Strategic Capital Discussions

Update on Capital Spending Scenario Analysis & Rate Impacts/Funding Tools

November 18, 2011
9:00 am – Noon

Rates Hearing Room
911 N.E. 11th Ave, Portland, OR 97232

To participate via phone please dial 503-230-5566. When prompted, enter access code 9303#

Overview

- We will continue the 2011 Strategic Capital Discussions to inform and engage interested parties in weighing alternatives for ensuring capital financing at least overall cost over a rolling 10-year period.
- Cost-cutting is a valid tool, and we will continue to look for opportunities to reduce capital costs without putting at risk the projects and programs that create value for customers and constituents.
- We intend to have a robust discussion with customers and constituents later in this fiscal year on our asset strategies and our long-term capital forecast, examining the potential risks and tradeoffs of capital spending levels.
- Significant capital reductions alone will not solve BPA’s access to capital challenges, so we want to focus in this meeting on other tools available and eventually determine, with your input, which ones seem to be the most viable.
- We assumed reserve/revenue financing in our scenarios for discussion and comparison purposes, not to present a firm BPA position.
- Some customers have shown interest in continuing the discussion of Power prepays so we have some additional information today.
- We have suspended activity on third-party non-Federal conservation financing while we discuss the future conservation capital program, so the scenarios assume Treasury (Federal) financing for the conservation program.
- A combination of tools presented in our scenarios can potentially achieve the target for ensuring capital financing over a rolling 10-year period.

Today's Agenda

- Present new scenarios for impact on Treasury borrowing authority based on customers' feedback from the September meetings.
- Discuss the business/operational impact of capital reduction scenarios requested by customers, e.g., taking a flat annual 10 percent reduction.
- Present alternative scenarios which can potentially achieve the target with available financing tools.

Background – BPA's "Base Case"

BPA's "Base Case" is a Shaped 10 Percent Reduction Scenario

- At the September Strategic Capital Meetings, BPA described its forecast capital spending which was reduced by 10 percent from the IPR levels.
- This capital spending forecast was a result of an effort across BPA to assess the impact of varying levels of capital reductions on the ability to achieve the program mission.
- BPA determined that generally a shaped 10 percent reduction (reduction of about 10 percent over the 10-year period, FY 2012-2021, but not flat annual 10 percent reductions), would not have a significantly negative impact to the programs, and could be accomplished.
- Reductions of greater than 10 percent had impacts that were more severe.
- After reviewing the impacts of further reductions, BPA determined to explore other funding options prior to looking for additional reductions to forecast capital levels.
- In BPA's Base Case, most asset capital programs have smaller or no reductions in the near-term and larger reductions in 2017-2021.
- We do not propose reducing the IT capital forecast, but spreading the IT reduction amount to other programs.
- At the September meetings, customers asked BPA to show flat annual 10 percent reductions in forecast capital spending and describe the consequences of such reductions.

Customer Proposed Scenario Analysis and Rate Impacts

Customer-Requested "Annual 10 Percent Reduction Scenario"

- In response to the customer request for the impacts of an annual 10 percent reduction, we looked at each program category. Rather than taking a flat annual 10 percent in each program we made some modifications using the following methodology.

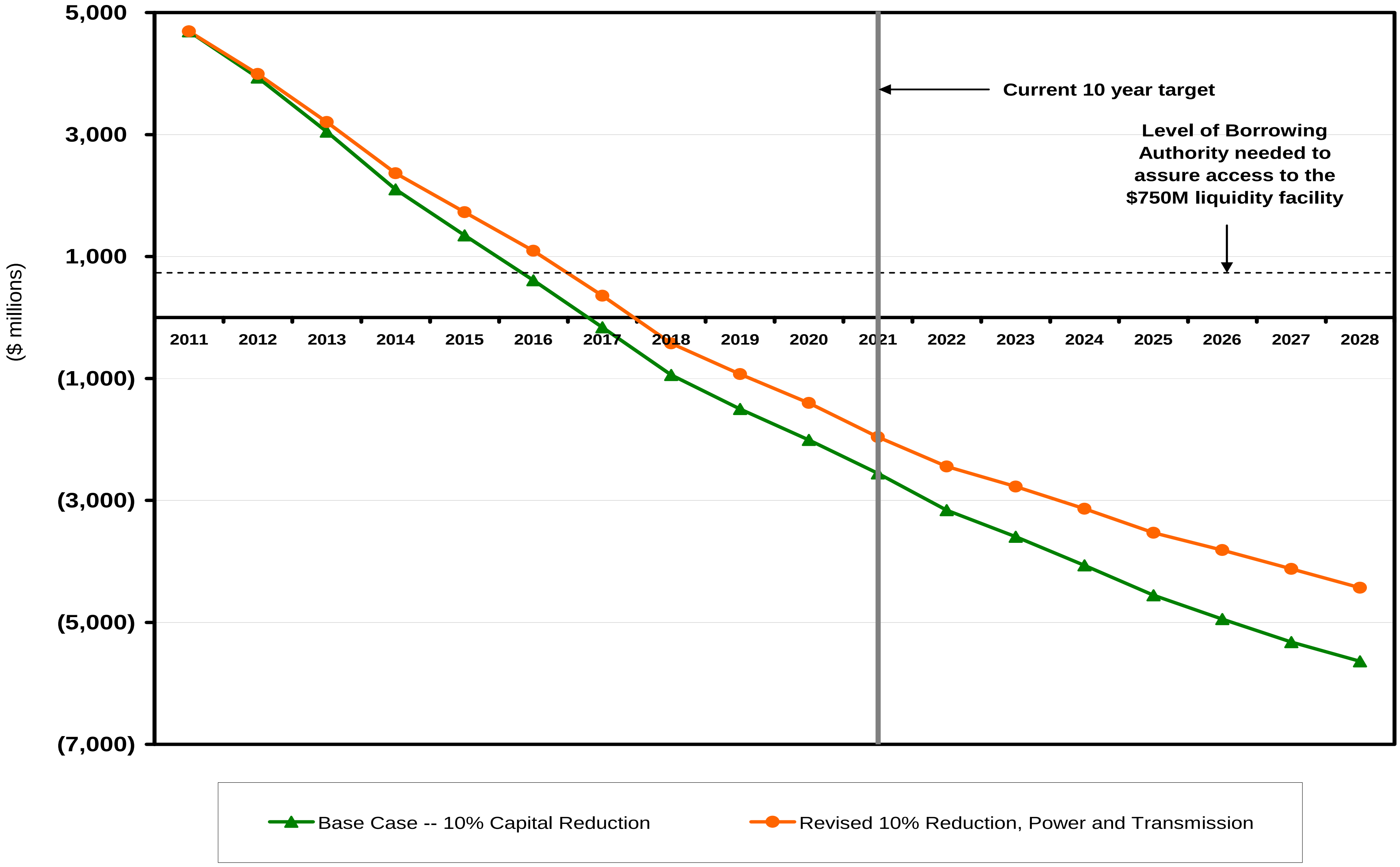
  - Federal Hydro – Maintain the original 10 percent reduction scenario levels but assume the cost of the Keys project is absorbed in those levels
  - Facilities – Take annual 10 percent reductions from the IPR levels rather than have them shaped over the 10-year period
  - Transmission – Take annual 10 percent reductions from the IPR levels for FY 2012-2016 rather than have them shaped
  - Energy Efficiency – Reshape FY 2013-2014 spending levels to reflect 2011 spending. Assume FY 2015 level begins at $92 million (average spending of 5 prior years) then escalate at 3 percent.
  - Fish and Wildlife - Re-shape capital forecasts with priority given to the BiOp projects, then Accord and Settlement projects, and the last priority would be the non-BiOp/non-Accord projects.
  - Security and IT were not asked to participate in this exercise.

- The impacts to programs if we were to take these reductions are described on subsequent pages.

Results of the Annual 10 Percent Scenario

- The graph on the next slide shows the impact on BPA's remaining borrowing authority of reducing capital by a flat 10 percent annually rather than shaping the reductions over the next 10 years.
- This change makes a relatively modest difference in borrowing authority availability.
- We have concerns about the potential impacts to programs and costs of these additional reductions in the short-term.
  - Higher safety concerns at some facilities
  - Additional cost pressure related to delaying projects
    - Higher maintenance costs in the near term
    - Possible increase in material and construction costs in later years
  - Stranded projects
  - Higher likelihood of compliance failure resulting in line de-ratings
  - Higher likelihood of available transmission capacity (ATC) constraints
  - Increase in total cost of the system by delaying hydro projects that have positive financial impact
  - F&W would not be able to meet all commitments made under the BiOp, Accords, or Settlement agreements.
  - An ancillary consequence is the potential greater rate impacts due to expensing unfinished projects.

Remaining Agency Treasury Borrowing Authority: Flat Annual 10 Percent Reduction Compared to Shaped Reduction



Impacts to the Programs of Flat Annual 10 Percent Capital Reduction Scenario

Transmission Capital Reduction Scenario

Transmission is in a unique situation with several large projects consuming 40 percent of the overall FY 2012-2016 budget. It is particularly challenging in FY 2013 and FY 2014 where these projects consume 57 percent and 66 percent respectively.

- Big Eddy Knight $181 million; FY 2012- 2014 (ROD approved, In Construction)
- Central Ferry Lower Monumental $74 million; FY 2011- 2014 (ROD Approved, In Progress)
- I-5 Corridor $359 million; FY 2012- 2016 (NEPA work in Progress)
- Celilo Uprate $252 million; FY 2012- 2016 (Business Case In Process)

(Until final routes are selected through the NEPA process, the forecast costs could change.)

In order to reduce FY 2012- 2016 by a flat annual 10 percent, the original IPR capital forecast levels would need to be reduced by $217 million.

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total	Percentage of Base
Total Transmission Capital												
IPR	522,309	571,081	538,449	404,178	339,798	442,425	543,506	553,998	563,821	518,434	4,997,999	
Original 10% Scenario[1/]	494,801	559,238	533,820	411,930	329,474	322,493	374,903	447,388	452,733	378,653	4,305,432	86.1%
Revised 10% Scenario	470,078	513,973	484,604	363,760	305,818	398,183	489,155	498,598	507,439	466,591	4,498,199	90.0%
Revised as Percentage of IPR	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	

Annual Reduction to Capital Programs

High Level Program Review

- The following four slides provide a snapshot of major projects that are in progress and/or are new non-discretionary projects. These lists are intended to communicate the major budget components in relation to Transmission's capital budget. Not all projects and programs are represented.
- If BPA were to stop and/or defer projects in process, Transmission would experience costs associated with breaking contracts, stranded projects, long-term AFUDC charges, convert capital to expense for projects not completed, compliance failure resulting in line de-ratings, experience available transmission capacity (ATC) constraints, etc.
- If BPA did not accomplish the new non-discretionary projects, this would impact customer requests for network improvements to meet the native load resulting in limitations to existing service levels.

Transmission Capital Reduction Scenario

High Level Program Review – Main Grid

Thousands of dollars

Transmission Capital	5 Year Total	Work	Status	Type
Main Grid	$ 836,769			
I-5		$181,000	In Progress	Non-Discretionary
Big Eddy Knight and Central Ferry		$433,000	In Progress	Discretionary
West of McNary		$ 9,372	In Progress	Non-Discretionary
Ponderosa		$24,122	In Progress	Non-Discretionary
Portland Vancouver Subs		$10,812	In Progress	Non-Discretionary
Salem Albany Eugene Shunt Work		$8,865	In Progress	Non-Discretionary
Tri Cities Shunt Work		$4,787	In Progress	Non-Discretionary
Northern Intertie		$40,660	New	Discretionary
Central Oregon		$27,034	New	Non-Discretionary
Seattle Puget Sound Shunt Work		$19,541	New	Non-Discretionary
Portland Vancouver		$9,597	New	Non-Discretionary
West of Cascades North		$34,702	New	Non-Discretionary
Tri Cities Shunt Work		$31,753	New	Non-Discretionary
Idaho		$2,820	New	Non-Discretionary

** Direct Dollars

Transmission Capital Reduction Scenario

High Level Program Review – Area and Customer Service

Thousands of dollars

Transmission Capital	5 Year Total	Work	Status	Type
Area & Customer Service	$52,720			
Southern Idaho Sub Work		$19,199	In Progress	Discretionary
Rogue Svc Add		$1,537	In Progress	Non-Discretionary
Longview Sub Work		$1,823	In Progress	Non-Discretionary
Columbia Falls Sub Work		$1,979	In Progress	Non-Discretionary
Misc Area & Customer Service		$3,181	In Progress	Non-Discretionary
Longview		$1,169	New	Non-Discretionary
Unidentified		$23,832	~$4.7M/Year	

** Direct Dollars

Transmission Capital Reduction Scenario

High Level Program Review – System Replacements

Thousands of dollars

Transmission Capital	5 Year Total	Work	Status	Type
System Replacements	$762,963			
SPC Program		$148,447	In Progress	Discretionary
PSC Program		$78,455	In Progress	Discretionary
Sub AC & DC Program		$188,529	In Progress	Discretionary
Wood Pole & Steel Lines		$282,135	In Progress	Discretionary
Tools and Equipment		$65,397	In Progress	Discretionary

** Direct Dollars

Transmission Capital Reduction Scenario

High Level Program Review – Upgrades and Additions

Thousands of dollars

Transmission Capital	5 Year Total	Work	Status	Type
Upgrades & Additions	$514,970			
Celilo Uprate		$248,853	In Progress	Discretionary
System Telecommunications		$121,230	In Progress	Discretionary
Access Roads & Rights of Way		$58,023	In Progress	Discretionary
Control Center		$37,038	In Progress	Non-Discretionary
Misc - Synchrophaser		$17,985	In Progress	Non-Discretionary
Misc - RAS		$9,481	In Progress	Discretionary
Misc - Condon Wind		$3,453	In Progress	Non-Discretionary
Misc - Big Eddy Troutdale		$2,953	In Progress	Non-Discretionary
Misc		$ 15,954	In Progress	

Misc. includes: 115KV Line work, Substation Drainage, Seismic Reinforcement, CLR replacements, New Bay/Circuit Additions, Synchrophasor Project, RAS Upgrades, Voltage Control Projects, Metering Changes, Switching Station Changes, Bus Tie Replacements and Mobile Radio work.

** Direct Dollars

Transmission Capital Reduction Scenario

The original shaped 10 percent capital reductions assume:

- Several Main Grid projects delayed
- Removal of 1/3 of the planned contingency on all projects; contingency is for project needs unknown at the time of budgeting and planning

To manage a flat annual 10 percent reduction, we would have more drastic reductions in the near-term..

We assume some of the work beyond 2016 will not occur as planned due to economic environment, design, innovation, project delays due to environmental, legal actions, material purchases, weather conditions, etc. We also assume unplanned work will arise under the same drivers over this period of time.

Options to manage an annual 10 percent annual reduction ($217 million) for FY 2012 -2016:

- Option #1 - Delay Big Eddy Knight $181 million (construction underway): Delaying or cancelling this project would result in costs associated with breaking contracts, returning materials that have been ordered and are arriving, and converting approximately $16M in NEPA and engineering design work from capital to expense. Contracts under NOS and Transmission service agreements would not be provided.
- Option #2 - Delay Celilo Uprate $252 million (potential increase to $350 million): Delaying or cancelling this project would result in a significant reliability issue due to the age of the equipment. BPA would not meet the working agreement with our southern partners to maintain 3100 mw. A reduction in the rating of the intertie may have a negative impact to BPA's secondary revenues as it may limit access to higher priced markets in California, and could result in larger than expected amounts of energy stranded in the Northwest during high generation periods, lowering market prices as well as increasing the frequency and magnitude of over generation events and the risk of damages from those events.
- Option #3 - Delay I-5 Corridor $359 million: Delaying or cancelling this project would result in a reliability issue for the greater Portland area. BPA is looking for non-wires/generation re-dispatch solutions. This project could only be possibly delayed for a short time through use of non-wires/generation re-dispatch.
- Option #4 - Reduce all System Replacement and Upgrades and Additions projects by 21percent over FY 2012-2016 ($217 million): Delaying or cancelling these projects would result in reliability issues; would put the system at significant risk and potential non-compliance; and would increase our maintenance costs. It will also increase the backlog of system replacements.
- Option #5 (partial solution) - Count/include $74 million potential delay/cancellation of Central Ferry Lower Monumental project: The project will most likely be delayed, but will occur within the next 10 years depending on future system needs.

Transmission Capital Reduction Scenario

Delaying projects and programs assumes that the 25 percent ($643 million) reduction taken in FY 2017- 2021 would be increased to accomplish an overall 10 percent reduction, thus freeing up $383 million in those years. Without this assumption, project and program delays would move out to FY 2022.

Delaying either Big Eddy Knight, Celilo, and/or I-5:

- These three projects have some interdependencies as Big Eddy Knight brings new power onto the system, I-5 Corridor is reliability related for load increases, and Celilo moves generation to/from California.
- We have committed contracts to deliver DC power from/to Celilo; the system is at high risk and not delays in completing the uprate could result in a long term Pacific DC Intertie (PDCI) outage.

Reduce all System Replacement and Upgrade and Addition Programs:

- Programs are interrelated; Relays are dependent upon the communication system. Both need to be upgraded due to equipment obsolescence.
- Upgrades and replacements are required to achieve reliability standards in accordance with Compliance regulations.

NOS 2010 projects Colstrip West and Colstrip East are not included. Increases to large projects mentioned on page 3 are not included. No consideration for further NOS 2012 – 2021 was made.

FCRPS Hydro Asset Strategy

The FCRPS Hydro Strategy focuses on three goals:

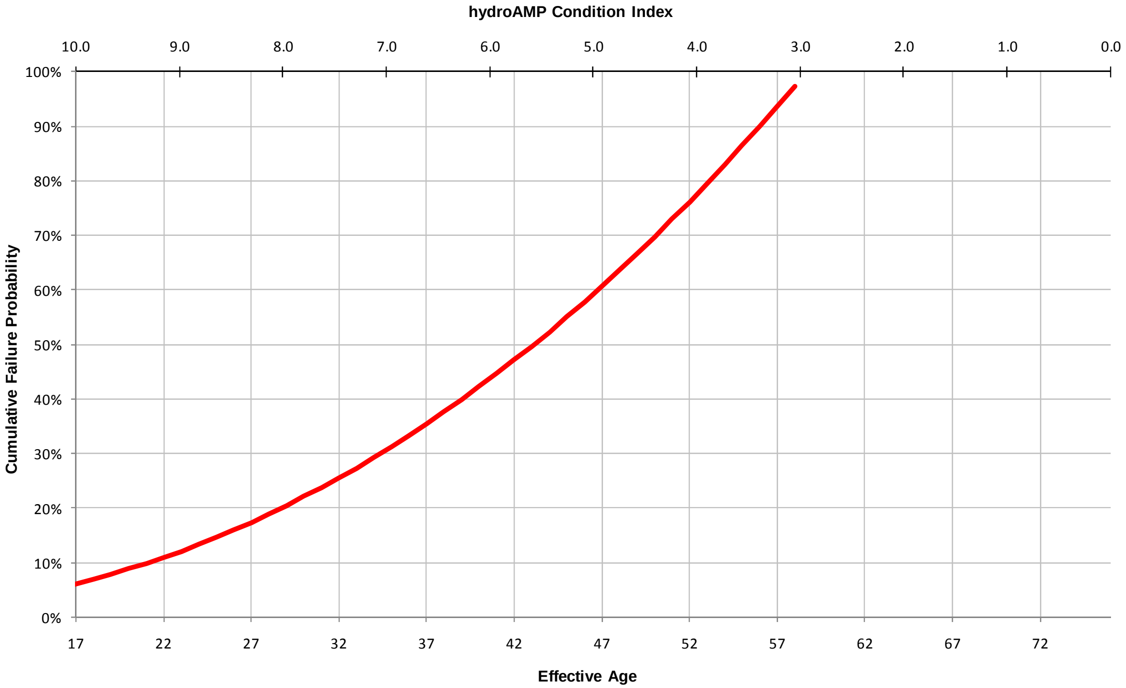
- Power Reliability
- Low Cost Power
- Trusted Stewardship

The strategy is implemented through a set of Direct Funding Agreements with the Corps of Engineers and Bureau of Reclamation to:

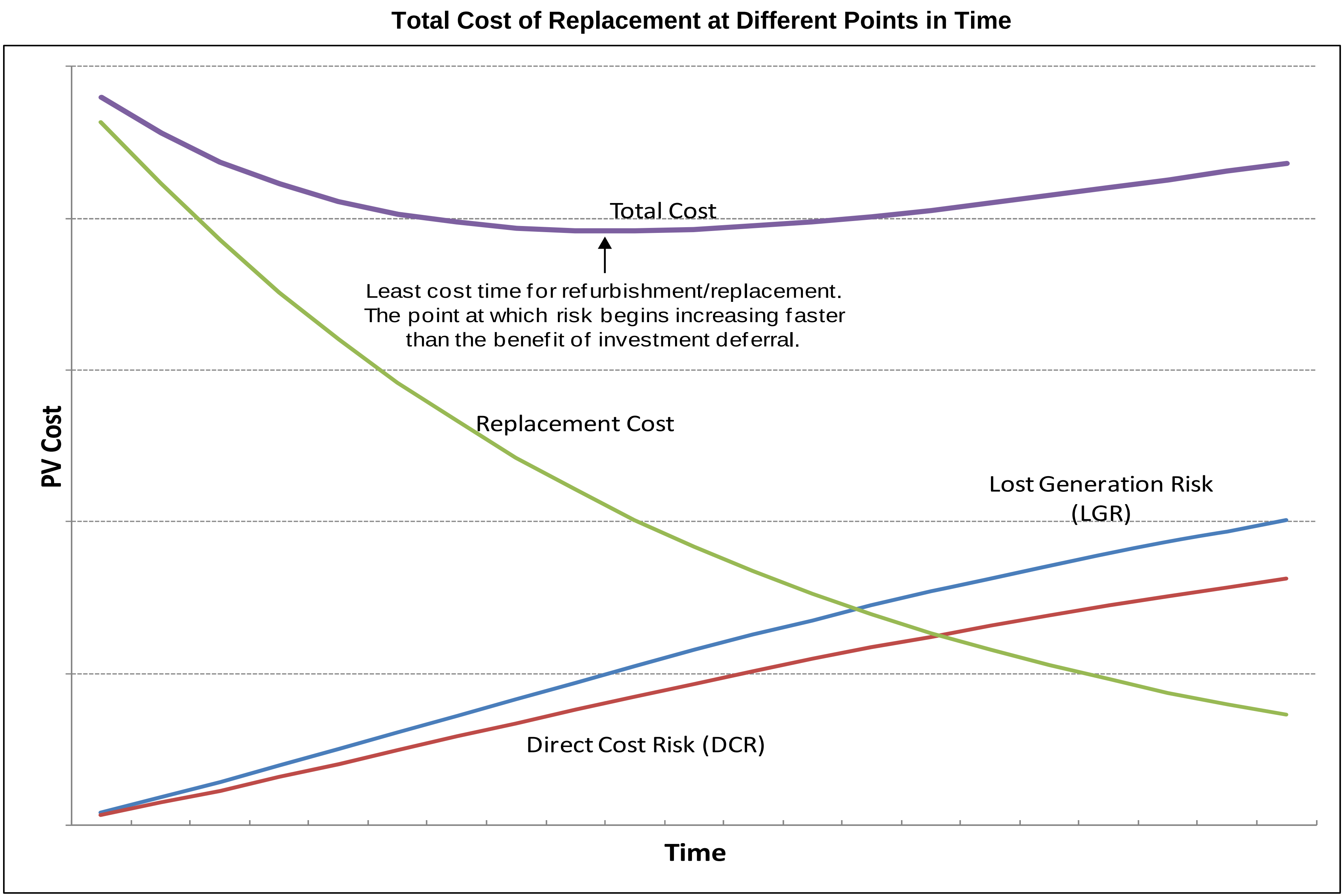
- Ensure that life safety and environmental requirements are met.
- Meet FCRPS commitments for fish and wildlife and cultural resource programs.
- Provide reliable low-cost generation by ensuring assets are operated, inspected, and maintained properly.
- Mitigate the risk of equipment failures by replacing or refurbishing equipment and purchasing spares when warranted.
- Increase the efficiency and/or capability of power facilities where economically feasible
- Fund a portion of high priority multi-purpose projects.

Equipment Condition

The strategy analysis uses hydroAMP to assess condition of power train and some other hydro equipment. HydroAMP uses a set of condition indicators describing operational performance, maintenance history, physical inspection, age, and specialized testing results to derive a condition index for equipment. The condition index scale ranges from zero (Poor condition) to 10 (Good condition). For equipment not covered by hydroAMP, a simplified condition assessment tool was built based on the hydroAMP methodology.



Optimum Timing for Equipment Replacement



Risk

- For the strategy, four types of risk were calculated in incremental time steps:

  - **Safety Risk,** where equipment failure has a relatively high probability of causing permanent disabilities or multiple fatalities;

  - **Environmental Risk,** where equipment failure has a relatively high probability of causing detrimental or catastrophic environmental impacts;

  - **Direct Cost Risk**, which is the Incremental Equipment Failure Cost identified on Slide 4 multiplied by the incremental probability of failure over time; and,

  - **Lost Generation Risk**, which is the sum of Replacement Power Cost and CO2 Cost (again, Slide 4) multiplied by the incremental probability of failure.

- The sum of Direct Cost Risk and Lost Generation Risk are described as financial risk.

Federal Hydro Capital Reduction Scenario

Impacts of Budget Reductions:

Safety and Environmental investments are represented in the bar graphs on the next few slides in green. These projects are given first priority in our planning logic. They are not discretionary and are flagged for investment regardless of funding levels.

Committed Reliability investments are represented in royal blue and Committed Opportunity investments (those made because they are financially beneficial) in red. These projects have signed sub-agreements associated with them and are already in flight. It would be costly to halt this work due to contract penalties and the need to revisit the advertise-and-award process when we undertake the projects later on.

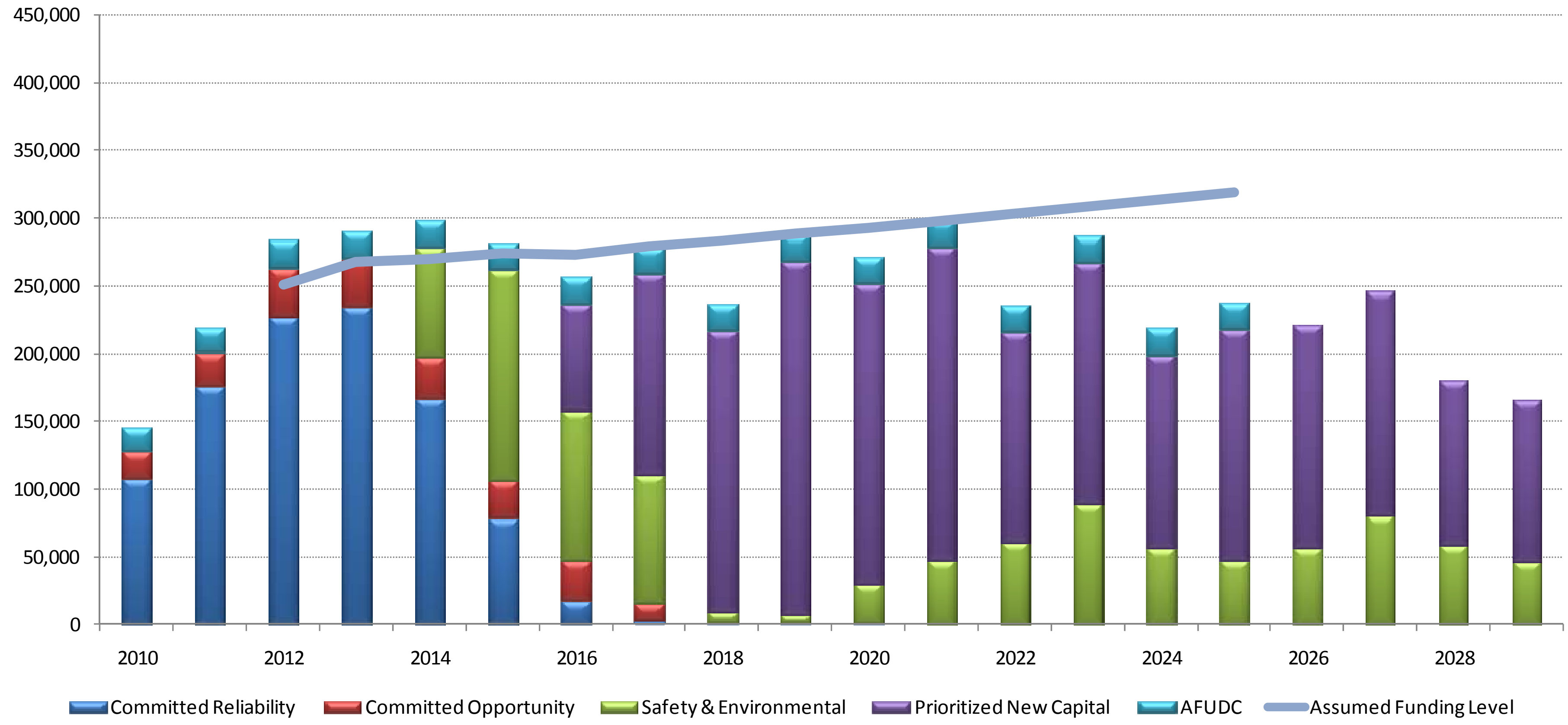
New Prioritized work that has been identified for unit reliability or economic reasons is represented by the purple bar-segments. Budget reductions impact this area primarily and increase the total cost of the system since the items that are rescheduled due to funding constraints are those that have the largest positive financial impact.

The Budget Line shows our annual funding constraint. The projects beneath that line represent the optimal portfolio of FCRPS investments based on our prioritization logic and any given constraints.

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total	Percentage of Base
Total, Corps & Bureau												
IPR	199,566	213,115	214,674	216,987	213,942	219,824	212,500	216,113	219,786	223,523	2,150,031	
Original 10% Scenario	186,268	200,405	200,381	198,120	200,849	197,445	196,936	197,337	197,724	198,949	1,974,414	91.8%
Revised 10% Scenario	186,268	200,405	200,381	198,120	200,849	197,445	196,936	197,337	197,724	198,949	1,974,414	91.8%
Revised as Percentage of IPR	93.3%	94.0%	93.3%	91.3%	93.9%	89.8%	92.7%	91.3%	90.0%	89.0%	91.8%	

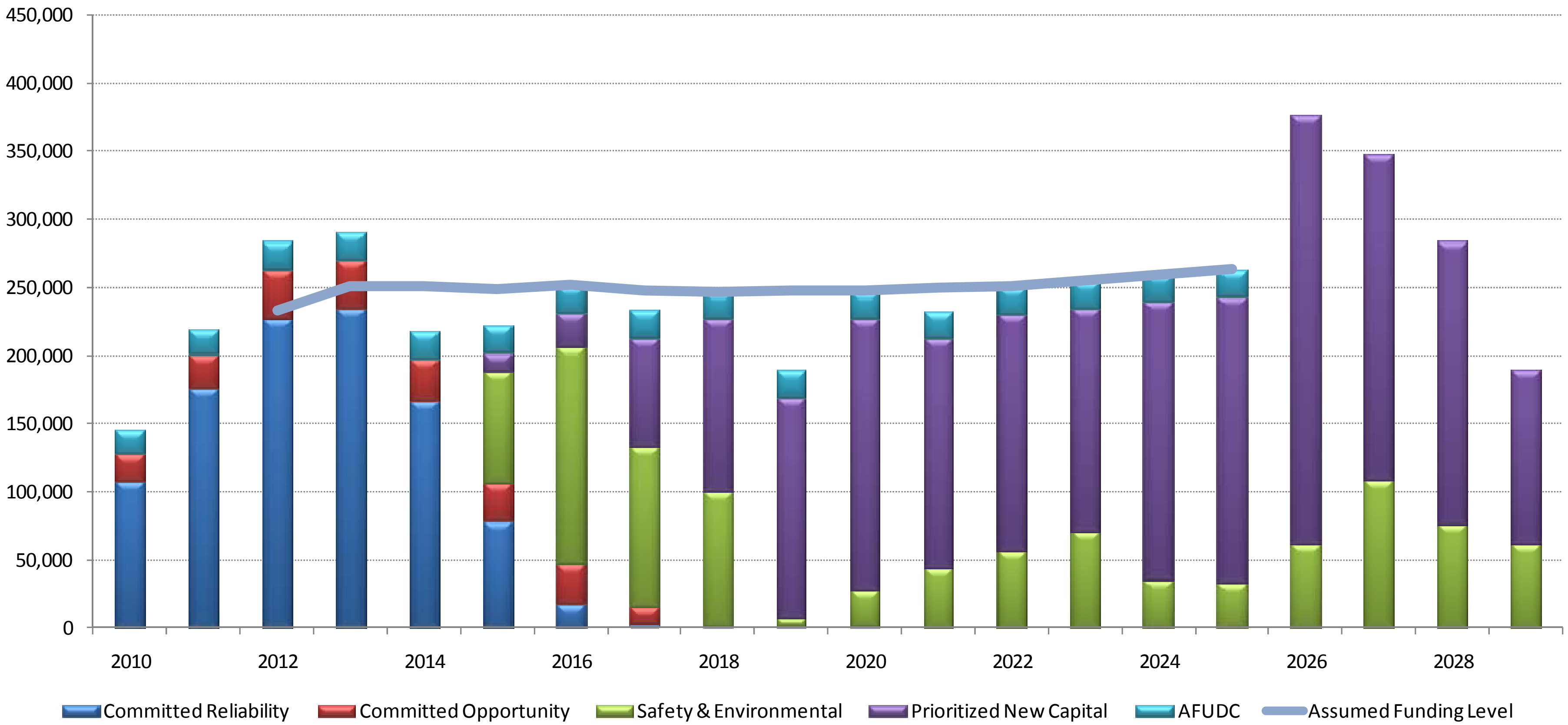
Federal Hydro Capital Reduction Scenario

2010 IPR Forecast (with updated condition information)



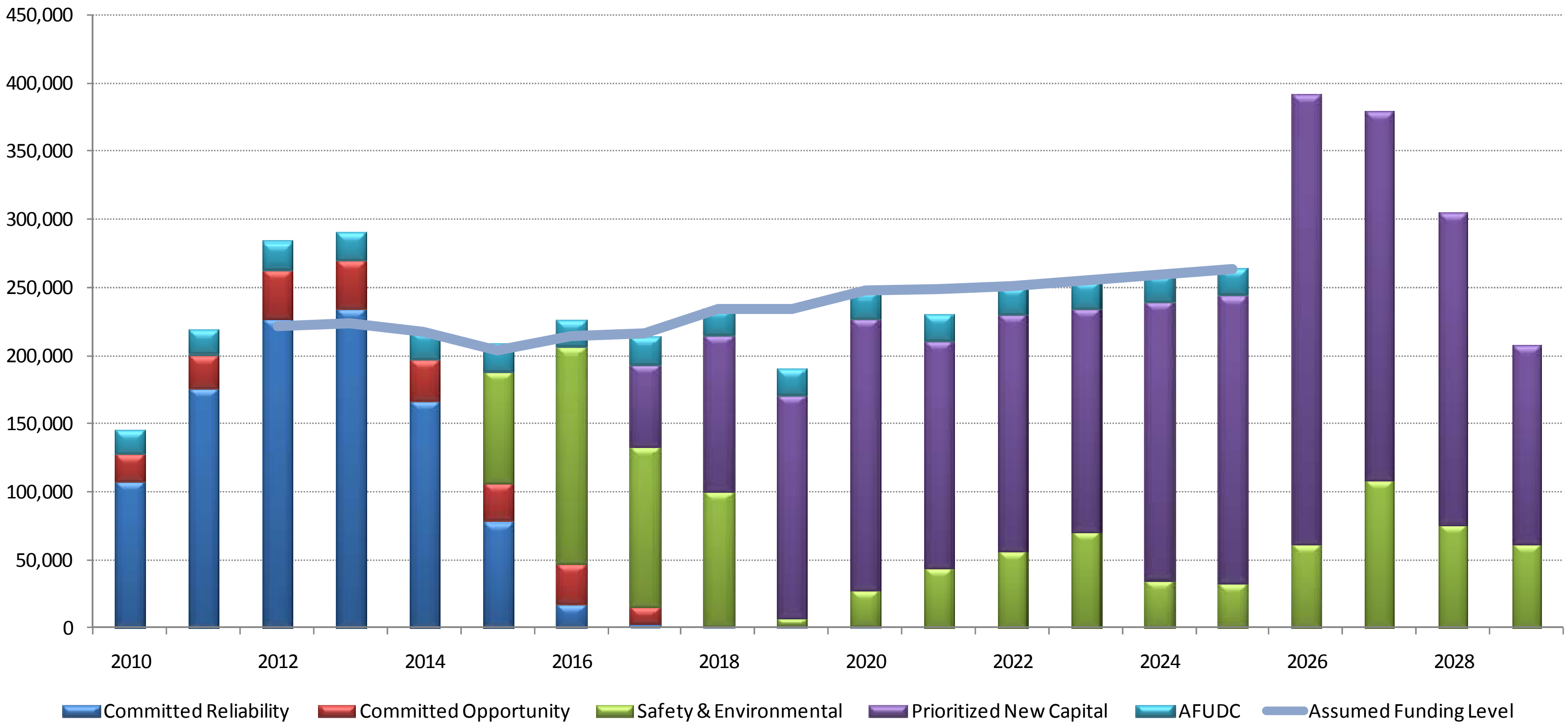
Federal Hydro Capital Reduction Scenario

Original Shaped 10 Percent Reduction Scenario



Federal Hydro Capital Reduction Scenario

Further Reduction (w/ absorption of Keys Project into already reduced budget)



Federal Hydro Capital Reduction Scenario

It's important to note that cutting the budget does NOT eliminate projects from being undertaken—it merely delays projects several years until such a time that they become a high enough priority to fit within the new budget constraints.

Items of note that are delayed at the original 10 percent reduction level include:

- CHJ exciters;
- Main Unit & Station Service Breaker Replacements (at most Local and Area Support Plants;)
- Station Service reliability projects (across much of the FCRPS;)
- Transformer Replacements (at Lower Snake, Local and Area Support Plants;)
- DWR windings

The power portion of the Keys Pumping Plant modernization is roughly equivalent to 10 percent of the existing budget for Federal Hydro. If Keys is absorbed in the already reduced (10 percent) budget level (resulting in an approximate 20 percent net reduction to the rest of the program,) the following impact to hydro investments would occur.

The largest impact is seen in the main stem plants, primarily with unit reliability equipment. There are insufficient "new prioritized" investments at non-main stem plants to absorb a significant portion of a further 10 percent budget reduction. At the 20 percent reduction level, it is necessary to delay projects across the main stem Columbia; winding and governor replacement funding would be delayed at Chief Joseph Dam, Grand Coulee exciter and governor replacements would be delayed, Bonneville governor, exciter, and breaker replacements would also be delayed.

Energy Efficiency Capital Reduction Scenario

The base scenario is made up from revised budget numbers that BPA decided on (FY 2012-2014) and IPR numbers (FY 2015-2021).

We do not know the shape of the next Power Plan or what conservation costs will be at that time. The 2010 IPR called for BPA to acquire 85 percent of load growth through conservation in 2015 and beyond. Spending level increases starting in 2015 are needed to obtain these expected savings. Spending levels needed to meet 85 percent of load growth are uncertain because costs are sensitive to changes in load forecast.

The difference between the base case and the new scenario is ~$630 million over ten years. At a projected cost of $2.3 million per aMW the effects on conservation would be a loss of 274 aMW. If the load growth projections moderate from what was forecast in the IPR then this may not be a problem. If the load forecast used in the IPR turned out to be accurate, in order to achieve the volume of savings it would require an increase the utility self funding share.

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
ECA ENERGY CONSERVATION	73,260,000	42,000,000	42,000,000	65,000,000	66,950,000	68,958,500	71,027,255	73,158,073	75,352,815	77,613,399	655,320,042
3RD PARTY PROGRAMS	15,362,001	22,000,000	22,000,000	22,000,000	22,660,000	23,339,800	24,039,994	24,761,194	25,504,030	26,269,151	227,936,169
Base Scenario (Revised 2012-2014, IPR 2015-2021)*	89,000,000	72,000,000	77,000,000	145,000,000	180,000,000	190,000,000	190,000,000	190,000,000	190,000,000	190,000,000	1,513,000,000
"Revised 10%" Scenario Budget*	**88,622,001**	**64,000,000**	**64,000,000**	**92,000,000**	**94,760,000**	**97,602,800**	**100,530,884**	**103,546,811**	**106,653,215**	**109,852,811**	**921,568,521**

* 23M removed from 2013 and 2014 totals in base and revised scenarios to make up for 46M 2011 overspend

Legend
EE Revised with BOB
IPR Number
Provided by Finance

Base case	**1,513,000,000**
Difference	($591,431,479)
Cost/aMW	$2,300,000
aMW lost	**-257**

Fish & Wildlife Capital Reduction Scenario

A 10 percent reduction to capital projects would be implemented across the Fish & Wildlife program using the following priorities:

- The highest priority are the BiOp projects, then Accord and Settlement projects, and the last priority would be the non-BiOp/non-Accord projects.
- Reducing the program by an annual 10 percent and not shaping our capital budget in the near term, F&W would not be able to meet all commitments made under the BiOp, Accords, or Settlement agreements.
  - Since capital expenditures are expected to be higher in the near term with the construction of hatcheries, a flat budget of $45 million per year would not allow us to meet our commitments.

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total	Percentage of Base
Fish & Wildlife Capital												
IPR	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	500,000	
Original 10% Scenario	59,775	67,134	60,264	41,796	36,639	30,785	28,639	44,798	45,025	43,590	458,445	91.7%
Revised 10% Scenario	50,430	58,767	54,855	36,329	31,160	25,271	24,986	41,206	41,433	40,009	404,444	80.9%
Revised as Percentage of IPR	100.9%	117.5%	109.7%	72.7%	62.3%	50.5%	50.0%	82.4%	82.9%	80.0%	80.9%	

Facilities Capital Reduction Scenario

Actions needed to reduce the program by an annual 10 percent from the base IPR levels:

- FY's 2012 – 2015 would see a decrease of nearly $10 million
  - Some critical projects may be delayed from FY 2012 and FY 2013 to later years
  - Continued growth in the backlog of non-electric facilities projects, more elevating to critical status

Consequences

- Delaying certain projects would maintain elevated risks as noted by the DOE IG audit findings
- Contracts may need to be cancelled in FY 2013 leaving some projects unfinished
- Safety concerns at some facilities will elevate; those pushed to the brink will likely affect planned expense budgets
- Additional cost pressure related to delaying projects
  - Higher maintenance costs in the near term
  - Possible increase in material and construction costs in later years
  - Continuation of high cost leases for longer than anticipated
  - Potential penalties from cancelled contracts

Alternative financing

- FAM is currently pursuing the possibility that approximately $50-60 million of FAM projects may qualify for lease financing.

Facilities Capital Reduction Scenario

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total	Percentage of Base
Facilities Capital (Lapsed)												
IPR	25,452	22,018	27,818	21,241	19,507	18,339	18,339	18,580	18,720	18,722	208,736	
Original 10% Scenario	25,344	21,909	21,754	16,886	19,201	19,373	17,578	17,823	16,270	15,839	191,978	92.0%
Revised 10% Scenario	22,906	19,817	25,036	19,117	17,556	16,505	16,505	16,722	16,848	16,850	187,862	90.0%
Revised as Percentage of IPR	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	

Agency Scenario Totals

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total	Percentage of Base
Total Transmission Capital (Lapsed, Includes AFUDC and Environment)												
IPR	522,309	571,081	538,449	404,178	339,798	442,425	543,506	553,998	563,821	518,434	4,997,999	
Original 10% Scenario[1/]	494,801	559,238	533,820	411,930	329,474	322,493	374,903	447,388	452,733	378,653	4,305,432	86.1%
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Revised as Percentage of IPR	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	
PFIA[2/]	44,432	43,715	29,694	22,310	22,650	22,987	37,431	38,119	38,132	38,084	337,554	
Total, Corps & Bureau (Lapsed, Direct Dollars Only)												
IPR	199,566	213,115	214,674	216,987	213,942	219,824	212,500	216,113	219,786	223,523	2,150,031	
Original 10% Scenario	186,268	200,405	200,381	198,120	200,849	197,445	196,936	197,337	197,724	198,949	1,974,414	91.8%
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Revised as Percentage of IPR	93.3%	94.0%	93.3%	91.3%	93.9%	89.8%	92.7%	91.3%	90.0%	89.0%	91.8%	
Conservation Acquisition Capital (not lapsed)												
IPR	104,000	111,000	117,000	145,000	180,000	190,000	190,000	190,000	190,000	190,000	1,607,000	
Original 10% Scenario	88,623	94,531	100,471	129,200	159,923	168,835	169,134	169,213	169,217	169,150	1,418,296	88.3%
Revised 10% Scenario	88,623	80,000	80,000	92,000	94,760	97,603	100,531	103,547	106,653	109,853	953,569	59.3%
Revised as Percentage of IPR	85.2%	72.1%	68.4%	63.4%	52.6%	51.4%	52.9%	54.5%	56.1%	57.8%	59.3%	
Capitalized Fish & Wildlife Costs (not lapsed)												
IPR	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	500,000	
Original 10% Scenario	59,775	67,134	60,264	41,796	36,639	30,785	28,639	44,798	45,025	43,590	458,445	91.7%
Revised 10% Scenario	50,430	58,767	54,855	36,329	31,160	25,271	24,986	41,206	41,433	40,009	404,444	80.9%
Revised as Percentage of IPR	100.9%	117.5%	109.7%	72.7%	62.3%	50.5%	50.0%	82.4%	82.9%	80.0%	80.9%	
Power AFUDC	11,485	12,578	14,060	12,000	12,000	12,000	18,246	18,556	18,872	19,192	148,989	
Total Power Capital (Includes AFUDC)												
IPR	365,051	386,693	395,734	423,987	455,942	471,824	470,746	474,669	478,658	482,715	4,406,020	
Original 10% Scenario	346,151	374,649	375,176	381,117	409,411	409,065	412,956	429,903	430,837	430,880	4,000,144	90.8%
Revised 10% Scenario	336,806	351,750	349,296	338,448	338,768	332,319	340,699	360,645	364,682	368,003	3,481,417	79.0%
Revised as Percentage of IPR	92.3%	91.0%	88.3%	79.8%	74.3%	70.4%	72.4%	76.0%	76.2%	76.2%	79.0%	

Agency Scenario Totals (continued)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total	Percentage of Base
Security Capital (Lapsed)												
IPR	4,675	5,525	5,525	5,525	6,375	6,375	6,960	6,075	6,078	6,070	59,182	
Original 10% Scenario	4,190	4,948	4,947	4,942	5,700	5,699	6,232	5,443	5,445	5,436	52,982	89.5%
Revised 10% Scenario	4,190	4,948	4,947	4,942	5,700	5,699	6,232	5,443	5,445	5,436	52,982	89.5%
Facilities Capital (Lapsed)												
IPR	25,452	22,018	27,818	21,241	19,507	18,339	18,339	18,580	18,720	18,722	208,736	
Original 10% Scenario	25,344	21,909	21,754	16,886	19,201	19,373	17,578	17,823	16,270	15,839	191,978	92.0%
Revised 10% Scenario	22,906	19,817	25,036	19,117	17,556	16,505	16,505	16,722	16,848	16,850	187,862	90.0%
Revised as Percentage of IPR	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	
IT Capital (not lapsed)												
IPR[3/]	47,000	40,000	41,000	42,000	43,000	44,000	43,400	43,600	43,600	43,600	431,200	
Original 10% Scenario	47,000	40,000	41,000	42,000	43,000	44,000	43,400	43,600	43,600	43,600	431,200	100.0%
Revised 10% Scenario	47,000	40,000	41,000	42,000	43,000	44,000	43,400	43,600	43,600	43,600	431,200	100.0%
Total Corporate Capital, net of Lapse Factor												
IPR	77,127	67,543	74,343	68,766	68,882	68,714	68,699	68,255	68,398	68,392	699,118	
Original 10% Scenario	81,576	71,861	72,799	68,962	73,220	74,584	69,945	69,601	68,049	67,610	718,208	102.7%
Revised 10% Scenario	66,717	64,276	70,480	65,491	65,763	65,784	64,291	63,892	64,020	64,015	654,728	93.7%
Revised as Percentage of IPR	86.5%	95.2%	94.8%	95.2%	95.5%	95.7%	93.6%	93.6%	93.6%	93.6%	93.7%	
Total Capital (including PFIA)												
IPR	1,008,919	1,069,032	1,038,220	919,241	887,272	1,005,951	1,120,381	1,135,040	1,149,009	1,107,625	10,440,691	
Original 10% Scenario	999,458	1,094,858	1,014,984	883,205	833,937	829,128	895,234	985,010	989,752	915,227	9,023,784	86.4%
Revised 10% Scenario	918,032	973,714	934,074	790,010	732,999	819,273	931,576	961,254	974,273	936,693	8,971,898	85.9%
Total Capital (excluding PFIA)												
IPR	964,487	1,025,317	1,008,526	896,931	864,622	982,964	1,082,950	1,096,921	1,110,877	1,069,541	10,103,137	
Original 10% Scenario	922,528	1,005,747	981,796	862,009	812,105	806,141	857,803	946,892	951,620	877,143	9,023,784	89.3%
Revised 10% Scenario	873,600	929,999	904,380	767,700	710,349	796,286	894,145	923,135	936,141	898,609	8,634,344	85.5%
Revised/IPR (no PFIA)	90%	90%	89%	85%	82%	81%	82%	84%	84%	83%	85%	

[1/] revised by Transmission in August to reflect changes for the OMB budget

[2/] PFIA differs in the "new" Original 10% scenario (see footnote #1)

[3/] IT decreased capital investment in FY 2011 by $8 million to ensure the agency did not exceed its apportioned amount and has increased the FY 2012 budget by $8 million

New Customer Scenarios -- What did we do?

- In addition to the revised 10 percent capital reductions, using annual instead of shaped reductions, customers proposed an additional combination scenario.
- For Power, the combination starts with the revised annual 10 percent scenario and adds the use of the recalculated Anticipated Accumulation of Cash (AAC) to fund capital investment. Starting in 2014, we added revenue financing ($1.69 billion through 2028) in growing amounts as interest expense declines. Revenue financing is limited to no more than a 2 percent rate impact.
- For Transmission, the combination starts with the revised annual 10 percent reduction and assumes that 25 percent of the capital program is lease financed. We also use $300 million of financial reserves for capital investments in 2012-2013. Starting in 2014, we added revenue financing ($1.2 billion through 2028) in growing amounts as interest expense declines. Revenue financing is limited to no more than a 5 percent rate impact.
- We did not attempt to forecast higher program spending due to deferred maintenance or outage/reliability events.
- We used the same methodology for rates that was described in the September 20th meeting. The appendix includes the description of the methodology from that meeting.
- As with the earlier analysis, all scenarios are compared to the base case described in the September meeting.

Rate Effects 1/

Power Revised 10 Percent Reduction

	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2028
Change from Base Case	0.3%	-0.2%	-0.5%	-2.5%	-2.3%	-2.0%	-1.0%

Power Customer Combination (Anticipated Accumulation of Cash (AAC) and Revenue Financing)

	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2028
Change from Base Case	1.7%	0.7%	0.7%	0.7%	0.5%	0.3%	0.2%

Transmission Revised 10 Percent Reduction

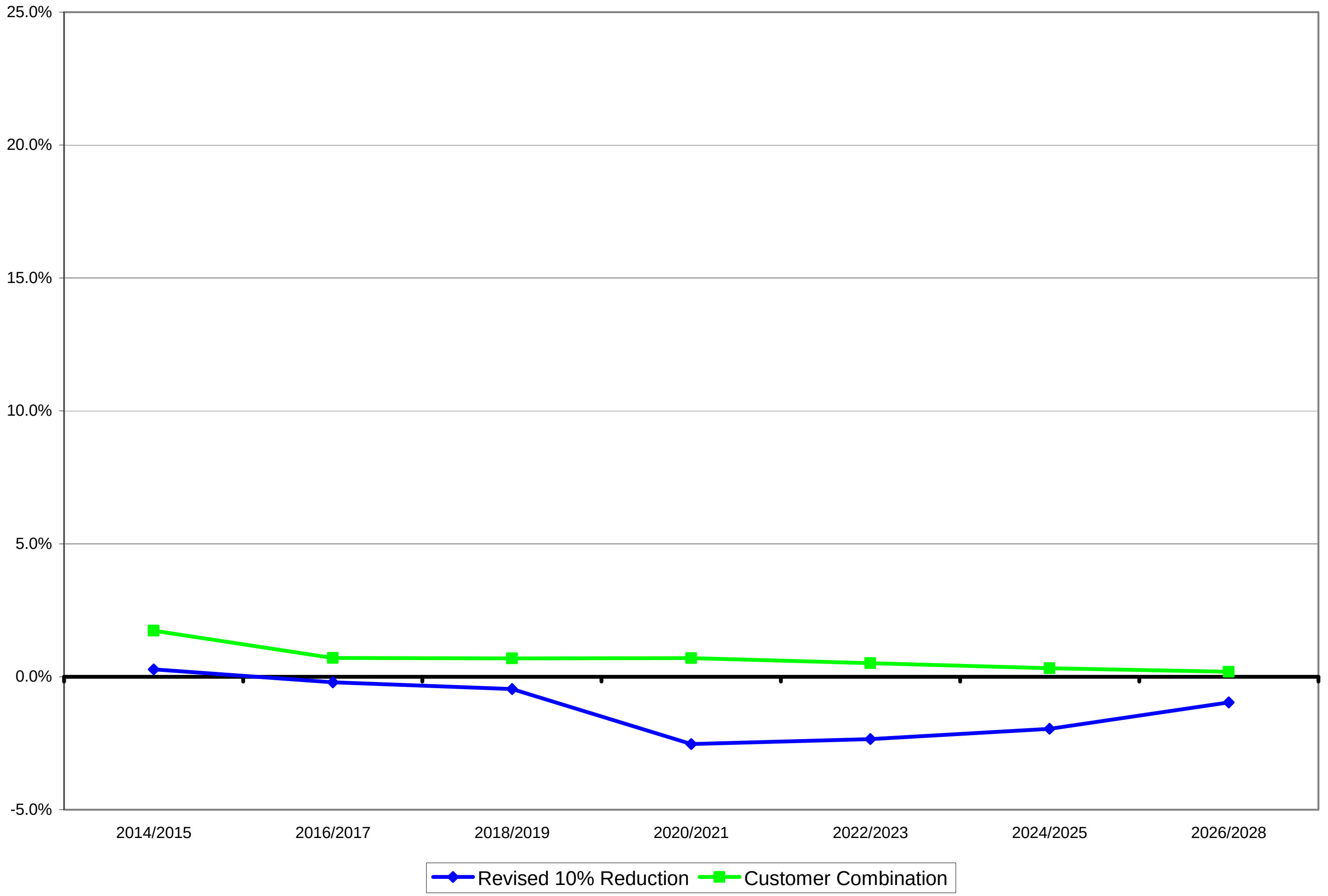
	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2027
Change from Base Case	-1.5%	-2.0%	-1.1%	-0.6%	-0.9%	-1.5%	-1.9%

Transmission Customer Combination (Reserve/Revenue Financing and 25 Percent Lease Financing)

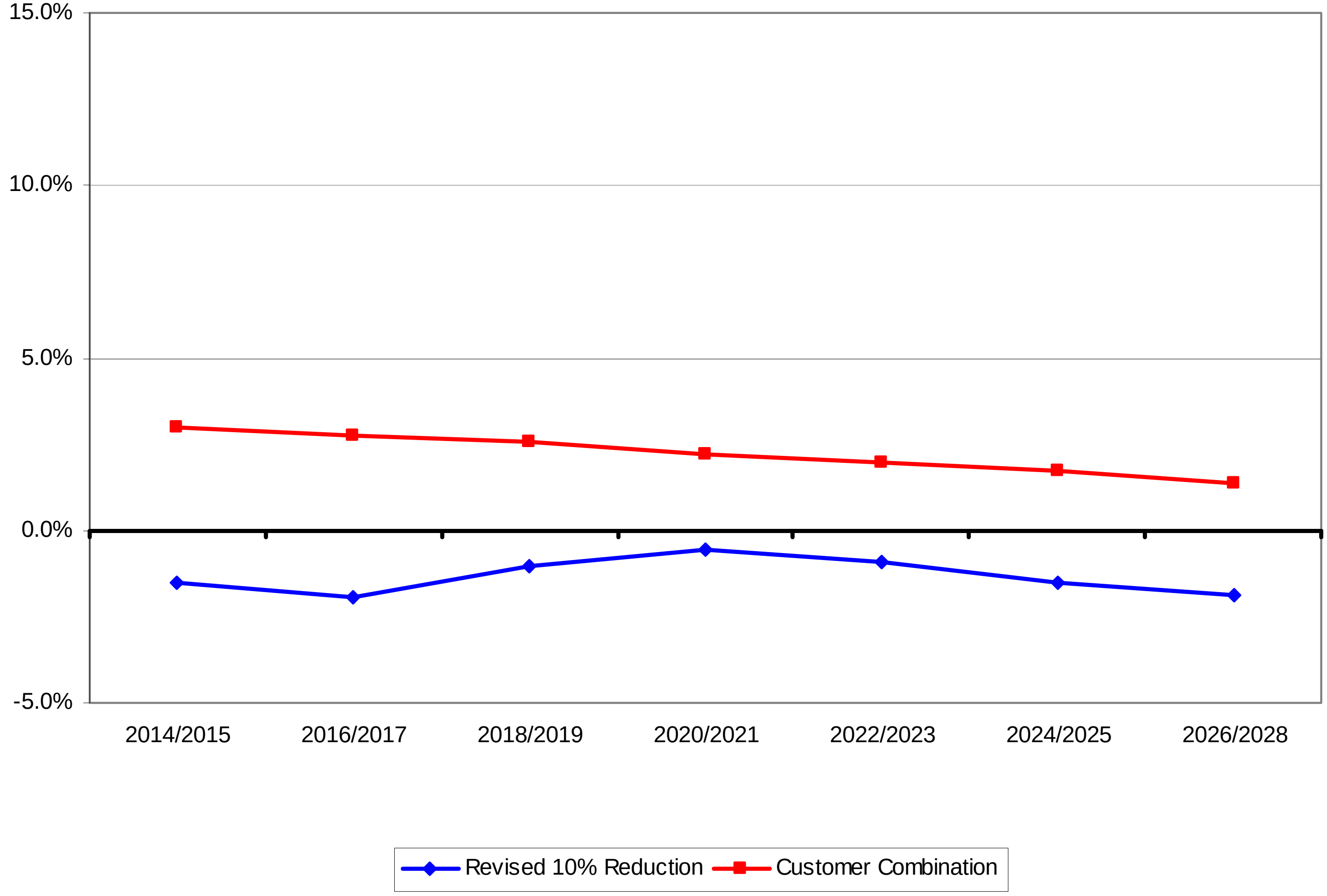
	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2027
Change from Base Case	3.0%	2.8%	2.6%	2.2%	2.0%	1.7%	1.4%

1/ Rate effects due not include lost revenues due to forced outages or the impact on reliability.

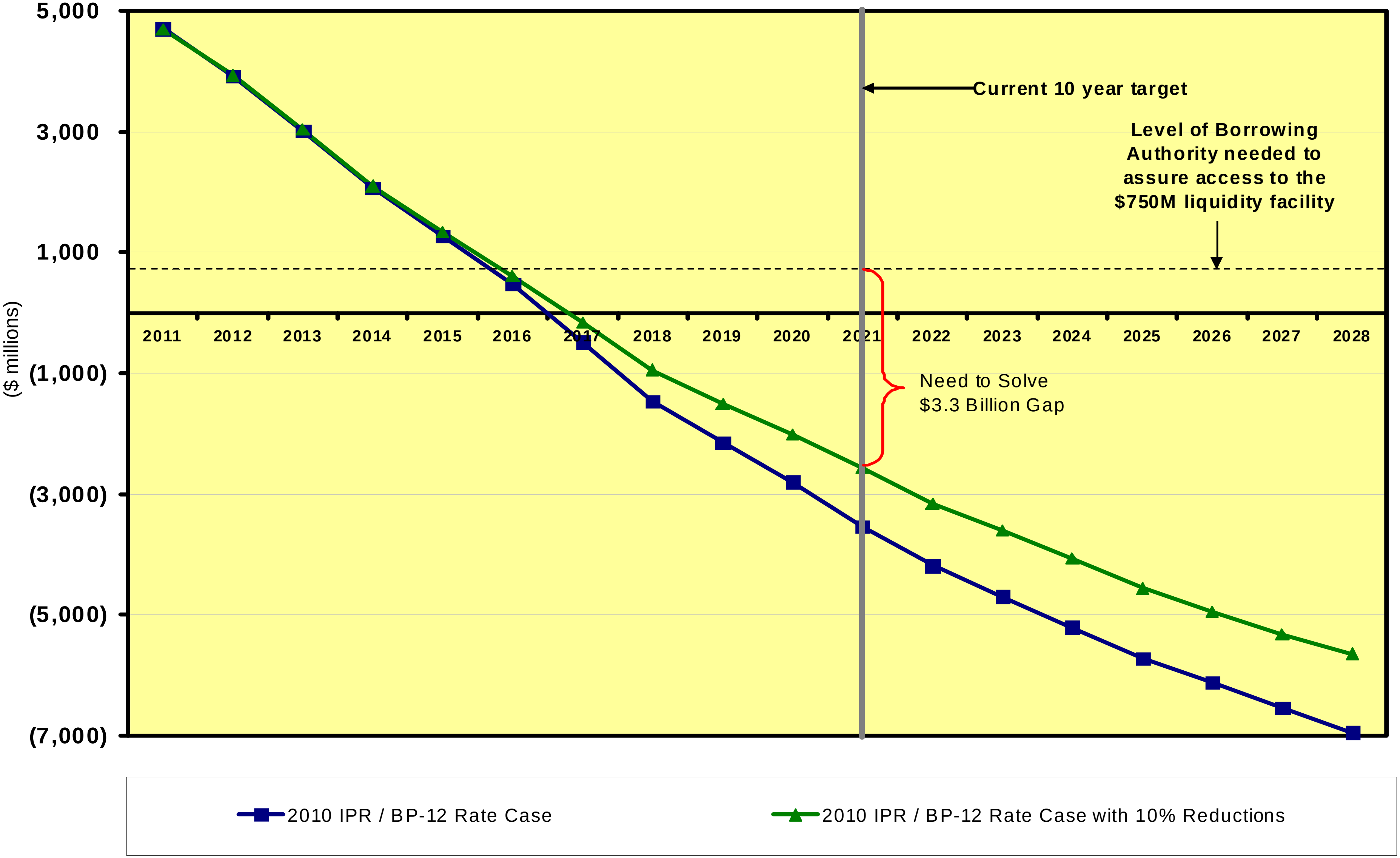
Power Rate Effects



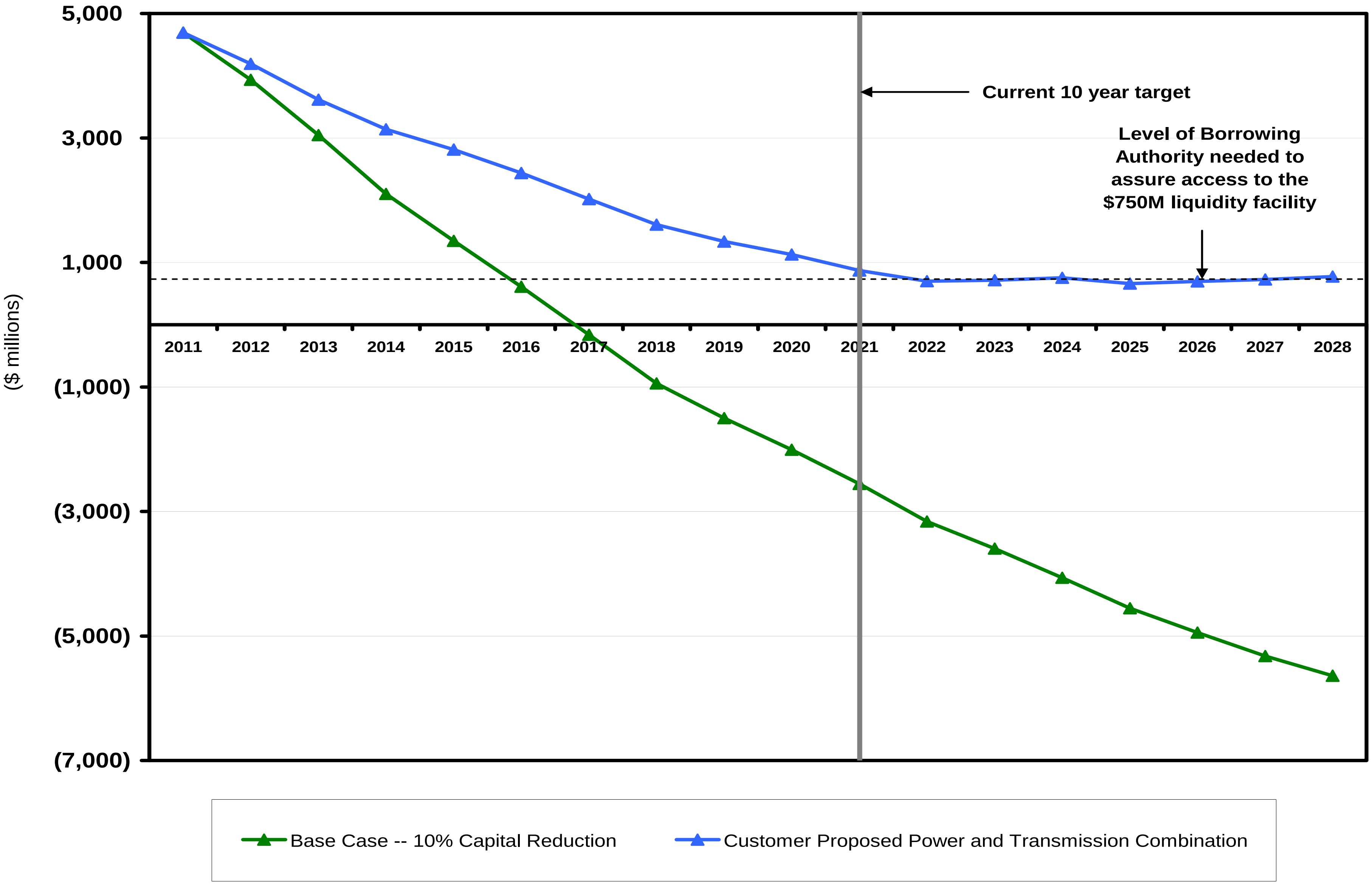
Transmission Rate Effects



Remaining Agency Treasury Borrowing Authority



Remaining Agency Treasury Borrowing Authority: Combinations



What happened in these scenarios?

- **Power**
  - With the annual 10 percent capital reduction revised run, generally over time, reductions in interest expense produce lower rates.
  - In the combination scenario, rates start out slightly higher largely due to the assumed revenue financing. Over time, though, the scenario is roughly rate neutral.

- **Transmission**
  - The annual 10 percent capital reduction scenario produces noticeably lower rates because capital spending is cut. Rates are higher in the combination run because substantial revenue financing is added to ensure access to borrowing authority.

- **Borrowing Authority Impact**
  - The revised annual 10 percent reduction alone does little to extend available borrowing authority.
  - The combination scenario exceeds the 2021 target. The borrowing authority curve is actually similar to the pure revenue financing scenario presented in September. Like the pure revenue financing scenario, BPA is borrowing in amounts equal to the value of the bonds being repaid in a given year with revenue financing filling the gap between debt repayment and capital investment.

Other Options

Addressing the Treasury Borrowing Authority Problem

- As previously discussed in September, with the base case, BPA is facing a $3.3 billion shortfall to reach the rolling 10 year target.
- In addition to reshaping capital investments, BPA has a mix of capital financing tools it can consider using to decrease this shortfall. In part, based on your feedback from the September meetings, BPA completed more specific analysis on the following tools:
  - Lease Financing
  - Cash tools (Revenue and Reserves Financing)
  - Prepayments of Power Bills
- It is possible to extend borrowing authority to 2021 or even beyond with the tools identified in September, involving a mix of cash tools as well as other forms of financing.

	Capital Scenario	Transmission: Total Amount of Capital Provided by Funding Tools ($ in million)			Power: Total Amount of Capital Provided by Funding Tools ($ in million)			Average Rate Effects		Remaining Borrowing Authority in 2028
		25% Lease Financing	Revenue Financing	Reserve Financing	Prepay	Revenue Financing	AAC	Transmission	Power	
Customer Proposed Scenario	10% Flat	$ 1,642	$ 1,236	$ 300	$ -	$ 1,386	$ 827	2.20%	0.70%	773
AAC Scenario	10% Shaped	$ 1,846	$ 1,170	$ 300	$ -	$ 1,618	$ 1,132	3.40%	2.00%	240
Prepay Scenario	10% Shaped	$ 1,846	$ 245	$ 300	$ 1,702	$ 257	$ -	0.50%	0.50%	(1,754)

Amounts reflect data through 2028

All scenarios, by design, reach the 2021 initial target date.
Results after 2021 vary depending on scenario, requiring on-going work to sustain capital access.

Increase Lease Financing Assumptions

- The scenarios in the September meetings made the conservative assumption that 20 percent of Transmission's Capital Program could be lease financed.
- For the following scenarios, we raised the level to 25 percent, consistent with historical average Lease Financing levels.
- 30 percent lease financing is an optimistic but possibly attainable goal.
  - Historically, BPA has been able to lease finance up to 38 percent of the Transmission capital program.
  - 30 percent lease financing would provide an average additional preservation of borrowing authority of $22 million per year from 2012-2028 when compared to the 25 percent lease financing scenario.

Target Levels
(in Millions)

	2008	2009	2010	2011*
BPA Transmission Capital Expenditures	185	313	365	241
Lease Financed Capital	55	120	53	38
Lease Financing Level	30%	38%	15%	16%
Average	25%			

* 2011 information as of Q3

Using the Anticipated Accumulation of Cash (AAC)

- To address the borrowing authority issue with just lease financing and available cash tools, we created a scenario that centers around the use of the Anticipated Accumulation of Cash (AAC) by Power. We call this the AAC solution. It starts with the capital investments assumed in the shaped 10 percent capital reduction scenario.
- We evaluated the borrowing authority gap remaining after using the AAC along with 25 percent lease financing and $300 million of reserve financing. This resulted in a shortfall of $1.25 billion to get through 2021.
- Allocation of revenue financing between the business units requires a delicate balance. We summed the borrowing authority needs from 2014 – 2021 by business unit and allocated the $1.25 billion based on those proportions. We continued the 2021 revenue financing amounts through the remainder of the study period. This resulted in a total of $1.62 billion of revenue financing for Generation and $1.2 billion for Transmission through 2028.
- The depreciation forecast is the driver of the AAC. If capital investment declines, depreciation will grow more slowly which will reduce the size of the AAC.
- As with the other scenarios, we made no assumptions about future risk requirements that may be necessary if BPA relies on the forecasted AAC.

Rate Effects

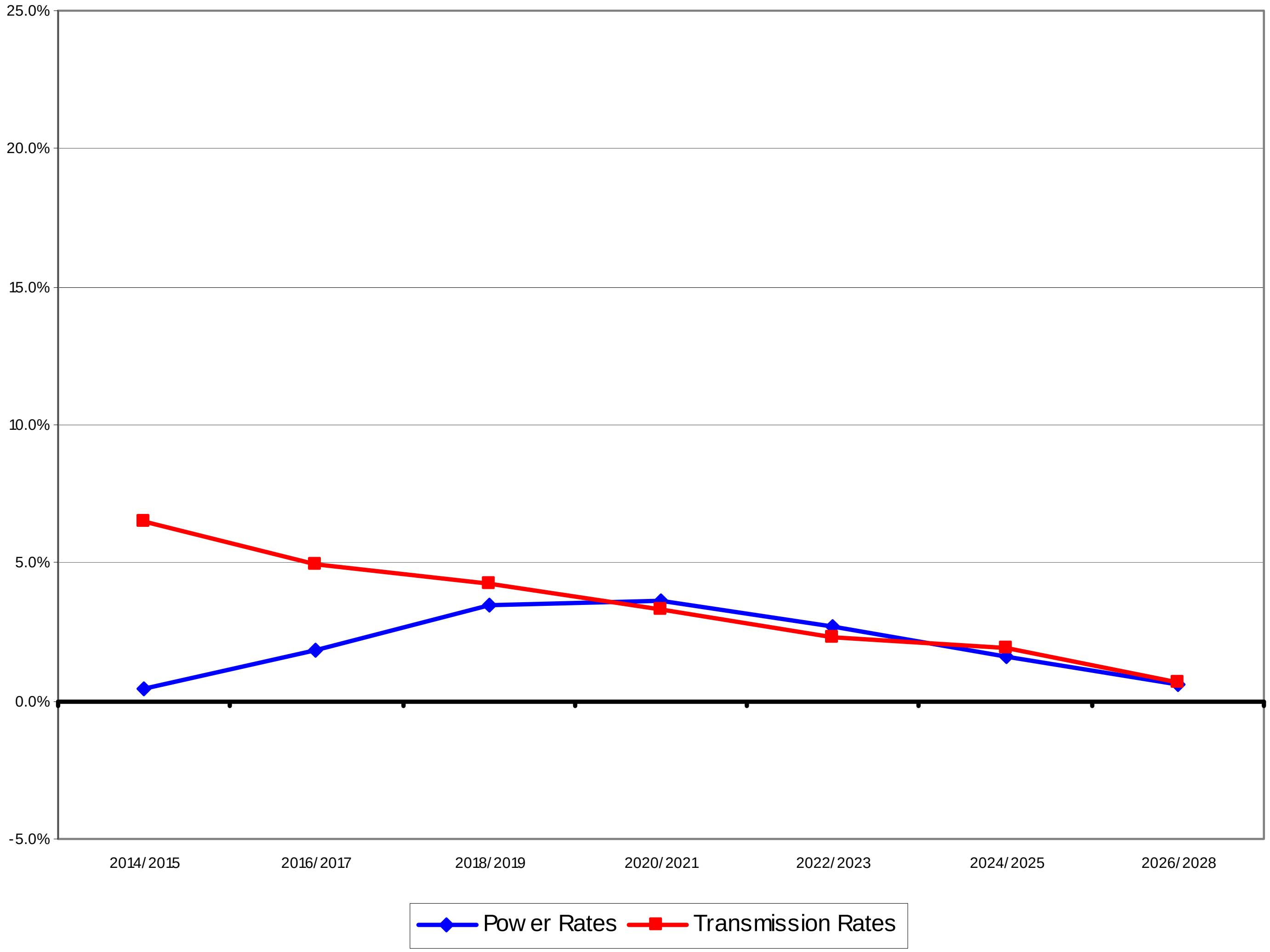
Power AAC Solution – Original 10 Percent Reduction

	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2028
Change from Base Case	0.5%	1.9%	3.5%	3.6%	2.7%	1.6%	0.6%

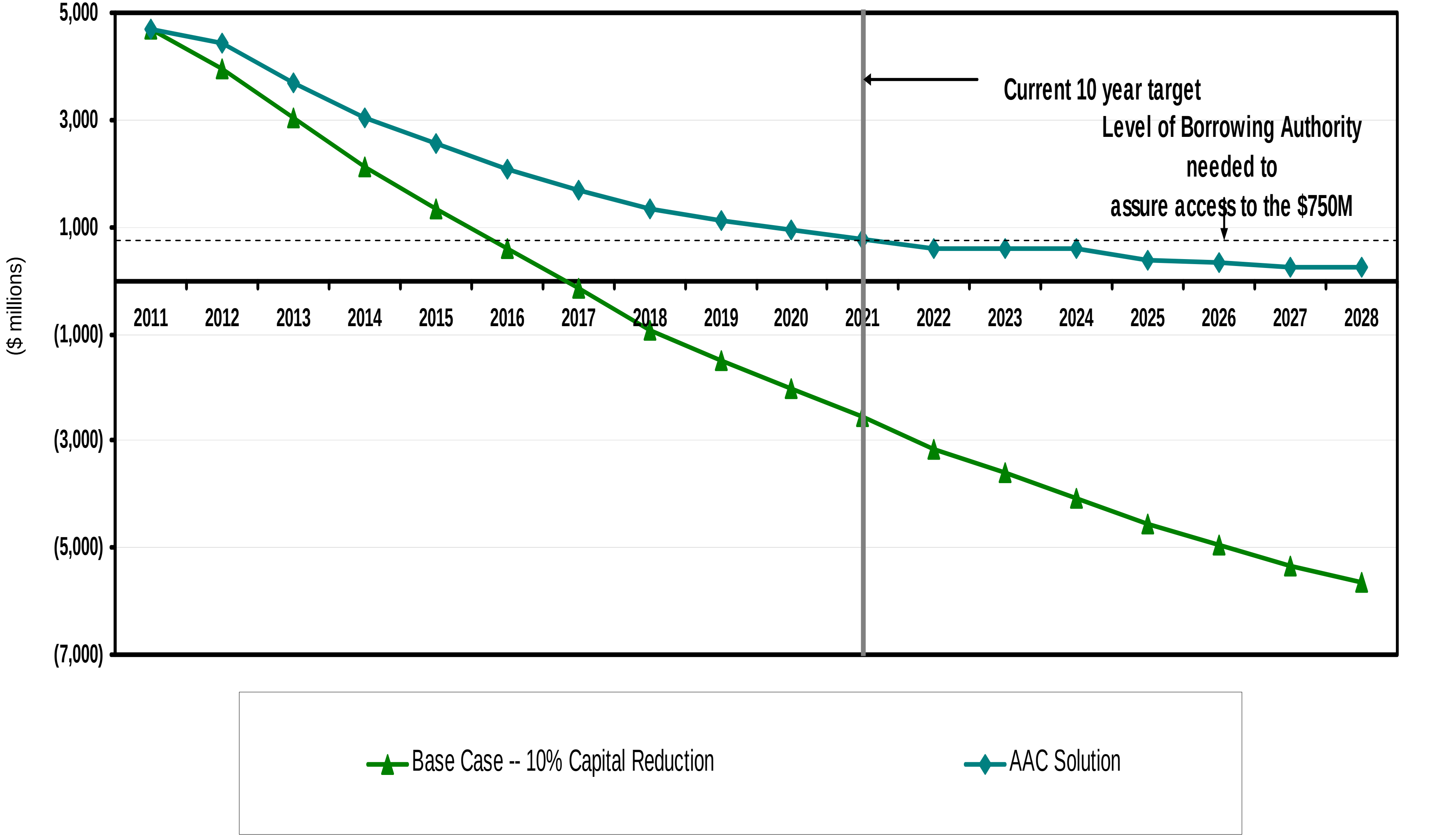
Transmission AAC Solution -- Original 10 Percent Reduction

	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2027
Change from Base Case	6.5%	5.0%	4.2%	3.3%	2.3%	1.9%	0.7%

AAC Solution Rate Effects



Remaining Agency Treasury Borrowing Authority: AAC Solution



What happened?

- As is evident in the results, relying on the AAC means that Power and Transmission rates would be higher than the base case.
- While this scenario is conceptually similar to the customer combination, the capital investments assumed in the AAC solution reflect the original shaped 10 percent reduction.
- The timing of the AAC is very important because most of it appears after the base 2016 crossover point. This means that the business units must generate much more cash through rates.
- The borrowing authority curve is similar to the customer combination in that the line never goes below zero. This is because we extended the revenue financing for 2021 through the entire study period at a flat level. The customer combination, on the other hand, featured ever increasing amounts of revenue financing to take advantage of reduced interest expense.

Prepays

- Since the September meeting, customers have shown an interest in understanding the prepay program.
- Snohomish PUD, Benton PUD and Clark PUD have indicated that they are willing to participate in the regional team to evaluate a potential prepay program.
- In September, we presented a prepay scenario that was roughly rate neutral but did not achieve the borrowing authority target.
- We hypothesized that it would be possible to develop a scenario centered around a prepay program that would have modest rate impacts. We call this the Prepay solution. Like the AAC solution, it starts with the capital investments assumed in the original shaped 10 percent reduction.
- We evaluated the borrowing authority gap remaining after using prepays along with 25 percent lease financing and $300 million of reserve financing. This resulted in a shortfall of $224 million to get through 2021.
- As with the AAC solution, we needed to balance revenue financing between the power and transmission business units. We summed the borrowing authority needs from 2014 – 2021 by business unit and allocated the $224 million based on those proportions. We continued the 2021 revenue financing amounts through the remainder of the study period. This resulted in a total of $257 million of revenue financing for Generation and $245 million for Transmission through 2028.
- As with the other scenarios, we made no assumptions about future risk requirements.

Rate Effects

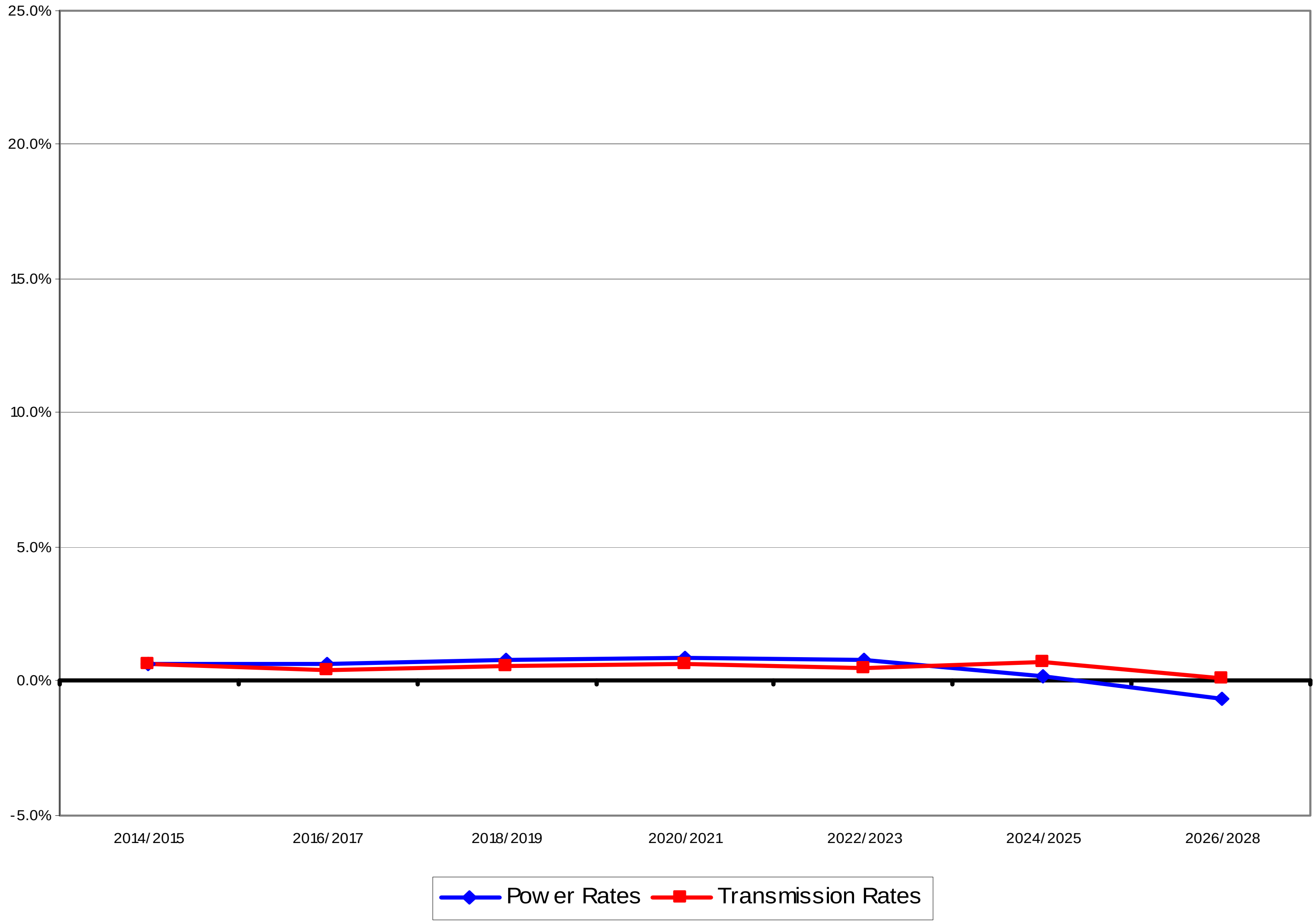
Power Prepay Solution

	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2028
Change from Base Case	0.6%	0.6%	0.8%	0.9%	0.8%	0.2%	-0.7%

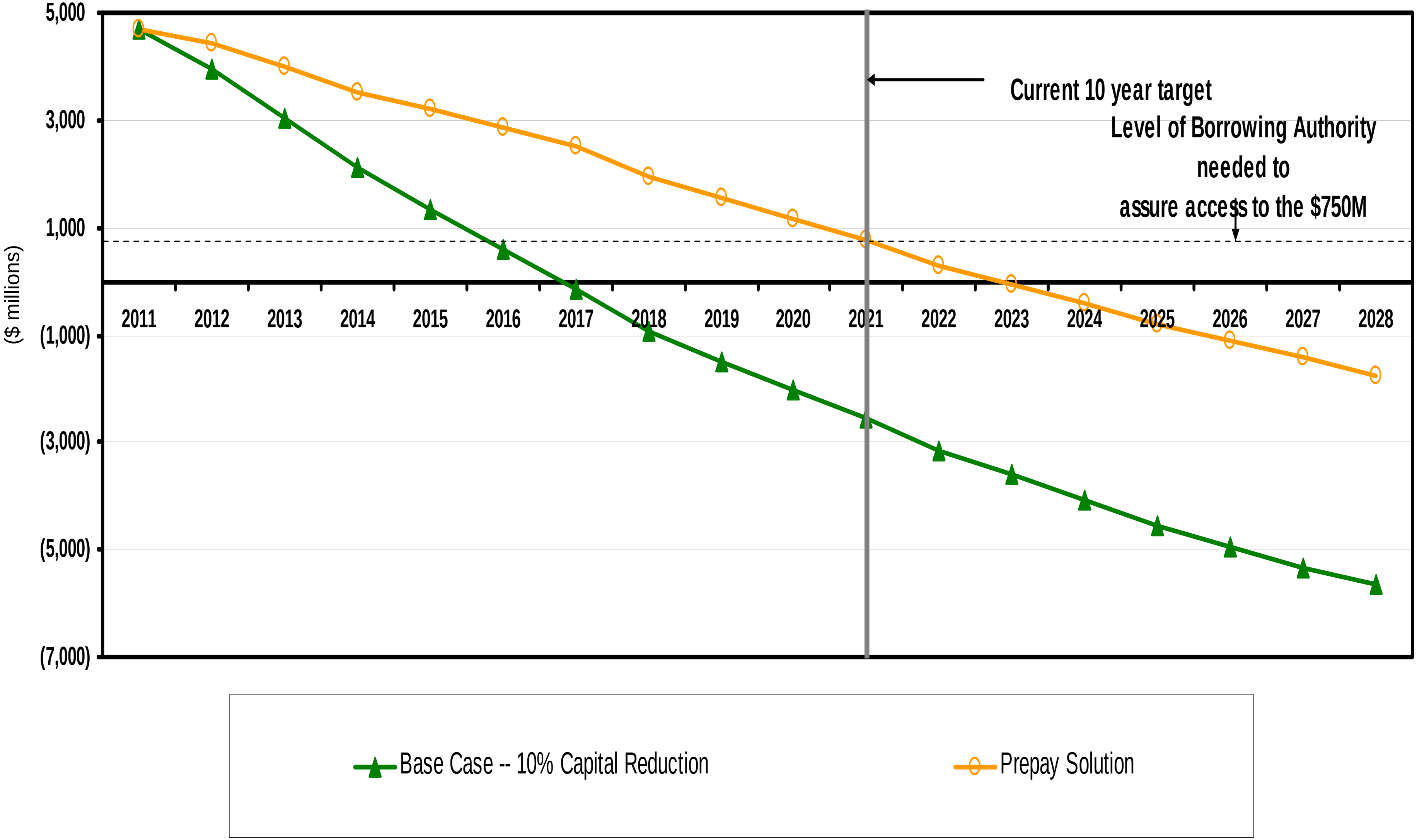
Transmission Prepay Solution

	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2027
Change from Base Case	0.6%	0.4%	0.6%	0.7%	0.5%	0.7%	0.1%

Rate Effects



Remaining Agency Treasury Borrowing Authority: Prepay Solution



What happened?

- As is evident in the results, relying on the prepay program means that Power and Transmission rates would be slightly higher than the base case but lower than the AAC solution.
- While this scenario is conceptually similar to the customer combination, the capital investments assumed in the prepay solution are based on the original shaped 10 percent reduction scenario.
- The assumed timing of the prepay is very important because the majority of the funds would be available before 2016. There would be much less revenue financing than in the AAC solution.
- The borrowing authority curve is more like the other combination scenarios from September. This is because we extended the revenue financing for 2021 through the entire study period. Since the amount of revenue financing was much smaller than in the AAC solution or customer combination, we extinguish borrowing authority in 2021.

Benefits of a Prepay Program

A prepay program if implemented as modeled, provides cash in advance of 2016.

- These funds can then be used for power-related capital projects.

The program provides equitable treatment for customers.

- The prepay uses funds to reinvest in the system which creates equitable treatment between Slice and Non-Slice customers by reducing future Federal interest expense and repayment requirements rather than building financial reserves.

A prepay program has benefits:

- Creates a new funding source.
- Preserves existing Treasury borrowing authority by either avoiding Treasury borrowing authority or redeeming Treasury bonds.
- Minimizes rate pressure when compared to using the AAC to fund capital investments.
- Increases certainty of funding (once the prepayment is in place) and reduces the potential for risk mitigation as compared to the uncertainty associated with rate period by rate period determinations for reserves or revenue financing.

Implications of Revenue Financing

- A number of the scenarios have relied on the use of revenue financing to reach the rolling 10 year target.
- BPA has had mixed success at sustaining planned revenue financing even at relatively modest levels. It has been a feature in a number of rate cases but circumstances during the operating year have meant that BPA has borrowed for investments that it originally intended to pay for with cash raised through rates.
- The table displayed below, from the September meeting, details the history.

Cash Financing ($thousands)	1984	1985	1996	1997	1998	1999	2000	2001	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Put In Rates																			
Conservation	9,400	10,500	15,000																34,900
Transmission	8,754	5,822	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000									134,576
	5% of capital																		169,476
From Reserves																			
Transmission											15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	120,000
																			289,476
Implemented			30,000						15,000	15,000	15,000	15,000	15,000	15,000		30,000			150,000

- If BPA is to design a capital financing program that relies on revenue financing, it must be reasonably certain that the funds will be available for use.
- This suggests that revenue financing requirements should be considered as important as scheduled Treasury payments when conducting the risk analysis.
- This notion will need to be explored in much greater detail.

Summary

- Further capital reductions remains an option and we will continue to explore opportunities to reduce capital costs.
- We recognize that near-term capital spending reductions present business and operational risks.
- Accelerated capital cuts alone do not solve the problem, producing, at best, another year of borrowing authority.
- Currently, BPA has a finite set of potential funding tools to maintain Treasury borrowing authority:
  - Lease Financing
  - Cash tools (Revenue and Reserves Financing)
  - Prepayments of Power Bills
- Relying on revenue financing and the use of AAC could also require additional risk mitigation in BPA's revenue requirements in order to assure certain funding capability.
- Prepays can greatly improve borrowing authority and may reduce the need for revenue financing.
- Customers have shown a desire to understand and potentially participate in the prepay program.
- Implementing a successful prepay program requires significant lead time. We intend to continue working with interested regional parties on the development of this program.
- The accelerating capital investment levels and the resultant Treasury borrowing authority problem will continue. It does not disappear even if we can meet the initial 10 year target after setting our capital funding strategies during this process.

Next Steps

- BPA plans to expand Lease Financing as much as possible.
- BPA is finalizing the regional team participants who will further evaluate prepays and plans to hold its first meeting the week of November 28^{th} or December 5^{th}.
- The use of reserves and revenue financing will be addressed in a workshop before the next rate case.
- Future discussions on long-term capital program levels will occur in the spring, based on updated asset strategies and detailed project forecasts.
- BPA welcomes feedback and collaboration as we try to seek sustainable access to capital.

Appendix:

(1) Rates Methodology from September Meeting

(2) Description/Characteristics of Prepays from September Meeting

(1) What did we do – rates methodology?

- This is a delta analysis. It is not an exercise in definitively forecasting rates.
- To do this, we used Power's long-term rates analysis model from the REP-12 proceeding and a simplified rate calculator for Transmission.
  - There was no effort to calculate rates by product class for either business unit. Instead we calculated average Tier 1 PF rates, before the application of the REP refund, and a weighted average transmission rate.
  - We did not consider variations to significant policy questions that do not directly affect capital investment tools. So, there is no consideration of issues like alternate segmentation methodologies or REP benefits absent a settlement.
- The same set of program spending levels was held constant through all but one scenario. Modeled costs were carried over from the BP-12 rate case. In short, the only moving pieces in this analysis are those directly associated with capital investments.
- Capital investments start with the 10 percent capital reduction scenario. Variations are noted in each scenario.
- We simplified the calculation of depreciation expense because we do not have long-term plant in service forecasts.
- We did not include any planned net revenues for risk (PNRR) in any scenario. We make no assumptions about future risk requirements.
- Power modeling used the load forecasts from the REP-12 process.
- The Transmission calculation factors in the additional sales expected with the completion of the Network Open Season (NOS) projects.
- All comparisons are against the 10 percent capital reduction scenario.

(2) Characteristics of a Prepayment

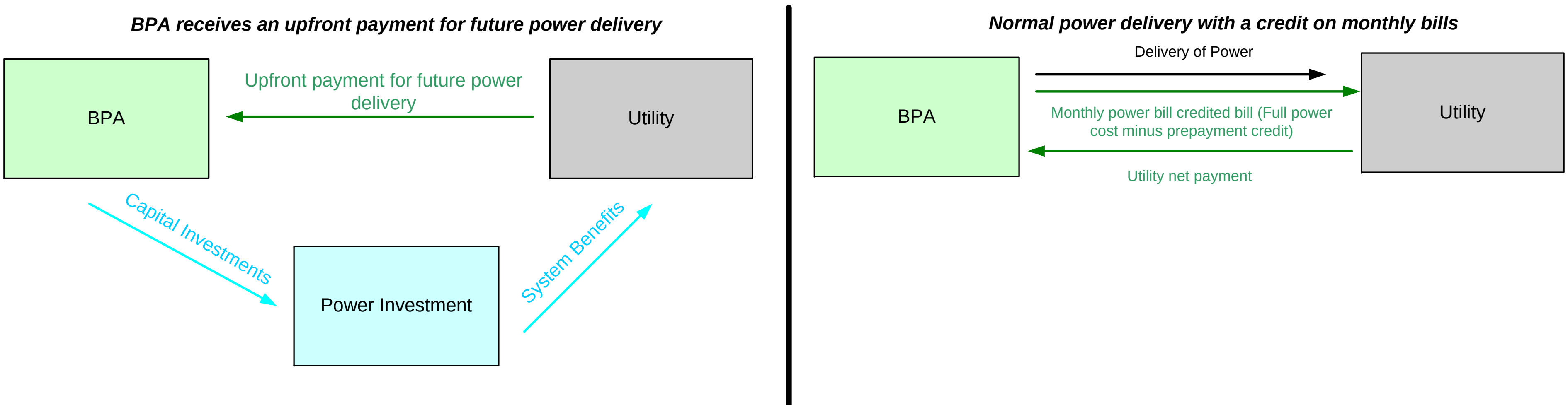
- A utility would pre-purchase power through 2028 and in return receive corresponding reductions in its future bills through 2028. The utility may fund the upfront prepayment from its financial reserves and/or from the proceeds of bonds it issues for the pre-purchase.

- After the prepayment is made to BPA, subsequent power bills would show reductions (under a fixed, agreed-to schedule) that in aggregate equal the amount of the prepayment plus an imputed interest component. The shape over time of the offsetting power bill reductions may not reflect a level debt service schedule.

- The amount of power that a customer may pre-purchase would be limited to a portion (under 50 percent) of its total purchase obligation from BPA. The prepayment envisioned would not involve a prepayment for a fixed block of power at a fixed rate/price. Rather, the scheduled reductions in future power bills would be calculated based on the amounts that would otherwise be due to BPA at then-current power rates. This would assure that BPA's ability to change power rates, including the power rates applicable to pre-paying customers, would not be affected.

- Prepay financing could be a cost-effective means of financing needed power related investments.

Utility and BPA Prepay Diagram

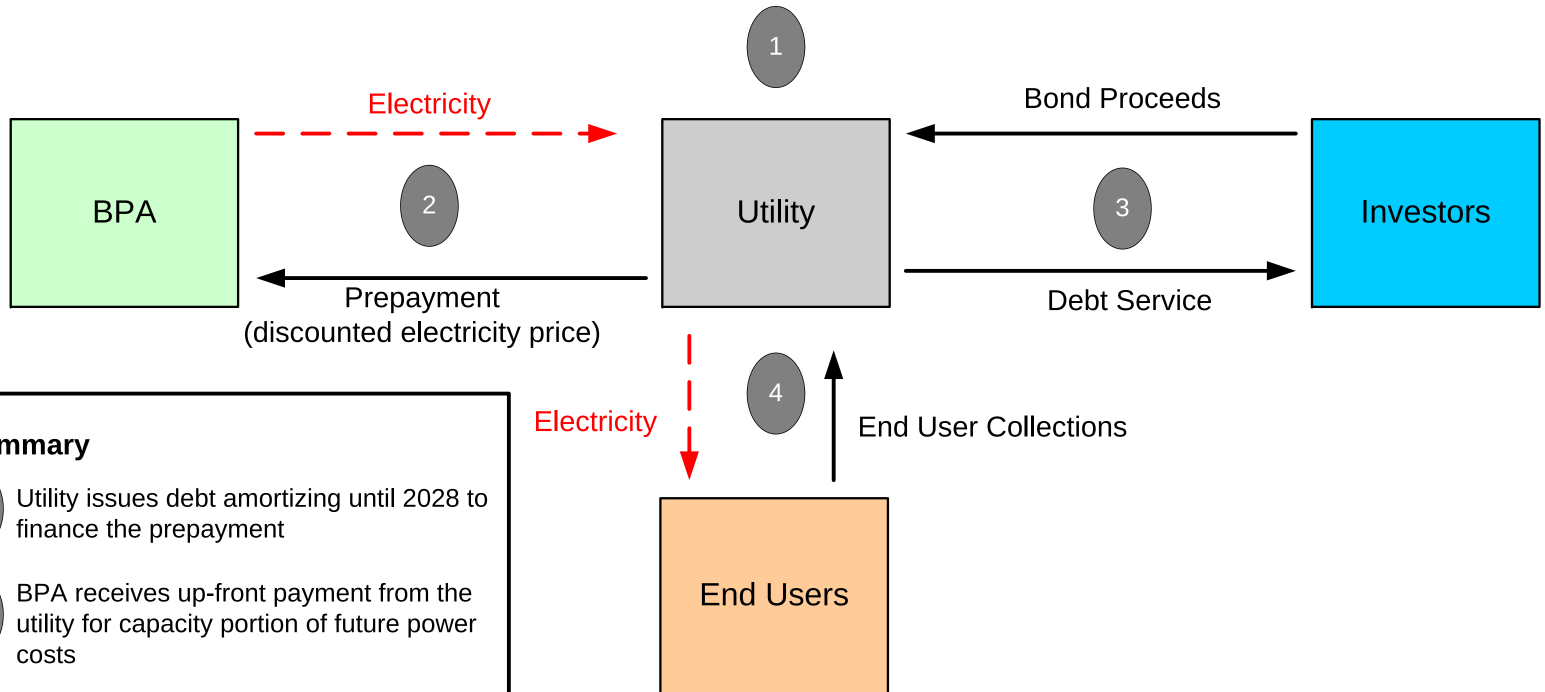


Rate Case Years	2012-2013	2014-2015	2016-2017	2018-2019	2020-2021	2022-2023	2024-2025	2026-2028
Cash Impacts	Upfront Payment	Monthly Credit	Monthly Credit	Monthly Credit	Monthly Credit	Monthly Credit	Monthly Credit	Monthly Credit

- A utility uses cash or issues bonds and uses the proceeds to pre-purchase energy through 2028 and in return receives a credit (that includes a incentive) on future bills that reflects the prepayment.
- BPA uses the prepayment for capital investments which would otherwise be funded with Treasury borrowing authority.
- Customers would prepay BPA for future delivery of power consistent with existing regional dialogue contracts.
- BPA would bill monthly for the power delivery with a credit on the portion of power that is prepaid.

Utility, BPA and End User Prepay Diagram

Customer Prepay



Summary

1. Utility issues debt amortizing until 2028 to finance the prepayment
2. BPA receives up-front payment from the utility for capacity portion of future power costs
3. Utility pays investors payments to cover debt service
4. Utility supplies electricity to its end users

Prepay transaction locks in the “discount,” not power prices. BPA’s future rates may go up or down, but the customer will always receive a discount on the prepay portion equal to the debt service plus an incentive.

- Customers locks in discounted power under current long term contracts
- BPA gains access to needed low-cost capital
- Prepay contract do not represent an additional obligation to customers as costs are already collected in rates.

Financial Disclosure

This information has been made publicly available by BPA on November 18, 2011 and contains information not reported in agency financial statements.