

Scenario Analysis and Rate Impacts

September 20, 2011
1:00pm – 4:00pm

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

Participants may participate via phone by dialing 503-230-5566, after the double beep enter 0124#



Topics for Discussion

- Introduction
- Effects of Individual Tools
- Effects of Combinations of Tools
- Revenue Financing
- Other Scenarios
- Summary

Introduction

Purpose

- The purpose of this discussion is to assess the effects of the various financing tools on both the capacity to preserve borrowing authority as well as expected rate impacts.
- We have evaluated these tools both individually and in combination with other tools.

What did we do?

- 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% 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% capital reduction scenario.

Individual Tools

Assessing Individual Tools

- The base case for this analysis is the 10% reduction scenario.
- When assessing each scenario, one financing assumption was changed for one business unit. The results of the repayment study were combined with the base case (10% capital reduction) for the other business unit when assessing the effect on borrowing authority.
- Individual scenarios include:
 - Power
 - Non-Federal financing of 50% of planned conservation investment
 - Use of the Anticipated Accumulation of Cash
 - \$1.7 billion prepayment program
 - Transmission
 - Lease financing 20% of the capital program
 - Use of current reserves (in this example we use \$400 million)
 - Revenue financing all replacements

Power Rate Effects

- 50% Conservation Financing: Starting with the capital forecasts from the Base Case – 10% Capital Reduction, 50% of the Conservation capital program is financed through third party financing starting in 2013 (\$1.3 billion program through 2028).

	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2028
Change from Base Case	-0.1%	-0.3%	0.8%	0.1%	-0.2%	0.1%	0.5%

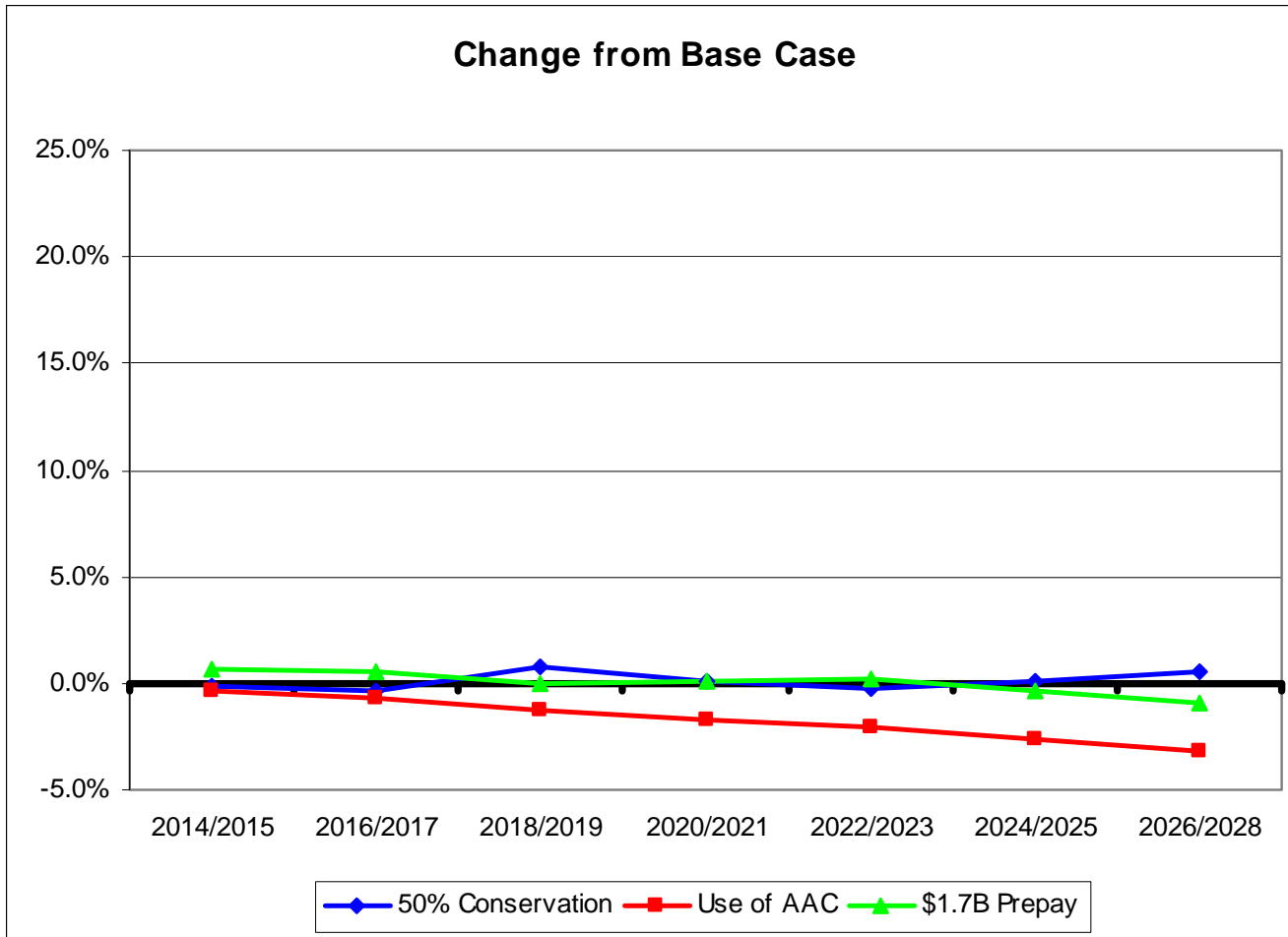
- Use of the AAC: Starting with the capital forecasts from the Base Case 10% Capital Reduction, the cash generated from the anticipated accumulation of cash was used to finance Power’s capital program starting in 2014 (\$1.1 billion program in total through 2024). This assumes there are no future consequences of this use of cash.

	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2028
Change from Base Case	-0.3%	-0.7%	-1.2%	-1.7%	-2.0%	-2.7%	-3.2%

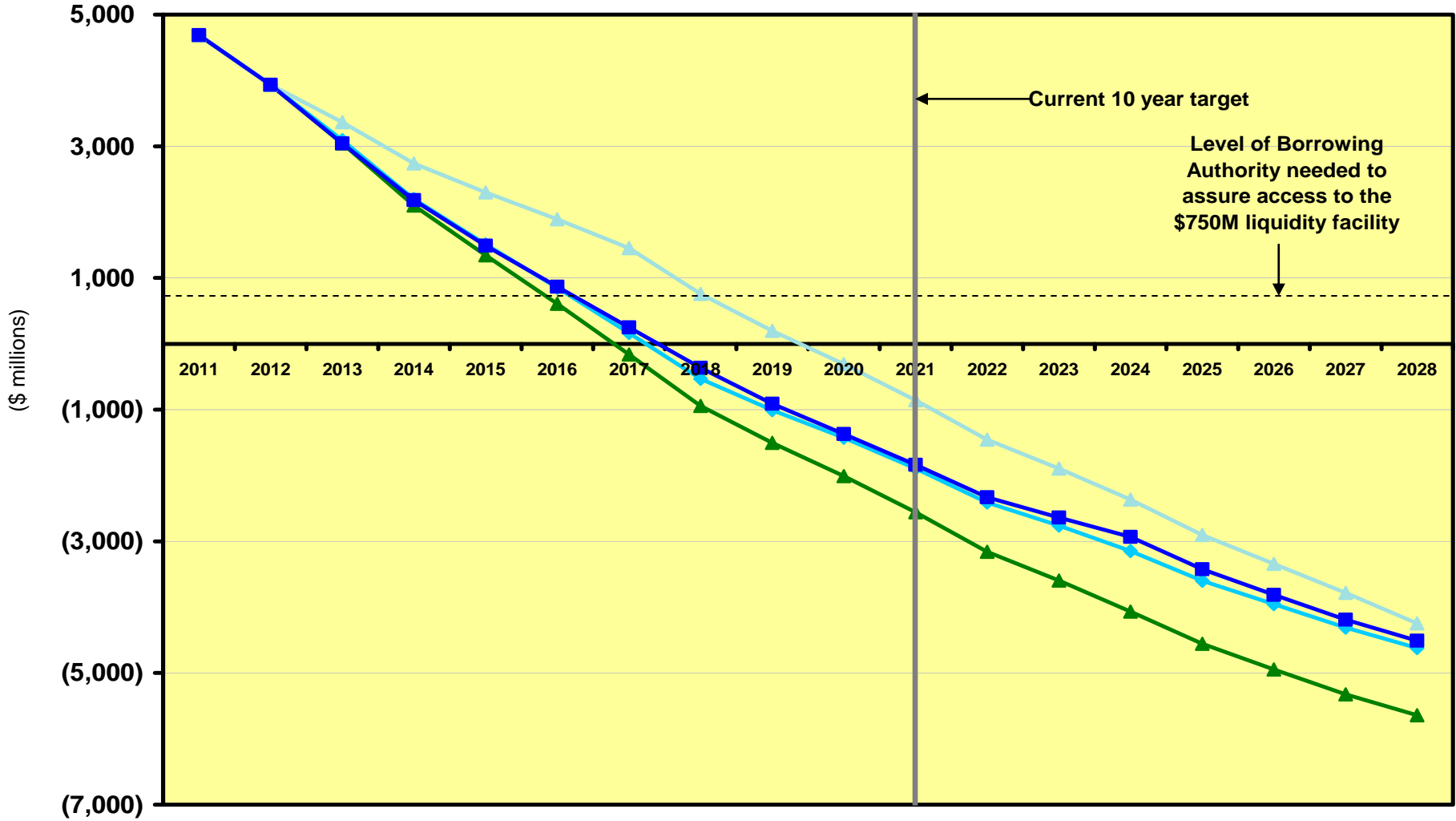
- Prepayment Program: Starting with the capital forecasts from the Base Case – 10% Capital Reduction, \$1.7 billion of Power capital spending is funded through prepays in 2013-18

	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2028
Change from Base Case	0.6%	0.5%	0.0%	0.1%	0.2%	-0.3%	-0.9%

Power Rate Effects



Remaining Agency Treasury Borrowing Authority: Individual Tools



Transmission Rate Effects

- 20% Lease Financing: Starting with the capital forecasts from the Base Case – 10% Capital Reduction, 20% of Transmission’s capital program is lease financed starting in 2012. (\$1.4 billion program through 2028). This scenario also includes \$15 million of reserve financing per year for Transmission capital.

	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2027
Change from Base Case	1.4%	0.7%	0.9%	0.6%	0.5%	0.4%	0.2%

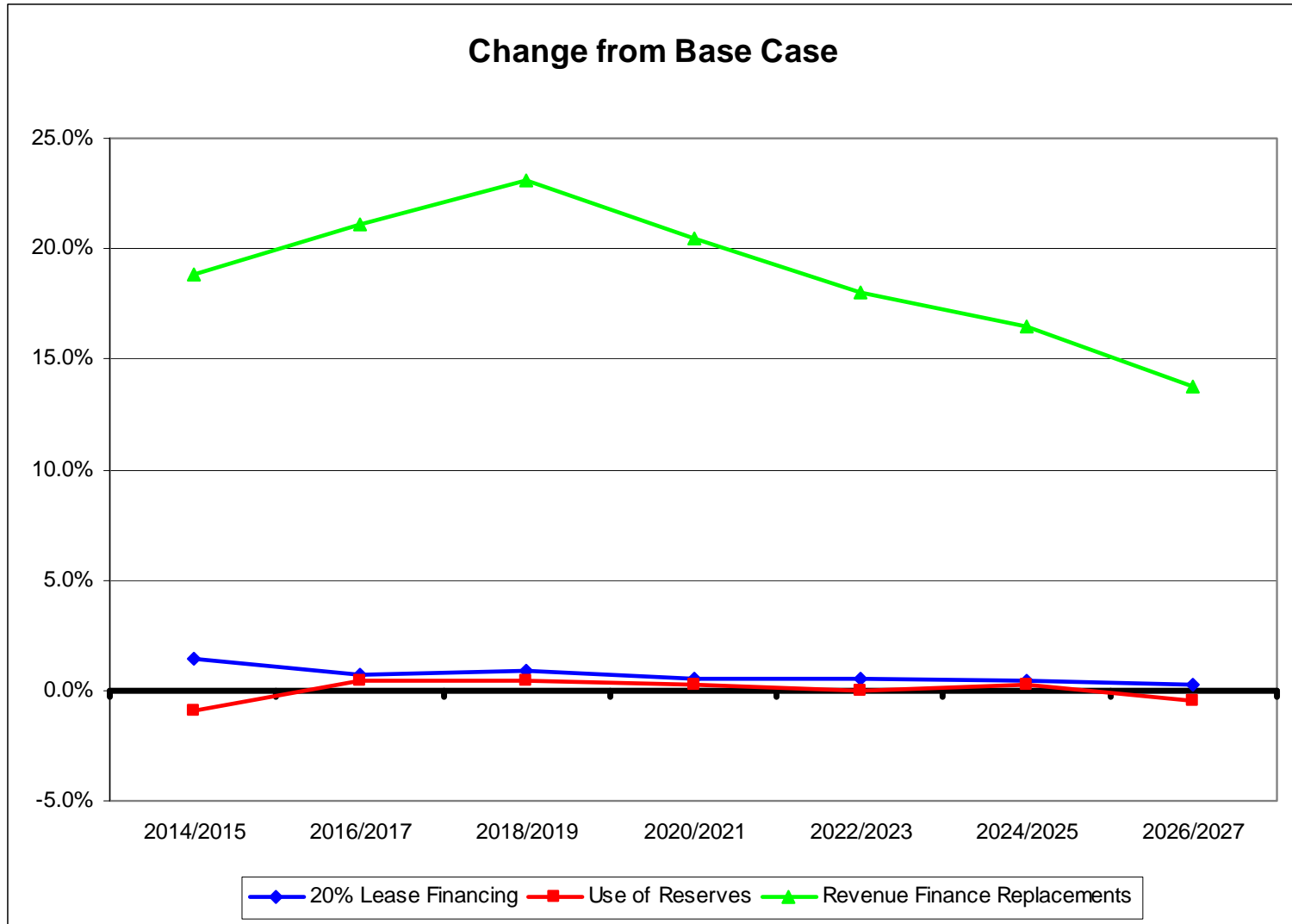
- Use of Reserves: Starting with the capital forecasts from the Base Case – 10% Capital Reduction, \$100 million of existing Transmission reserves was used to help finance capital from 2012-2015 (\$400 million total). \$15 million of revenue (rate) financing is assumed from 2016 and beyond. NOTE that this is illustrative. There is no certainty that \$400 million would be available without affecting Transmission TPP.

	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2027
Change from Base Case	-0.9%	0.5%	0.4%	0.2%	0.0%	0.2%	-0.5%

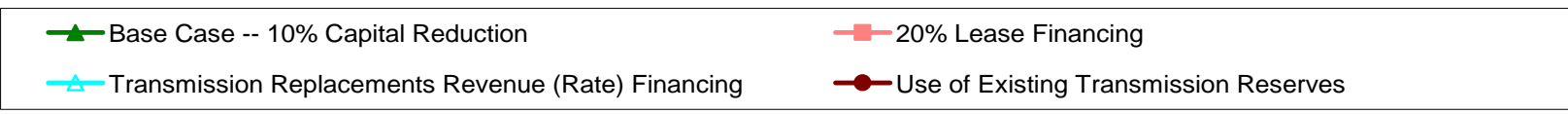
- Revenue Finance Replacements: Starting with the capital forecasts from the Base Case 10% Capital Reduction, approximately \$160 million per year of Transmission’s capital program are replacement costs and were revenue (rate) financed starting in 2014. (\$2.4 billion program through 2028) This scenario also assumes \$15 million per year of reserve financing.

	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2027
Change from Base Case	18.8%	21.1%	23.1%	20.5%	18.1%	16.4%	13.8%

Transmission Rate Effects



Remaining Agency Treasury Borrowing Authority: Individual Tools



Effects of Individual Tools

- Individual tools have a very small to modest effect on borrowing authority. None added more than two years to the cross-over point.
- Why didn't we see much change in borrowing authority?
 - The shape of non-Federal debt has largely locked in Federal amortization levels for the next 10 years. This means that the repayment study is not making large changes to Federal amortization which would help extend borrowing authority.
 - Since repayment isn't increasing, borrowing authority can be extended only by reducing the amount of borrowing. However, individual tools provide comparatively little cash in relationship to the need.
 - Timing is everything. In order to affect the 2016 cross-over point of the base case, the tools need to affect borrowing prior to that time. Few of the tools can meet this requirement. The largest effect is produced by the prepay program because it produces a large amount of cash prior to the cross-over point. Other tools, such as non-Federal financing of conservation, are less powerful because they are used in smaller increments over the entire study period.
- When a non-Federal financing tool is used in place of Federal financing, the effect is roughly rate neutral. In part this is due to the influence of the repayment model. While one tool may be more expensive than Treasury bonds in a side by side comparison, the comparison is less obvious in the repayment model results. Since non-Federal debt has a higher priority of payment, Federal debt payments are scheduled around it. This means that the model may change Federal amortization. It may also re-sort the order of Federal amortization. In addition, scenarios that produce reductions in depreciation may result in lower overall revenue requirements, particularly in periods when there is no minimum required net revenues expected.
- Expensing investments and revenue financing, as one might expect, has a significant effect on rates. Over time, though, the rates show signs of eventual convergence because of much lower interest expense.

Combinations

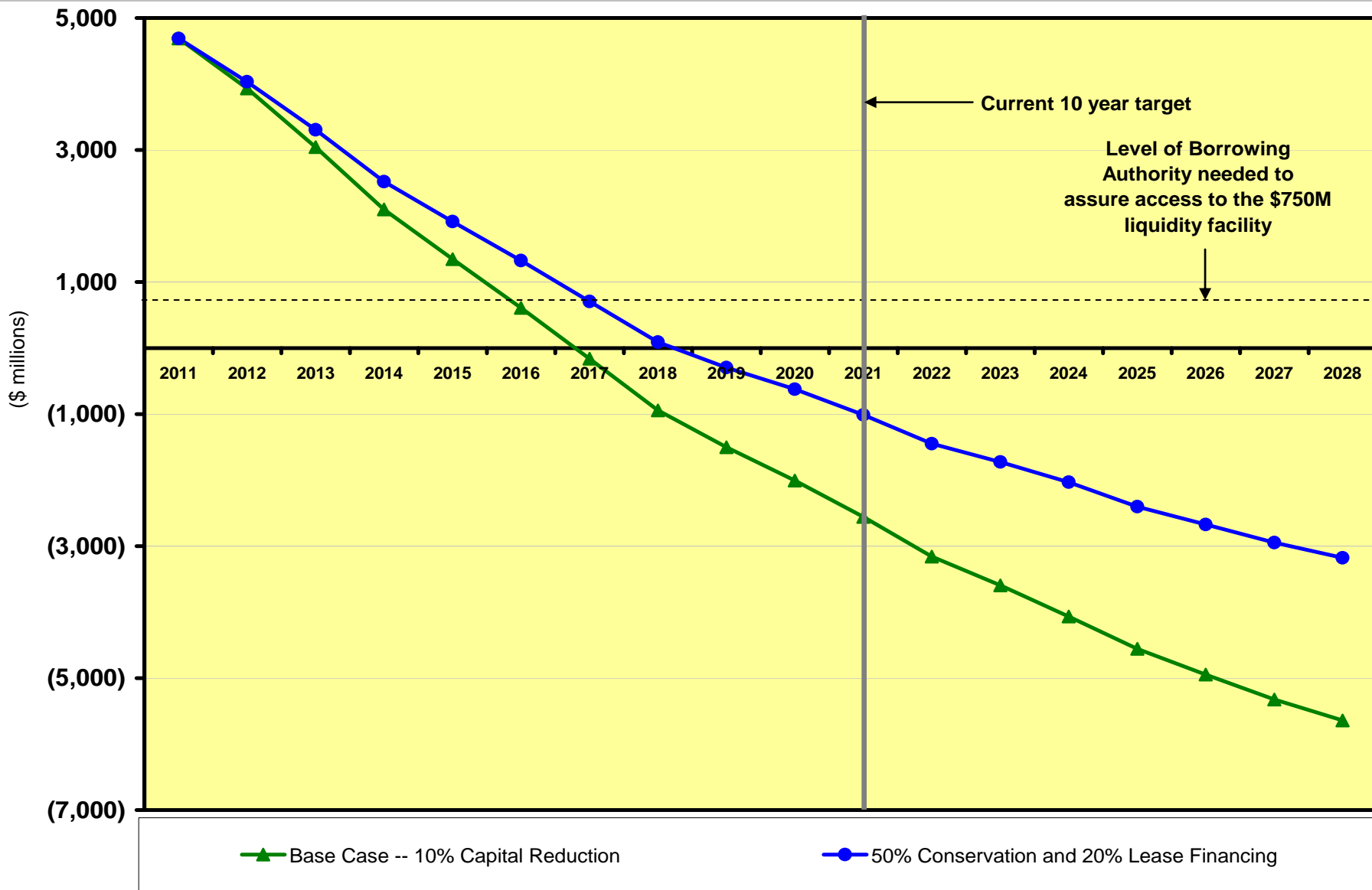
A Note on Combining Scenarios

- Combination scenarios will have distinct borrowing authority implications. Not all are additive. For example, the use of the AAC and prepays are not additive because the prepay program eliminates the AAC.
- Not all of combinations have unique rate effects because some scenarios combine a single Power-focused tool with a single Transmission-focused tool.
- Unique rate effects will appear as we combine two or more tools for one business unit.

50% Conservation and Lease Financing

- Power – Starting with the capital forecasts from the Base Case – 10% Capital Reduction, 50% of the Conservation capital program is financed through third party financing starting in 2013 (\$1.3 billion program through 2028).
- Transmission -- Starting with the capital forecasts from the Base Case – 10% Capital Reduction, 20% of Transmission’s capital program is lease financed starting in 2012 (\$1.4 billion program through 2028). This scenario also includes \$15 million of reserve financing per year for Transmission capital.
- The rate effects are the same as the individual tools.

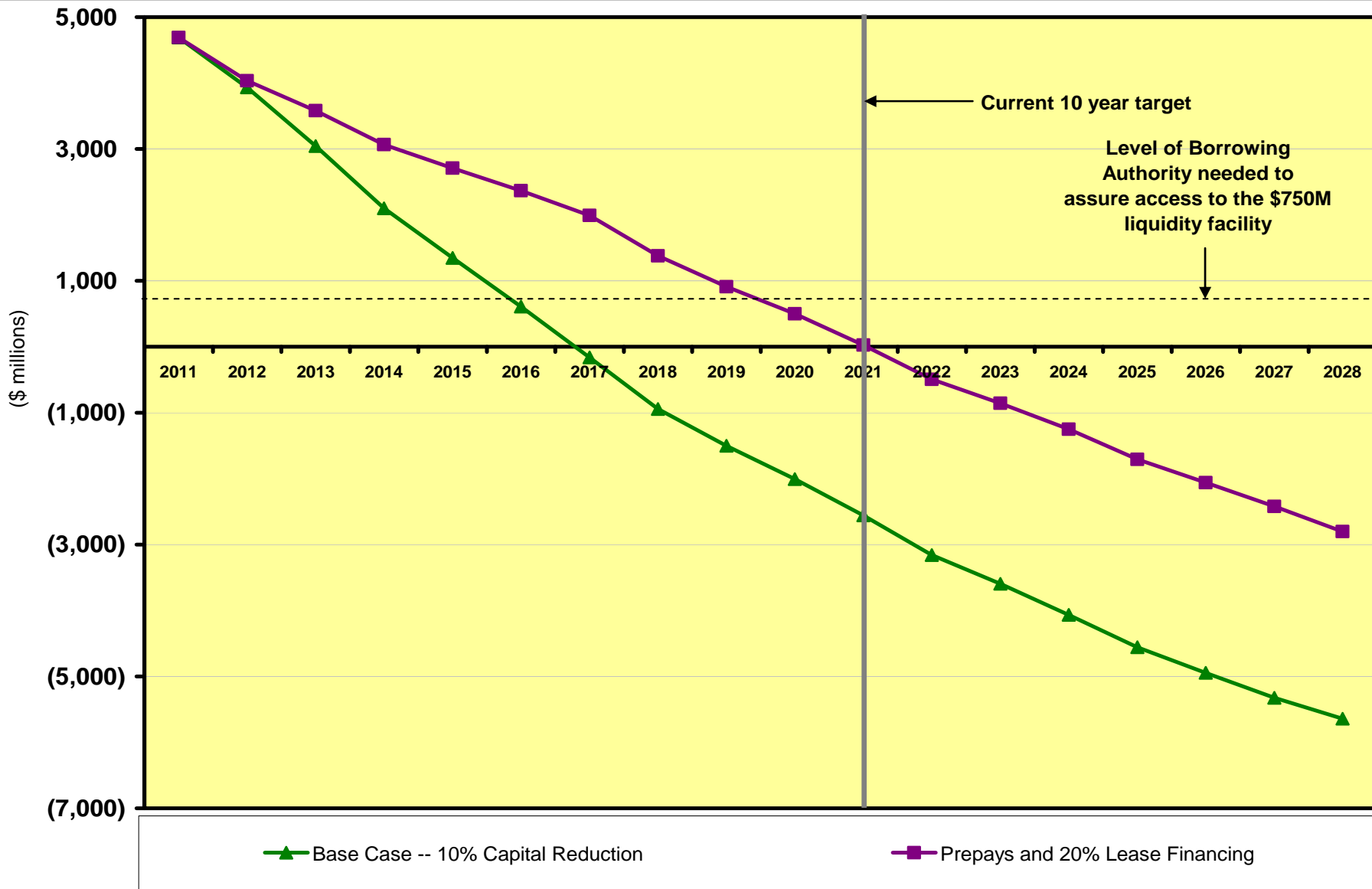
Remaining Agency Treasury Borrowing Authority: Conservation and LF



Prepays and Lease Financing

- Power – Starting with the capital forecasts from the Base Case – 10% Capital Reduction, \$1.7 billion of Power capital spending is funded through prepays in 2013-18.
- Transmission – Starting with the capital forecasts from the Base Case – 10% Capital Reduction, 20% of Transmission’s capital program is lease financed starting in 2012 (\$1.4 billion program through 2028). This scenario also includes \$15 million of reserve financing per year for Transmission capital.
- The rate effects are the same as the individual tools.

Remaining Agency Treasury Borrowing Authority: Prepays and LF

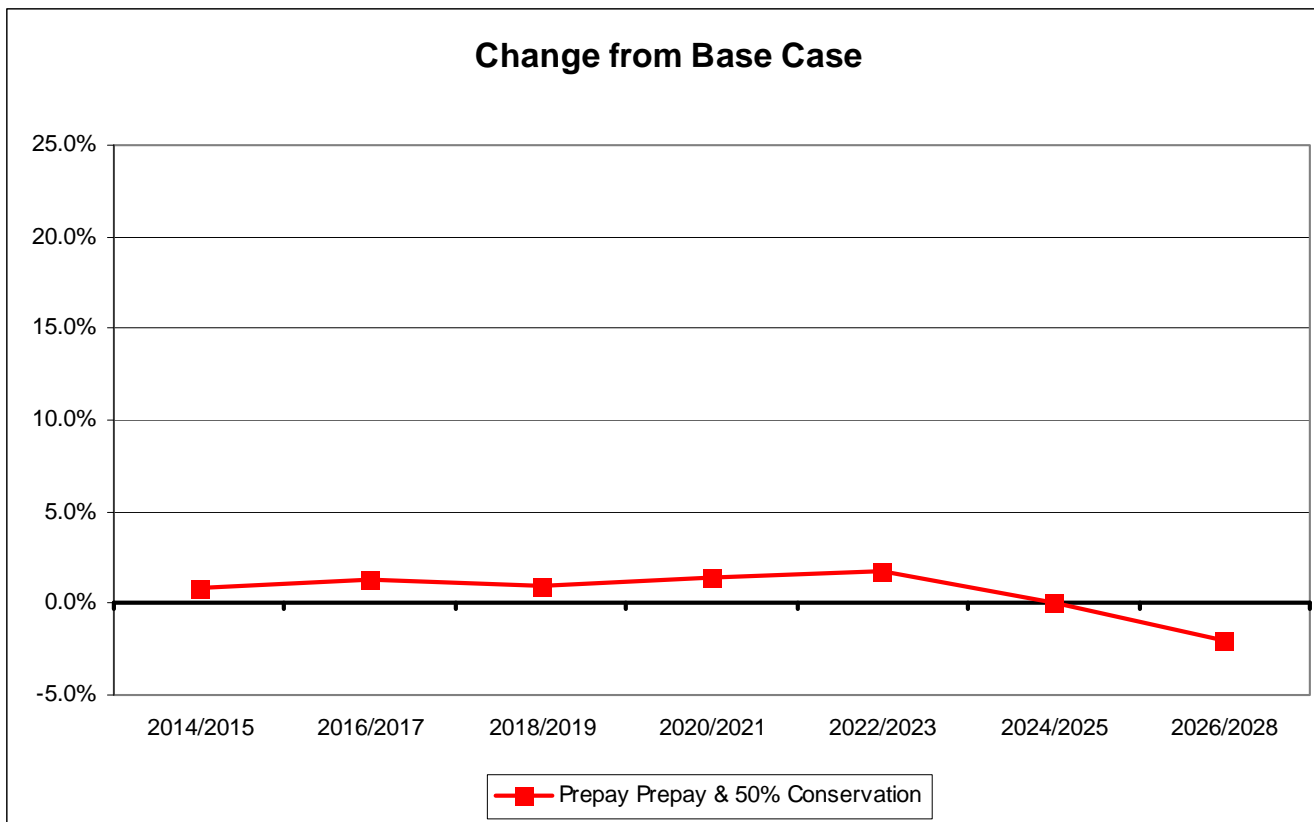


Prepays, Conservation and Lease Financing

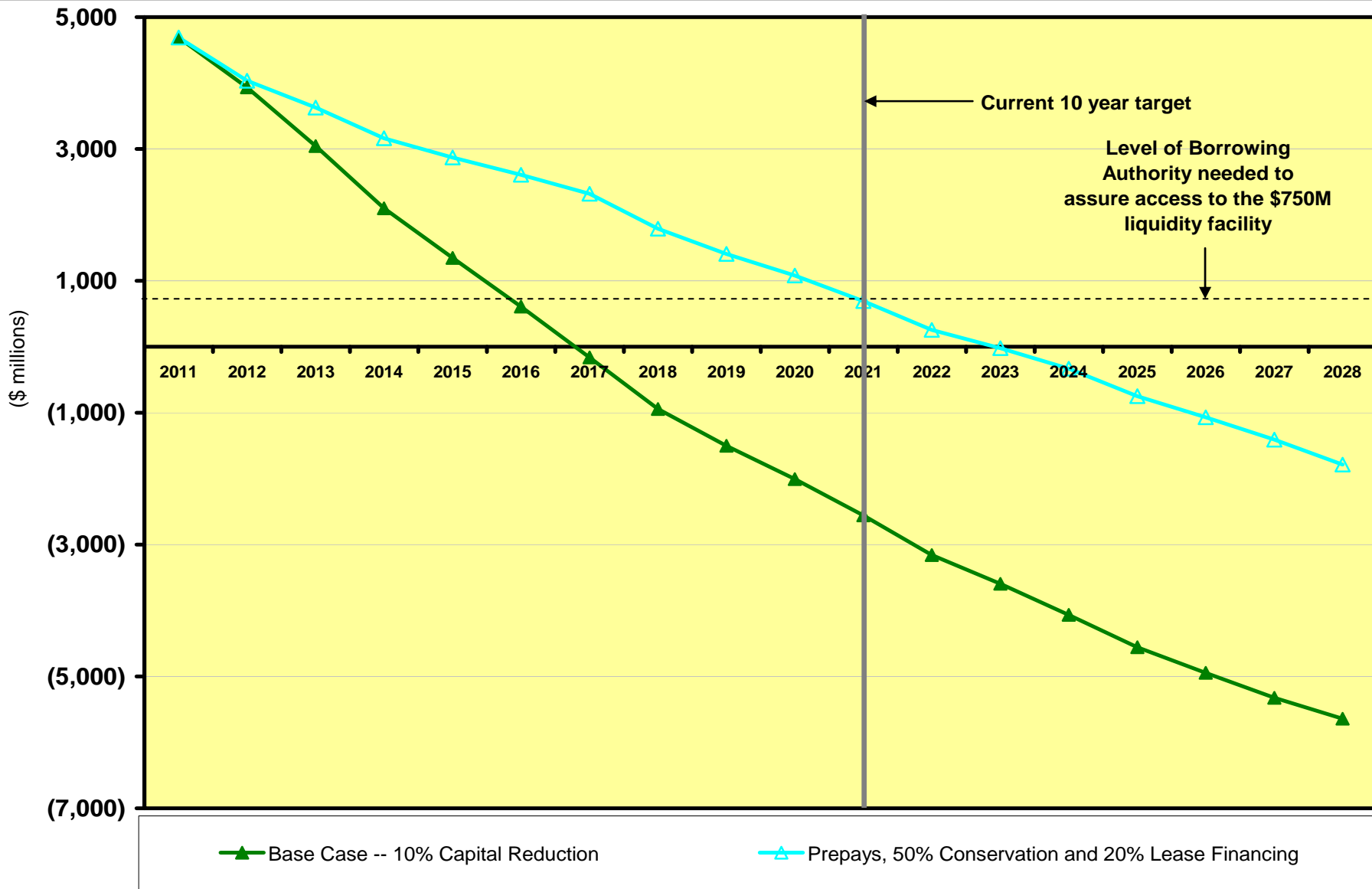
- Power – Starting with the capital forecasts from the Base Case – 10% Capital Reduction, \$1.7 billion of Power capital spending is funded through prepays in 2013-18, and \$1.3 billion of Conservation capital spending is funded through third party financing from 2013-2028.
- Transmission – Starting with the capital forecasts from the Base Case – 10% Capital Reduction, 20% of Transmission’s capital program is lease financed starting in 2012 (\$1.4 billion program through 2028). This scenario also includes \$15M of reserve financing per year for Transmission capital.
- Transmission rate effect is the same as the lease financing scenario.
- The Power rate effect follows.

Rate Effects – Prepay & Conservation

Change from Base Case	2014/2015 0.9%	2016/2017 1.3%	2018/2019 1.0%	2020/2021 1.4%	2022/2023 1.8%	2024/2025 0.0%	2026/2028 -2.0%
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Remaining Agency Treasury Borrowing Authority: Prepays, Conservation and LF



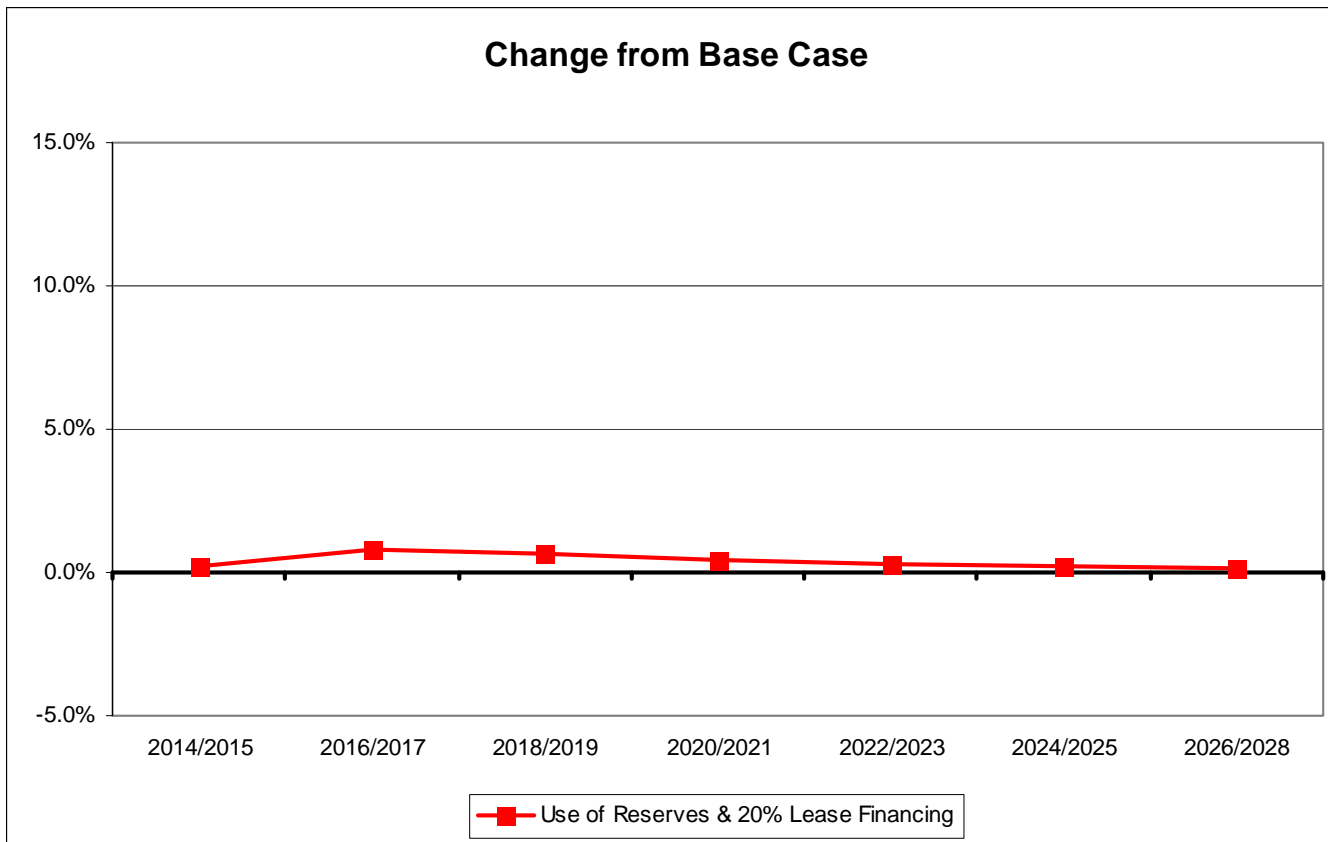
Prepays, Conservation, Lease Financing and Reserves

- Power – Starting with the capital forecasts from the Base Case – 10% Capital Reduction, \$1.7 billion of Power capital spending is funded through prepays in 2013-18, and \$1.3 billion of Conservation capital spending is funded through third party financing from 2013-2028.
- Transmission – Starting with the capital forecasts from the Base Case – 10% Capital Reduction, \$100 million of existing Transmission reserves was used to help finance capital for 2012-2015 (\$400M million total). 20% of the remaining Transmission capital was then assumed to be lease financed (\$1.36 billion program through 2028). \$15 million of revenue (rate) financing is assumed from 2016 and beyond.
- The Power rate effect is the same as the previous scenario.
- The Transmission rate effect follows.

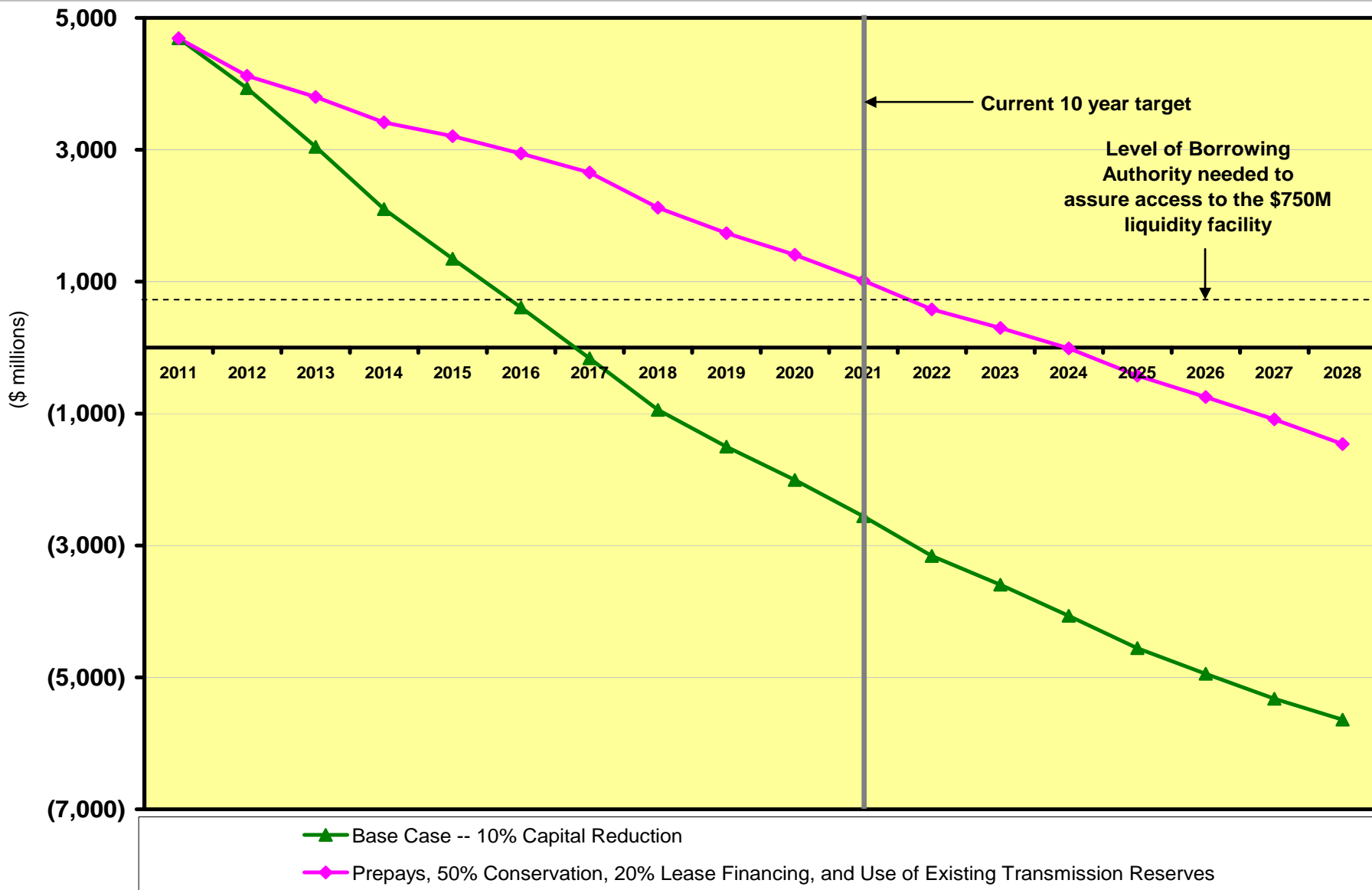
Rate Effect – Lease Financing & Use of Reserves

Change from Base Case

2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2027
0.2%	0.8%	0.7%	0.4%	0.3%	0.2%	0.1%



Remaining Agency Treasury Borrowing Authority: Conservation, Prepays, LF, Reserves



Revenue Financing

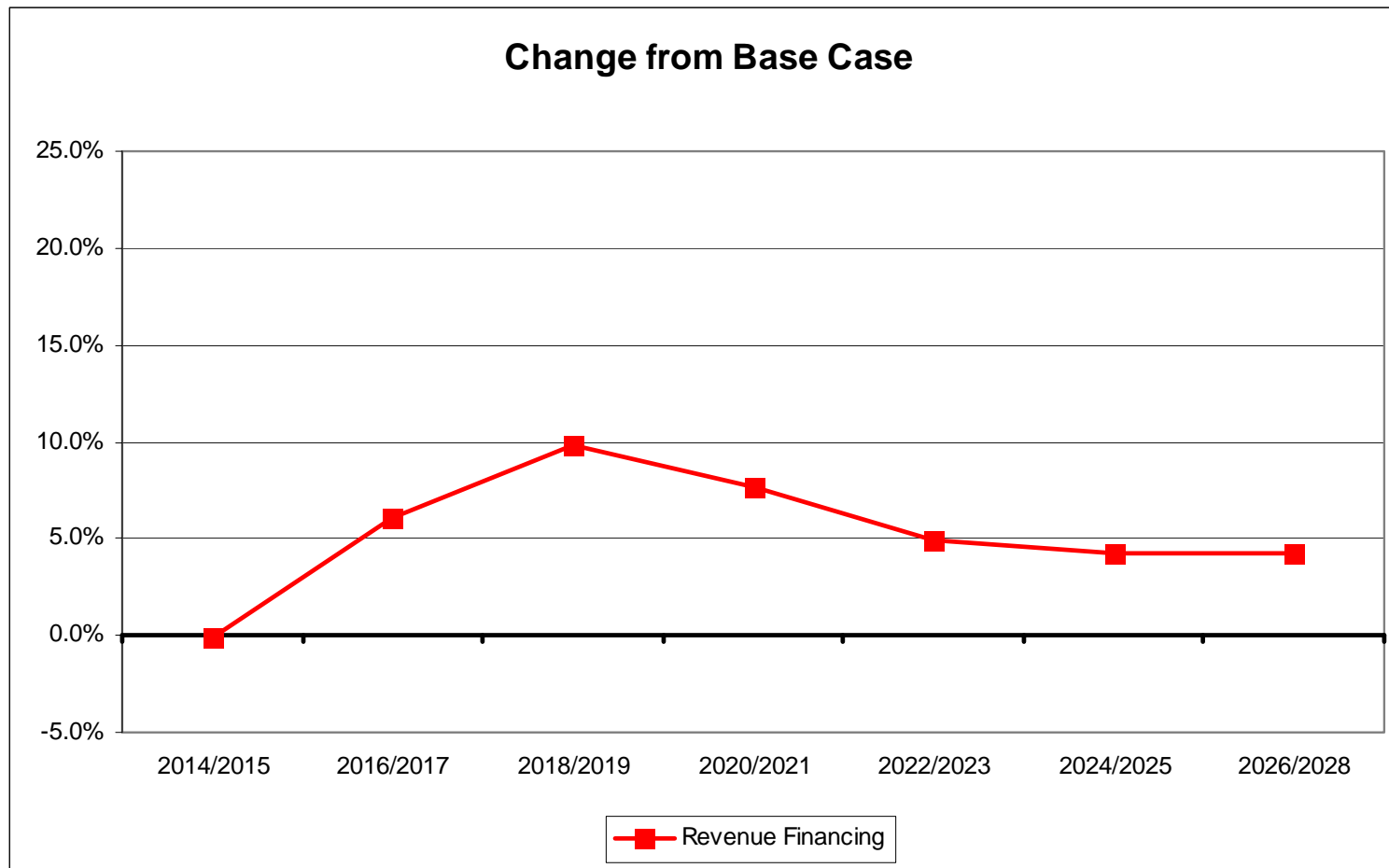
Assumptions

- In discussions with customers, we've been asked "what happens if BPA runs out of borrowing authority?"
- No one really knows what would happen if BPA fully depleted its borrowing authority.
- If we assume that capital investment is not cut, as we have in all other scenarios, some view revenue financing as the default option.
- Scenario assumptions
 - Power – Starting with the capital forecasts from the Base Case – 10% Capital Reduction, once total Agency borrowing authority reaches the \$750 million threshold, Power capital borrowing matches bond amortization. The remaining capital spending, about \$4 billion, is funded through a combination of the cash generated from the AAC and revenue financing.
 - Transmission – Starting with the capital forecasts from the Base Case – 10% Capital Reduction, once total Agency borrowing authority reaches the \$750 million threshold, Transmission capital borrowing matches bond amortization. \$15 million of reserves is used for capital investment for 2012-2016. \$325 million is applied in 2017 to mitigate shock. The reserve financing assumption is deleted after 2017. The remaining capital spending, about \$2 billion, is funded through revenue financing

Power Rate Effect

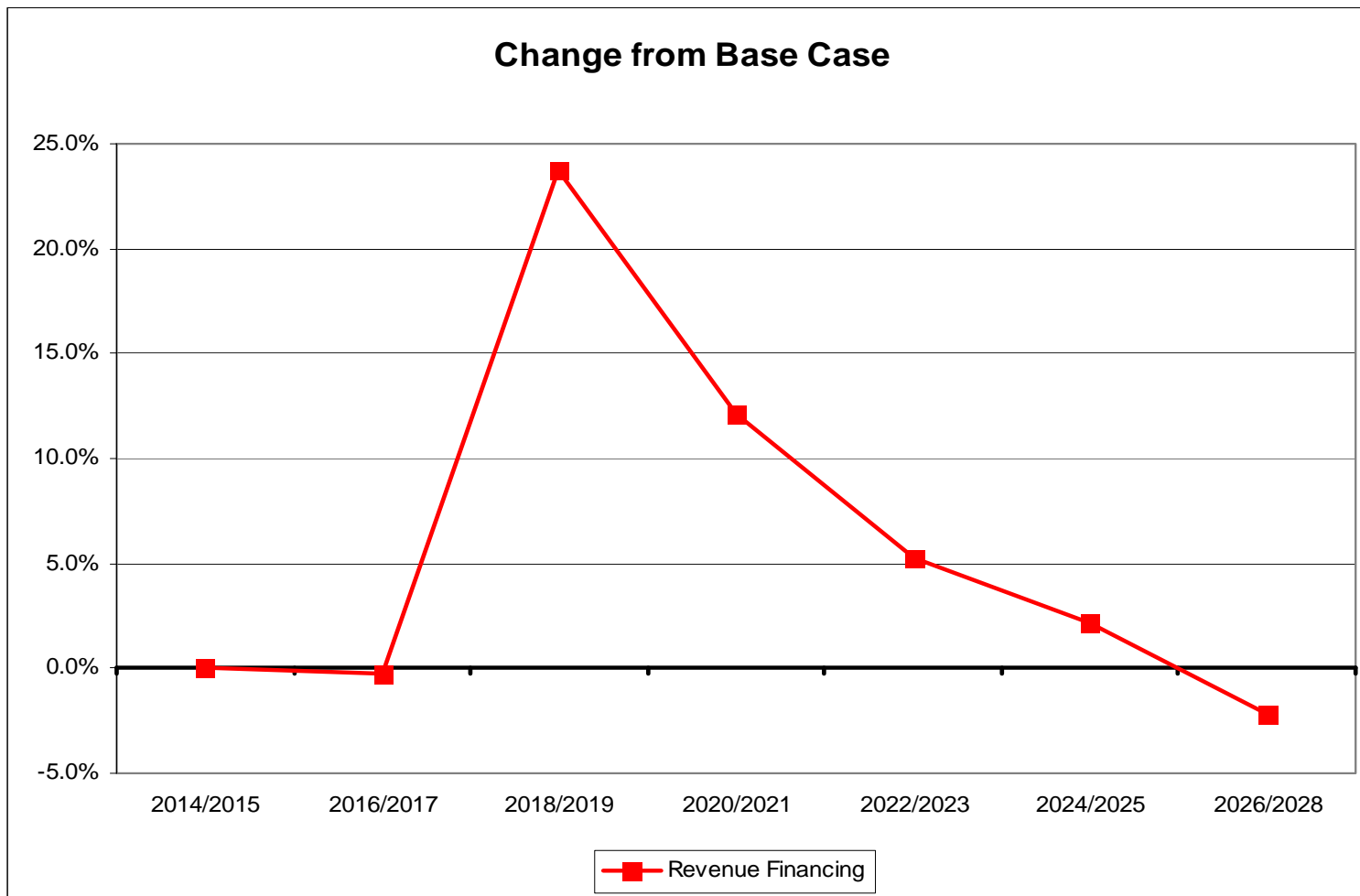
Change from Base Case

2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2028
0.0%	6.0%	9.8%	7.6%	5.0%	4.2%	4.2%

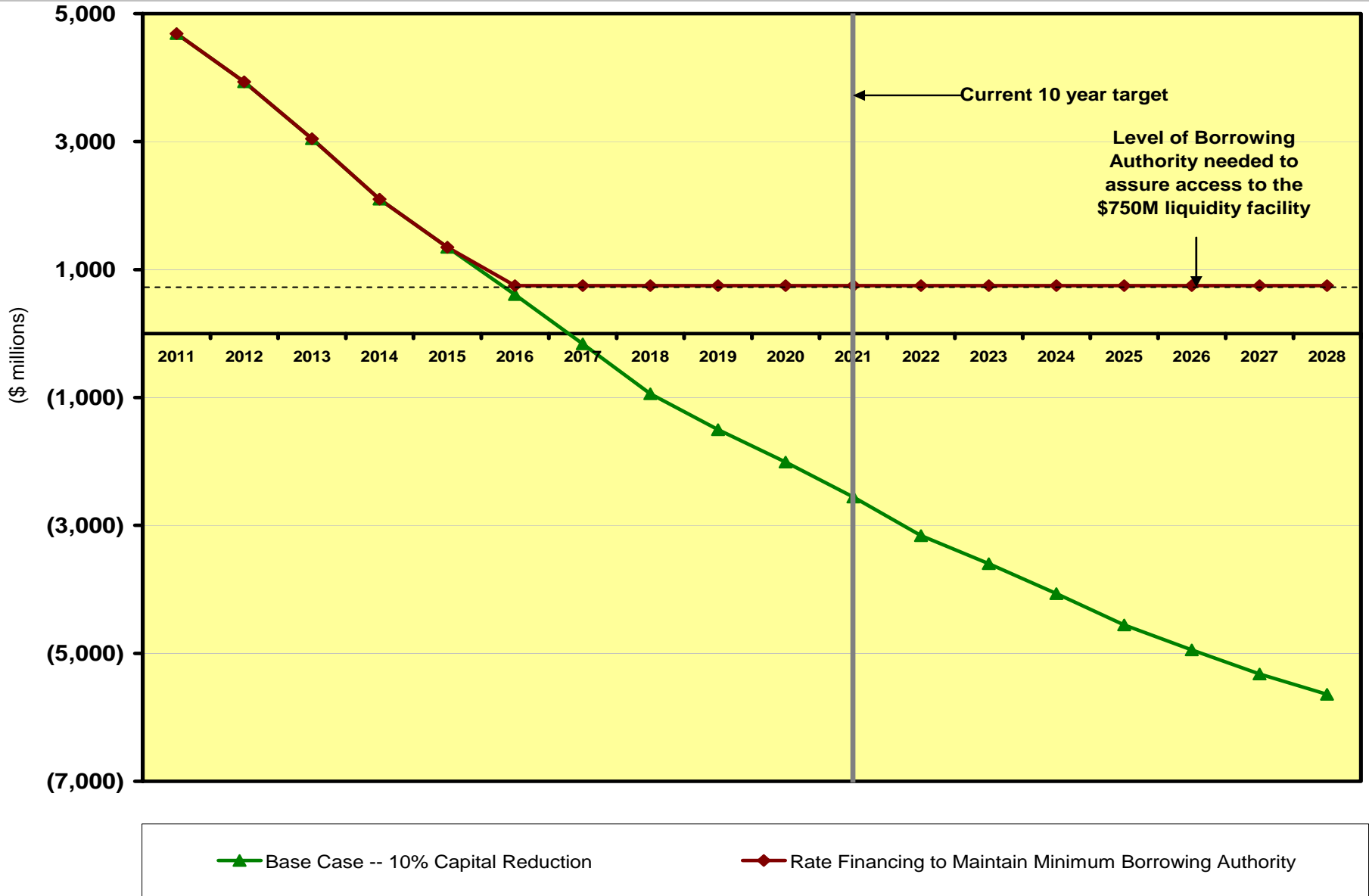


Transmission Rate Effect

Change from Base Case	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2027
	0.0%	-0.3%	23.7%	12.2%	5.3%	2.1%	-2.2%



B O N N E V I L L E P O W E R A D M I N I S T R A T I O N
**Remaining Agency Treasury Borrowing Authority: Rate Financing to Maintain Minimum
 Borrowing Authority**



What happened?

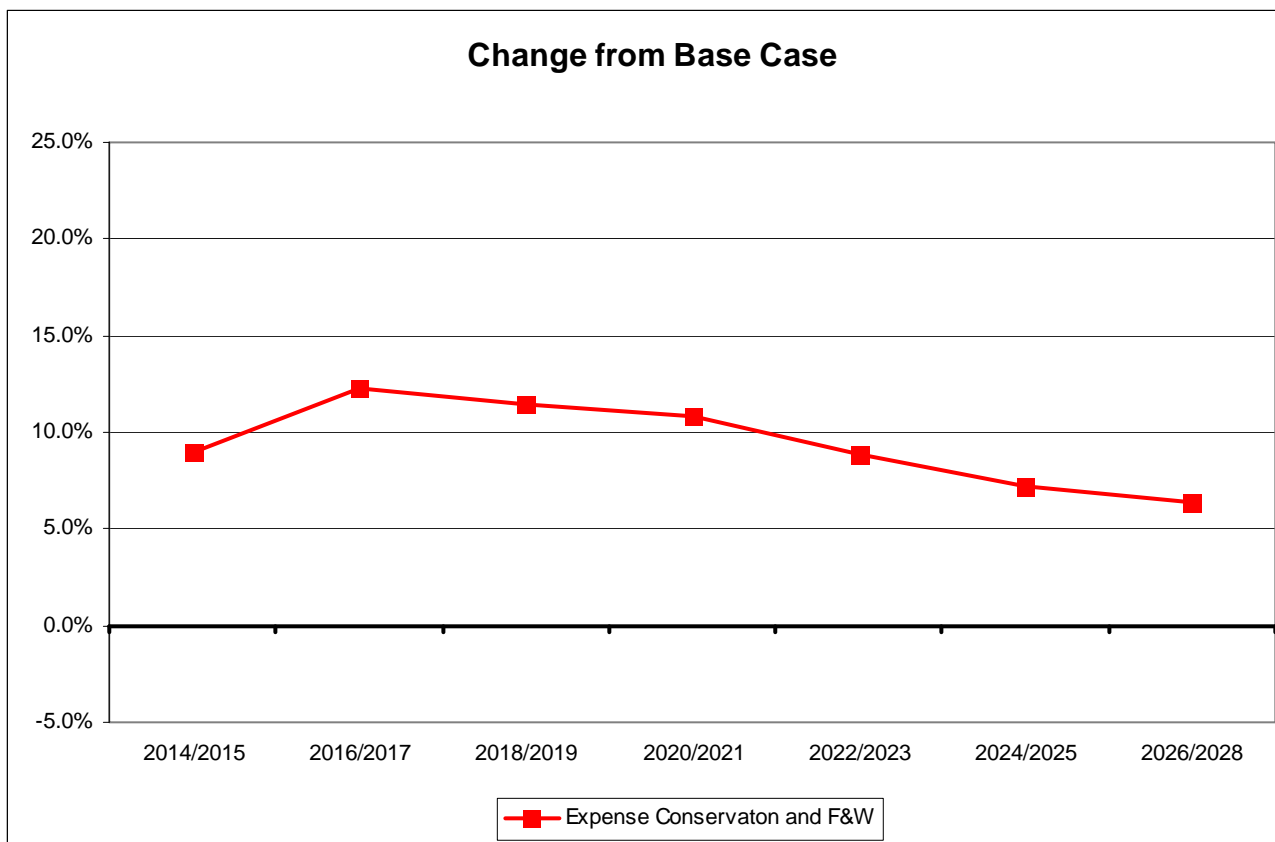
- Power
 - The anticipated accumulation of cash mitigates the effect of revenue financing. As noted in the earlier discussion of the AAC, we would otherwise expect to accumulate about \$1.1 billion in cash. In this scenario, we are able to use this cash for capital investment which reduces the need for revenue financing.
 - Despite the mitigation due to the AAC, the revenue financing requirement is significant. There is little Federal bond repayment in the 2016-2019 period. In 2017, for example, the entire Power capital program was revenue financed.
 - By 2028, rates are 4% higher than the base case scenario. The variance from the base case declines over the study period because we would not be paying interest on capital investment that has been financed with revenues instead of debt.
- Transmission
 - Since we expect positive MRNR for the near future, every dollar of revenue financing is added to rates.
 - While rates increase initially, they eventually end up lower than the base case because we would not be paying interest on capital investments financed with revenues instead of debt.

Other Scenarios

Power

- Expense Conservation and F&W investments: Starting with the capital forecasts from the Base Case – 10% Capital Reduction, all Conservation and Fish & Wildlife investments are expensed in the year spending occurs, starting in 2014 for Conservation and 2015 for Fish and Wildlife. (\$3.1 billion program through 2028)

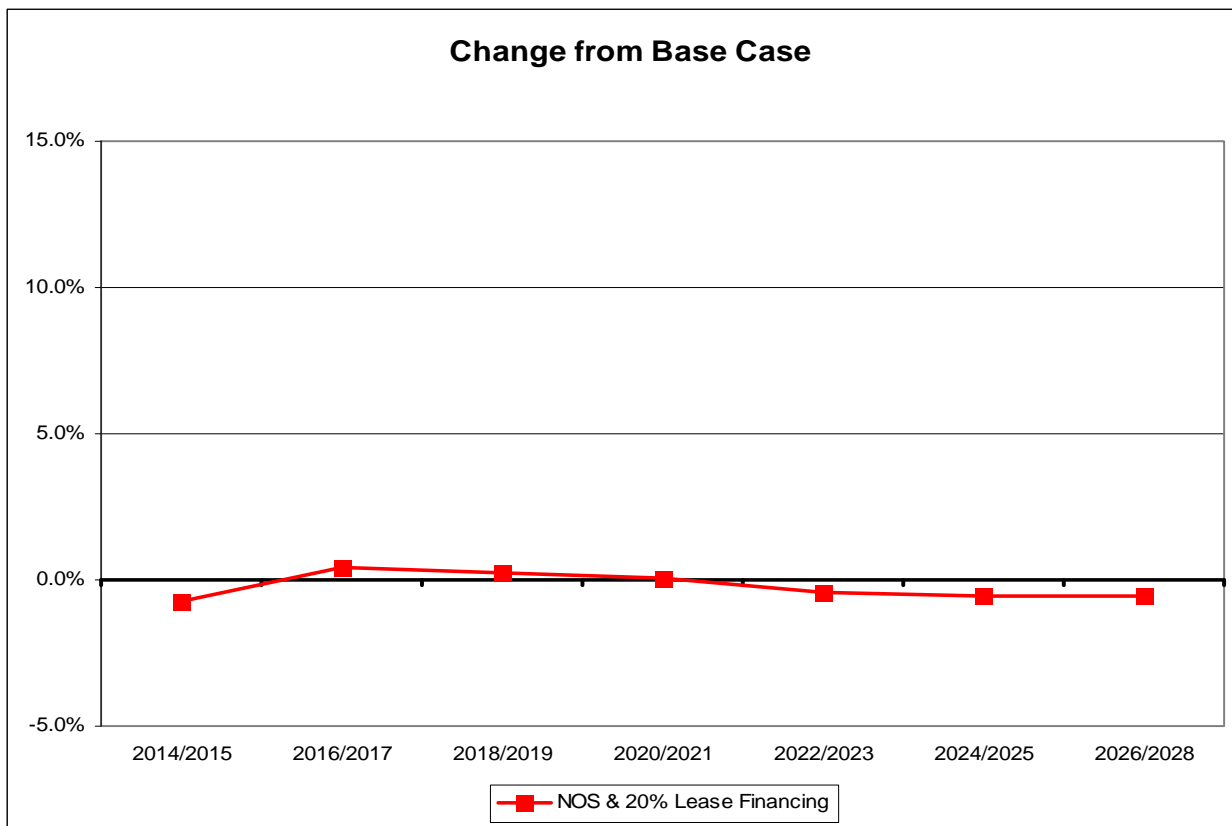
Change from Base Case	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2028
	9.0%	12.3%	11.4%	10.8%	8.9%	7.2%	6.3%



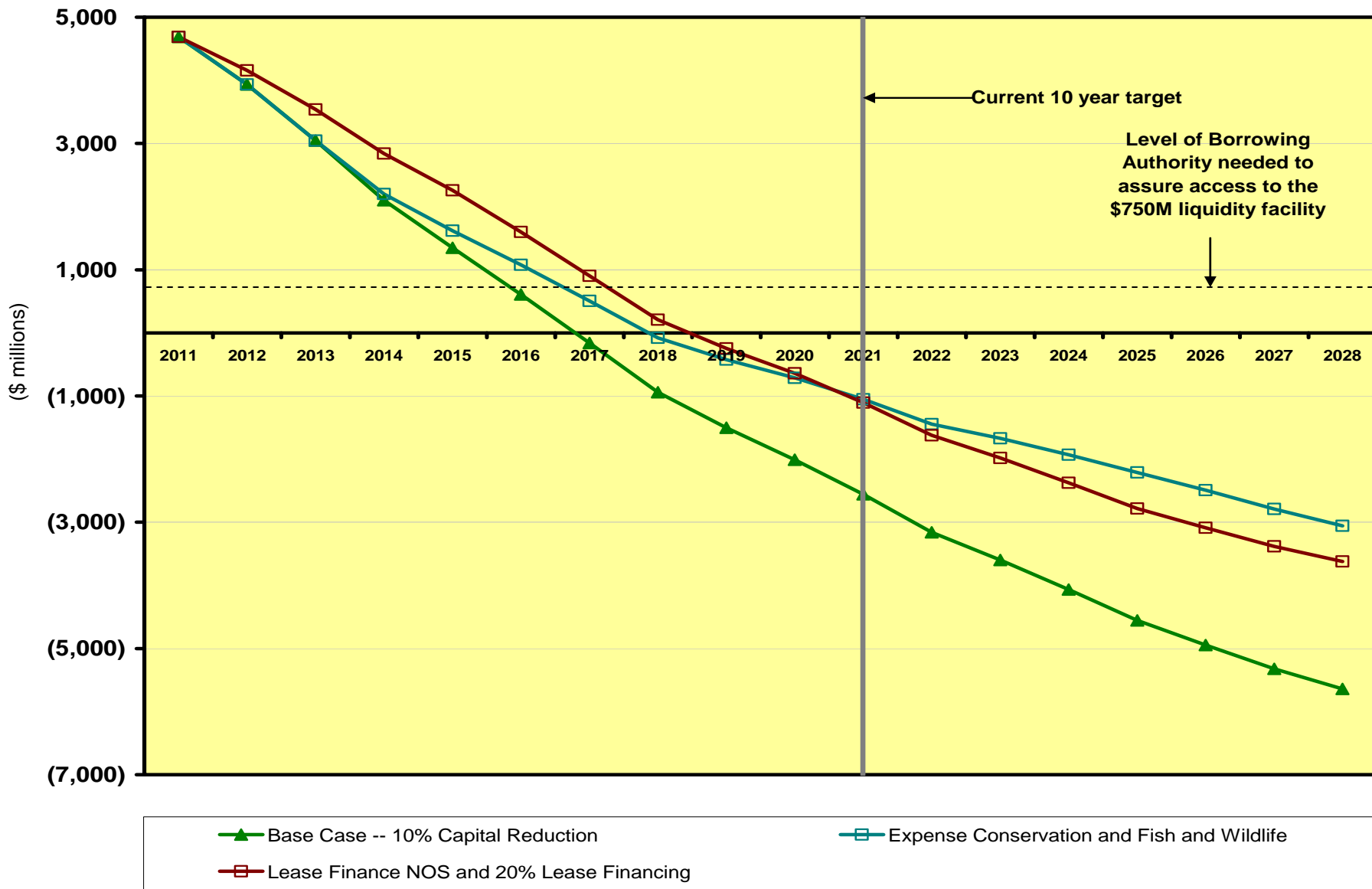
Transmission

- Use Lease Financing for NOS Projects and 20% of Remaining Capital Investment: Starting with the capital forecasts from the Base Case – 10% Capital Reduction, NOS projects and 20% of Transmission’s remaining capital program is lease financed starting in 2012. (\$1.9 billion program through 2028) This scenario also includes \$15 million of reserve financing per year for Transmission capital.

Change from Base Case	2014/2015	2016/2017	2018/2019	2020/2021	2022/2023	2024/2025	2026/2027
	-0.7%	0.4%	0.3%	0.0%	-0.5%	-0.5%	-0.5%



Remaining Treasury Borrowing Authority: Lease Finance NOS and 20% Transmission Capital



Summary

Summary

- Individual tools have modest effects on borrowing authority. Conversely, as you combine tools, the effect on borrowing authority becomes greater.
- The only way to ensure that borrowing authority is available through the entire 10-year target period is by combining at least four tools or to use revenue financing.
- Individual tools that swap non-Federal financing for use of borrowing authority are roughly rate neutral in this analysis.
- Expensing investments or revenue financing them are direct increases to the revenue requirement with corresponding increases to rates. However, expensing investments and revenue financing tend to converge with the base case over time.

Financial Disclosure

This information has been made publicly available by BPA on September 13, 2011 and contains information not reported in agency financial statements.