year horizon of asset program information from strategy through execution for the purpose of planning, project execution, and performance tracking, evaluation and improvement.

It will be a Transmission asset program-enabling solution providing visibility into work that has been done, is being done, and needs to be done. It will make the right information available, to the right people, at the right time, in the right format, to:

1. Consolidate, integrate, and/or align data across processes, systems and functions
2. Customize user/functional views, modeling, and reporting to support the development and management of strategies and plans across all of Transmission
3. Support and enhance quality reporting and data-driven decision making
4. Support the management and tracking of performance against Transmission plans

Endeavor has begun the initial stages of requirements gathering. At this time, it is anticipated that the requirements will feed:

- Process standardization and improvement, leading to increased efficiencies in the business
- Utilization of tools and system(s) for housing, managing, and reporting against project data
- Visibility into the 10 year horizon, including the ability to create custom views and portfolios

It is expected that Endeavor will produce a combination of process improvements and system enhancements that will enable BPA to combine and sequence work, resulting in the ability to scope projects differently (for example, combining and sequencing work to be done at a single location into one project). This may include updating of workflows and existing technology and functionality. There may also be a need to acquire or develop additional technology, at which point the Agency's IT project prioritization process will be followed. As Endeavor is currently in the Requirements Gathering phase of the project, it is early enough in the process that we do not have a full understanding of what will be needed to meet the goals and objectives, but these are our early expectations.

NRU Request:

Discussion of Asset Portfolio Management is needed.

BPA Follow-Up:

BPA uses the term Asset Portfolio Management to represent the processes and actions needed to manage resources (both dollar and human) against work to be done within a timeframe. Using various techniques, good asset portfolio management determines the optimal allocation of capital among various assets that are in line with the timeframe, risk tolerance, expense tradeoffs and agency goals and objectives. Techniques used will allow for what we call "scenario modeling" - if a program manager has their 10 year asset plan established, and work has to shift due to a critical project that has come in, that program manager can then adjust their portfolio to not only account for the new project, but also determine the best way to reallocate current and near-future projects in order to ensure that all projects get completed within an acceptable timeframe, and that project budgets and spends are more easily viewable and trackable. Transmission Services is also in the process of developing models that will also identify the optimal level of funding and resources to be allocated *between* the different asset programs that result in the lowest total economic costs. These efforts will result in better asset portfolio management and ensure Transmission Services is optimizing its funding and resources to the greatest benefit for the system and our customers.

NRU Request:

We would like a discussion of the Transmission Asset System and how it works with standardized risk assessment. Is this just about transmission, or is this cross agency?

BPA Follow-Up:

The Transmission Asset System (TAS) is being developed by the Transmission Services organization to track Transmission's asset information and condition. The focus of TAS is on Transmission Assets only. IT assets, for example, are managed separately in BPA, and Corps, Bureau and ENW have their own systems.

The system is being implemented in phases and is currently operational and collecting condition data for assets inside of substations such as transformers, breakers, relays, etc. The next phase of development starts this year and will be focused on acquiring condition data on line assets and enhancing information on the assets inside of the substation.

A risk assessment factors in both the health and the importance of an asset and are highly dependent on having informative, accurate, and consistent asset condition information. Since the transmission asset programs are all at different stages of inclusion in TAS, and therefore have varying levels of accurate asset information, we do not have the data necessary to perform standardized risk assessments across all programs. In the areas where we are collecting the necessary data, we need to increase the quantity of the data before we can adequately perform the analysis we desire.

Completing our full vision will take time. In most cases this time is directly related to a need to "touch" the asset multiple times before we can have fully robust data set. Within the next 5 years, it is expected that all assets will have been assessed and have adequate condition information input into TAS. At that point, Transmission Services will be better positioned to develop standard metrics for assessing the assets and determining the risks across its entire program.

NRU Request:

On page 57, there is the Preferred Alternative Strategy, more discussion of this is needed, what is it, why is it here, is BPA seeking comment here?

BPA Follow-Up:

In an effort to conserve available capital funding, in September 2011 BPA proposed a 10% reduction to all capital programs for the FY 2012-21 timeframe. This activity established the total capital investment proposal for the 10-year period and set annual limits for the FY 2013-15 timeframe. The guidance for developing the IPR forecast was to propose a budget scenario that held to the 10-year total and remained at or below the annual totals for FY 2013-15.

This is the forecast that is included in the agency's total capital budget shown in the CIR publication. For Transmission Services to meet this guidance, the initial CIR forecast requires the delay of the I-5 Corridor Reinforcement and Northern Intertie projects and calls upon alternatives to meet load service obligations and maintain a reliable system during the delay period.

BPA also provided each asset category with the opportunity to develop a preferred alternate scenario that is not constrained in years FY 2013-15. For Transmission Services, the proposed preferred alternate has the same 10-year capital total but shifts dollars between FY 2013-15 to keep the I-5 and Northern Intertie projects on track with the originally proposed schedule.

BPA is asking customers to provide feedback and input on the budget levels that have an impact on the schedule of key Transmission projects

NRU Request:

What does this statement mean on page 64: "It should be noted that the individual sustain program strategies contain optimized replacement programs and funding levels that were developed to best mitigate the risks and, therefore, may not match the currently constrained capital investment levels. Each program is under review to determine a revised implementation plan that will align with capital availability, priorities and resource constraints".

BPA Follow-Up:

The sustain program strategies first developed unrestrained, optimized replacement programs and funding levels which best mitigate system risks. Due to identified capital availability, other system priorities and resource constraints, the sustain programs have applied those constraints to produce a "next best" alternative which best optimizes the replacement programs, while minimizing increased risk to the system. Updates to the implementation plans for each program will be posted prior to the April 20th workshop.

PSE Request:

BPA should explore the potential for joint transmission projects (in addition to lease financing). BPA's AC Intertie, Third AC Capacity Ownership, Westside Northern Intertie, and Montana Intertie Agreements are examples of a wide variety of joint transmission projects that BPA has undertaken. Joint transmission projects should be able to help alleviate strains on BPA's access to capital and may for example help relieve transmission constraints and increase available transmission capacity.

BPA Follow-Up:

BPA recognizes that joint transmission projects can provide benefits in some cases, especially for large projects that provide more capacity than a single utility needs. BPA has entered into agreements to evaluate potential joint opportunities in the following proposed transmission projects:

- Boardman to Hemingway (B2H, with Idaho Power and PacifiCorp)
- Cascade Crossing Transmission Project (CCTP, with Portland General Electric)
- Mountain States Transmission Intertie (MSTI, with Northwestern Energy)

A guiding principle is that the agreement must be good for the Northwest as a whole and for BPA's customers as a whole.

PSE Request:

BPA should explore solutions to Transfer Variability Limits issues on BPA's balancing authority area. There may be "low hanging fruit" in the form of solutions - such as RAS automation or reactive equipment - that can be installed at a relatively low cost. If so, allocation of the costs of such solutions should not be particularly contentious, in light of the fact that transmission system upgrades made to mitigate the effects of unanticipated power flow from variable energy resources will likely provide benefits to users of BPA's transmission system more generally (not just to those with variable energy resources).

BPA Follow-Up:

BPA has been engaged on issues relating to Transfer Variability Limits for several years through the Wind Integration Study Team's DTC subgroup. It has established policies for customers to request and receive awards to use dynamic transfer capability on BPA's system. These efforts have provided valuable insights into dynamic transfer capability issues.

BPA is considering the question whether it should grow dynamic transfer capability on its system, including the purpose for doing so and the potential cost of implementation, including consideration of what might be accomplished through low cost solutions. These efforts are at a very preliminary stage and BPA has not reached any conclusions concerning these issues.

BPA has automated portions of RAS, but automating all of the RAS arming and disarming is a long-term and costly endeavor. In order for BPA to install reactive equipment, studies need to be run to find where it would be most beneficial. Input to the studies has to include dynamic transfer requests across the BPA system and at this point there are no outstanding dynamic transfer requests.

It should also be recognized that deploying more automation also requires higher work and design standards to meet NERC reliability and CIP standards.

PPC Request:

We would like to have additional discussions of BPA's asset strategies and of how Transmission Services is allocating scarce personnel and resources to the completion of various projects.

BPA Follow-Up:

Transmission Services has determined the need for a strategic staffing approach for project execution due to the identified increase in our capital program since 2008. The Strategic Capability Planning team, formed in 2011, has initiated an evaluation of the resources required for executing various types of work and begun the analyses of capacity verses demand., and documenting for planning purposes where there are identified constraints in resources to fully execute our sustain strategies and plans.

The knowledge gained from this evaluation will drive the development of resource strategies based on the availability of key resources required to execute the work plans identified in the asset strategies and will increase efficiency in project execution through more effective forecasting and use of internal and external staffing resources.

Specifically, the methodology includes

- Defining capital work packages for each program
 - Work package - a collection of work actions necessary to create a specific result.
- Capture attributes about each work package
 - Unit of Measure (Per Foot, Per Mile, etc.), Discretionary/Non-Discretionary, Capital/Expense, New Construction/Replacement, Line Outage Required?
- Capture estimates to complete 1 work package

This methodology provides visibility to

- Identify the right mix of resources needed to meet projected resource demands
- Identify highly constrained resources
- Enable strategic development of needed future resources to match capacity with demand
- Identify trends in staffing requirements
- Identify potential hours of labor forecast for outages
- Enable modeling to analyze the resource impacts of varying the number of work packages within fiscal years

This strategic capability planning is in its initial stages and has only incorporated capital planning at this time. Future work will include expense projects to form a complete picture on resource requirements.

PPC Request:**Part 1:**

Discuss load-service and reliability projects and where they fall in the budget, whether they are behind schedule and if so, why. Given that BPA has historically fallen behind on the completion of expected projects, we would like to discuss whether this is occurring and the reasons for it.

BPA Follow-Up:

The Area & Customer Service, Upgrades & Additions and System Replacements (Sustain) programs equal roughly half to three quarters of the Transmission capital program through the FY14/15 rate period depending on the year observed. All of the line/load service and reliability projects fall within these program areas. Historically the Area & Customer Service and Upgrades & Additions customer projects are completed on time. While we have significantly increased execution in some of our sustain (replacement) programs (i.e. Lines and Substation), we are still experiencing difficulties in execution, of some of our sustain programs (System Protection and Control & Power System Control) due to resource constraints and the difficulty of contracting out this type of work. We continue to explore different options that will facilitate completing these programs during the planning horizon. In addition we have applied lessons learned to completed projects and how the strategies were originally developed. We have determined that some assumptions were incorrect as far as timing and/or sequencing and are making adjustments within the strategies to account for the needed corrections. As an example, the amount of time to complete environmental analysis and acquire land rights and access road rebuilds in support of wood pole line rebuilds has extended the completion time for some projects.

Part 2:

We would like to see a forecast(s) of main grid expansion to support additional generation where expansion projects have not been identified by currently interconnecting generation (this would be a program and budget forecast, but not part of current program or budget). The purpose of the forecast(s) is to understand better the likely out-year capital expenditures for commercial projects driven by markets and new generation.

BPA Follow-Up:

It is near impossible for BPA to forecast potentially needed transmission for resource additions that have not already been identified by utilities or generation developers. A more comprehensive solution to NT (Network Transmission) planning, now under development, would help. We also believe that planning activities undertaken in response to FERC Order 1000 by Columbia Grid, Northern Tier Transmission Group and regional utilities will identify any gap that may exist.

Snohomish Request:

Does the long term capital investment for the Transmission Asset Strategy incorporate the current status of PTSAs? To what extent have the PTSAs been included/not included in the 10 year capital plan?

BPA Follow-Up:

As part of the budgeting process, BPA Transmission reviews the need and timing for each of the projects identified in its 10 year portfolio. From year to year, system conditions change. Where appropriate, projects have been delayed, deferred or cancelled if warranted. Presently, many of the funds being spent on Expansion capital projects are in the Non-Discretionary category, meaning that they must be completed in response to a law, appropriations act, regulation, tariff, or contract requirements.

BPA Transmission reviews each of the projects with the signatories to the PTSA prior to moving forward with construction. In the case of Central Ferry-Lower Monumental, a decision to delay the project was made with those signatories to the agreement based upon current market conditions. Likewise, the I5 Corridor Reinforcement project has been deferred 2 years and is presently forecast to begin in FY15.

Additionally, predicated upon today's market forces, we believe that several of the GI projects will be placed in service later than what was originally identified in the GI Strategy. These actions may or may not impact the timeframe for the PTSA agreements that we have with our customers.

Lastly, it is important to note also that the projects identified through these agreements provide far reaching benefits to the region in that each project addresses longstanding system deficiencies. For example, Big Eddy-Knight ensures reliable service to the Portland-Vancouver area for winter peak loads. The concern about terminated PTSA's impact may be offset by the eventual need for the region to meet the RPS requirements in later years.

M-S-R Request:

What analyses are done to more accurately reflect hydro flexibility and operations and the impact upon operations through investment in such things as RAS and AGC?

BPA Follow-Up on RAS:

Remedial action schemes (RAS) are used to maintain system stability and prevent equipment overloads following unplanned outages on the transmission system. RAS actions generally involve automated high speed (typically less than one second) switching of generators or reactive power devices, but only if a specific outage occurs while the scheme is armed. Most RAS schemes are armed manually by dispatchers for specific system conditions, though some schemes may be always armed or automatically armed. While arming may be frequent, tripping of generation is usually rare.

An advantage of RAS is that it may enable higher system operating limits in some applications as an alternative to building new transmission facilities. In other applications, additional use of RAS would not be a viable because it would either not be effective or the maximum amount is already being used. The total amount of generation armed for RAS tripping for a given outage must be limited in order to prevent the power system from becoming unstable.

BPA Follow-Up on AGC:

There are a number of potential investments in RAS and AGC. Investments in AGC would allow development of control systems that would operate more in line with the hydraulic objectives of the FCRPS. Such enhancements would allow the Federal System to provide flexibility to the balancing authority without risking other operational requirements of the multi-purpose system. Currently there are not sufficient resources to accomplish this work in light of the significant burden associated with immediate support of the existing infrastructure and mandatory standards compliance activities.

Other investments in AGC would allow for rapid insertion and withdrawal of non-federal resources into the control systems of the balancing authority, giving the balancing authority access to a greater array of tools to manage reliability instead of relying solely on the FCRPS which can have other obligations that do not allow it to operate exclusively for the needs of transmission customers or balancing authority loads.

RAS automation has the potential to free up constraints on the amount of DTC available on the transmission system. DTC limitations constrain the ability to bring in non-federal resources to provide for system flexibility and capacity needs of the Balancing Authority and the generation of the FCRPS is pressed into service for these responsibilities, at times to the detriment of other system objectives and efficient operations.

Facilities

NRU Request:

Page 76 – With regard to the \$46.2 M of Miscellaneous New Building Projects in the “Preferred Capital Plan” are there any not included in the “Initial Capital Plan of \$16.5 M that are identified as “highest priority assets” in red on page 69?

BPA Follow-Up:

The highest priority assets represented in the upper right-hand section of Chart 31 from page 69 of the 2012 Capital Investment Review Initial Publication covers existing assets only. For example, the replacement of a roof at the Dittmer control center would be treated as the highest priority when deciding how to spend expense dollars. Asset accounting has determined that for facilities, the major unit of property is the building itself. As such, replacements, refurbishments, modernizations, maintenance, and repairs are funded with expense dollars.

There is no connection between Chart 31 and the \$46.2 million capital budget line item on Table 35 from page 76 of the Initial Publication. New systems such as fences, roads, chiller plants, major additions, new buildings, removal of buildings, and hazardous materials abatement are the only type of projects that can be funded with capital dollars in the Facilities program. Capital projects are assessed and prioritized using the criteria listed in Addendum A: Capital Project Proposal Prioritization, which starts on page 32 of the Facilities Asset Strategy.

Security

NRU Request:

Page 85 – What is the consequence of not meeting the January 1, 2015, NERC compliance deadline for CIP Version 5? Are other comparable entities, such as TVA meeting the deadline?

BPA Follow-Up:

Since NERC CIP V5 is still working itself through the balloting and approval process, we do not definitively know when it will be filed with and approved by the Federal Energy Regulatory Commission. The June 15, 2015 date is our best estimate at this point in time as to when we would need to be compliant. As with any mandatory standard, non-compliance will require self reports and mitigation plans to identify when and how you will close any remaining gaps. Given the standard has been in discussion for some time, it is unlikely that WECC will look upon any self reports to version 5 favorably. WECC's response could vary and include investigations, Remedial Action Directives, and other enforcement actions.

In talking with other comparable entities, we have found that -- like Bonneville -- all are focused on being compliant with the deadline set by NERC. As mentioned above, because NERC CIP version 5 must

be filed with and approved by the Commission, the deadline is in flux. The current proposal is based upon the best information available at this time.

Access to Capital

NRU Request:

For the Celilo upgrade, the total capital cost is estimated at \$428.1 M, and the statement is that this would be funded “primarily” by non-Treasury sources. Since the project is presented outside of CIR, what is the best estimate of the impact on use of Treasury sources?

BPA Follow-Up:

If approved BPA would utilize approximately \$15 million of Treasury borrowing authority on this project for items such as access roads, retirements and certain spare parts, which are not eligible for third party financing.

NRU Request:

Does BPA intend to revise the CIR in light of likely available capital tools, and if not in the CIR process shouldn't customers be able to engage with BPA on that issue during the IPR?

BPA Follow-Up:

BPA welcomes comment on the alternative/preferred scenarios provided, and will consider comments in determining what forecasts to propose for FY 2013-2015 in the upcoming IPR process. Customers will be able to engage with BPA during the IPR.

NRU Request:

BPA should discuss the implications of further reducing the 10% reduction scenario in the event the Prepay does not materialize.

BPA Follow-Up:

Prepay options will be discussed in a summer workshop.

PPC Request:

According to BPA's proposed capital spending plans, BPA has two issues. First, that BPA does not have enough access to capital to get through the ten-year period (given planned capital spending levels). Second, BPA's capital expenditures are front-loaded, so BPA is making more capital expenditures early in the period than late in the period, and relatively less capital expenditures later in the period. This problem is exacerbated by the fact that BPA anticipates accumulating a lot of cash in the second half of the period, making it easier for BPA to fund capital projects later in the period than earlier in the period. Making more capital expenditures early in the period is a risk factor as well, since there is more variance in planned capital expenditures farther out than in the near term. What steps can BPA take to smooth its capital expenditures to address these issues? What is the role of BPA's proposed agency-wide prioritization of projects in smoothing capital expenditures over the ten-year period?

BPA Follow-Up:

Annual capital expenditures levels tend to fluctuate given that large projects come and go over the years. It is true that the early years of the proposed CIR levels are higher than the later years. The average annual capital level for FY 2012 – FY 2015 is approximately \$980 million per year, while the annual average for FY 2016 – FY

2021 is just over \$850 million. Figure 13 in section 4.6 of the initial CIR publication shows that most of the difference between the early years and later years is due to movement in the Transmission numbers. It will always be a challenge to accommodate large projects in the capital program. Delaying other projects to make room for the large, one-off projects is always an option and always considered. Because it takes a number of small projects to offset something like the PDCI project, it is a matter of determining how much disruption can be tolerated in the other programs. The strategic challenges of aging infrastructure and technological risk (see section 4.3 of the initial CIR publication) make further delay of replacements a difficult proposition. Further, tariff-driven transmission projects that arise from interconnection or transmission service requests generally result in contractual requirements that dictate the timing of the projects.

BPA's prioritization process can be expected to inform any potential smoothing effort, but it would not drive the effort. As described in section 4.5 of the initial CIR publication, prioritization is focused on the importance of projects and not their timing. Timing and sequencing occurs after projects are prioritized and can be influenced by a number of factors that could result in higher priority projects not being the first implemented. Still, the prioritization process will provide useful information in making any smoothing adjustments.