

Additional Reference Case Follow-ups

Can you please republish the 2016 Reference Case so the graphs and charts are legible?

Please see the 2016 Reference Case Document on the [2016 IPR webpage](#).

Page iv: Power Rate assumes 50% California RPS by 2030. Is the increasing RPS in Oregon (leading up to 50% by 2040) included in the modeling?

Correct. It is modeled as the law was written, so 50% for IOUs, 25% for large publics, 10% for medium publics, and 5% for small publics. The melding of these rates comes out to about 36% of Oregon energy coming from renewables by 2040.

Page vii: “Idaho Falls Bulb Turbine” costs – will this be adjusted since the contract was not renewed, per the RHWM process?

Yes, the contract removal occurred after the Reference case was done. This line in the income statement will go to zero in the BP-18 initial proposal. This is the monetary offset to losing the generation. Note we also assume the generation from Idaho is included in the current reference case, but will be excluded in BP-18 Initial Proposal (rather applied against Idaho’s load and reduce Idaho’s net requirement on BPA).

Page vii: “Renewables: Assume power purchase contracts will not be renewed (decrease in tier 1 resources), support services costs will inflate based on agency assumptions after FY 2019 and no resource development funds.” Please expand on what this means: what power purchase contracts are you referring to (e.g., the renewable projects listed in Tables 3.2 and 3.5 of the TRM)? Are you referring to the support services costs associated with those renewable resources included in the Tier 1 resource stack?

These renewables include wind and solar contract purchases from Third Party wind producers like Foot creek 1, 2, and 4, Stateline, Condon, Ashland Solar, and Klondike 1 and 3. These contracts have differing expiration dates, but are not anticipated to be renewed. Foot creek 2, for example, terminates prior to the BP-18 rate period. These are listed in Table 3.2 and 3.5 of the TRM. Resource support services here refer to those on Klondike 3 as an RHWM Augmentation resource; they do not affect the Tier 1 Average Net Cost of Power, however (since they are allocated between Composite and NonSlice for cost allocation purposes only, rather than cost recover). RSS also includes RSS purchases on non-Federal resources to serve Above RHWM load. These do not affect the Tier 1 rate, because they are revenue credits for the shaping and capacity services supplied by the FCRPS for turning intermittent non-federal resources into something available to serve above RHWM load.

2016 Reference Case refers to “common agency inflation assumptions” throughout – what are those common agency inflation assumptions? 1.9%/year? What is the basis for 1.9% inflation?

The inflation assumption of 1.9% per year comes from BPA’s internal interest rate forecast listed in the table. The 1.9% is the average of the column D for FY 2018 – FY 2030. The inflation forecast that BPA uses is a fiscal year conversion of the GDP price deflator as provided by Global Insights.

Comparison of FY 2016 Inflation Forecast Components
 Calendar/Fiscal Year Forecasts 2016 vs. 2015

Calendar/Fiscal Years 2016-2045

| YEAR | A CY 2016 1/ Calendar Year GDP Price Deflator (%) | B FY 2016 1/ Fiscal Year GDP Price Deflator (%) | C FY 2016 2/ Fiscal Year Cumulative Price Deflator (Base Year 2015) | D FY 2015 3/ Fiscal Year GDP Price Deflator (%) | E FY 2015 3/ Fiscal Year Cumulative Price Deflator (Base Year 2014) | F Change in the GDP Price Deflator (B-D) | G Change in the Cumulative Price Deflator (C-E) |
|------|--|--|--|--|--|--|---|
| 2016 | 1.73% | 1.56% | 1.008 | 1.84% | 1.028 | -0.28% | -0.020 |
| 2017 | 1.84% | 1.81% | 1.026 | 1.87% | 1.047 | -0.06% | -0.021 |
| 2018 | 1.83% | 1.84% | 1.045 | 1.87% | 1.066 | -0.03% | -0.022 |
| 2019 | 1.92% | 1.90% | 1.065 | 1.83% | 1.086 | 0.07% | -0.021 |
| 2020 | 1.98% | 1.97% | 1.086 | 1.86% | 1.106 | 0.10% | -0.020 |
| 2021 | 2.06% | 2.04% | 1.108 | 1.88% | 1.127 | 0.16% | -0.019 |
| 2022 | 2.12% | 2.11% | 1.131 | 1.90% | 1.148 | 0.21% | -0.017 |
| 2023 | 2.12% | 2.12% | 1.155 | 1.92% | 1.171 | 0.20% | -0.015 |
| 2024 | 2.09% | 2.10% | 1.179 | 1.98% | 1.194 | 0.12% | -0.014 |
| 2025 | 2.10% | 2.10% | 1.204 | 2.01% | 1.218 | 0.09% | -0.013 |
| 2026 | 2.13% | 2.12% | 1.230 | 1.95% | 1.241 | 0.17% | -0.012 |
| 2027 | 2.14% | 2.14% | 1.256 | 1.93% | 1.265 | 0.21% | -0.009 |
| 2028 | 2.14% | 2.14% | 1.283 | 1.89% | 1.289 | 0.24% | -0.006 |
| 2029 | 2.15% | 2.15% | 1.310 | 1.87% | 1.313 | 0.27% | -0.003 |
| 2030 | 2.17% | 2.16% | 1.339 | 1.87% | 1.338 | 0.30% | 0.001 |
| 2031 | 2.23% | 2.22% | 1.368 | 1.92% | 1.363 | 0.30% | 0.005 |
| 2032 | 2.22% | 2.23% | 1.399 | 1.92% | 1.390 | 0.31% | 0.009 |
| 2033 | 2.24% | 2.23% | 1.430 | 1.92% | 1.416 | 0.32% | 0.014 |
| 2034 | 2.25% | 2.25% | 1.462 | 1.90% | 1.443 | 0.35% | 0.019 |
| 2035 | 2.22% | 2.23% | 1.495 | 1.94% | 1.471 | 0.29% | 0.024 |
| 2036 | 2.22% | 2.22% | 1.528 | 1.96% | 1.500 | 0.26% | 0.028 |
| 2037 | 2.23% | 2.23% | 1.562 | 1.96% | 1.529 | 0.27% | 0.033 |
| 2038 | 2.25% | 2.25% | 1.597 | 1.99% | 1.560 | 0.26% | 0.037 |
| 2039 | 2.27% | 2.27% | 1.633 | 2.02% | 1.591 | 0.25% | 0.042 |
| 2040 | 2.28% | 2.28% | 1.671 | 2.00% | 1.623 | 0.27% | 0.047 |
| 2041 | 2.30% | 2.30% | 1.709 | 1.98% | 1.655 | 0.31% | 0.054 |
| 2042 | 2.32% | 2.32% | 1.749 | 2.02% | 1.689 | 0.30% | 0.060 |
| 2043 | 2.34% | 2.34% | 1.789 | 2.04% | 1.723 | 0.29% | 0.066 |
| 2044 | 2.36% | 2.36% | 1.832 | 2.08% | 1.759 | 0.28% | 0.072 |
| 2045 | 2.37% | 2.37% | 1.875 | | | | |

1/ Global Insight: The U.S. Economy: 30-Year Focus, August 2015 Forecast, Base Case.

2/ Fiscal Year Cumulative Price Deflator escalates to midyear dollars. The first year, 2016, is determined as follows: $1.008 = \{(1.56/100)^.5\} + 1$. An example of subsequent year cumulative growth, such as in 2017, is found as: $1.026 = \{1 + (1.81/100)\} * 1.008$

3/ Global Insight: The U.S. Economy: 30-year Focus, September 2014 Forecast, Base Case.

Page ix: “Power Expenses Assumptions Conservation Acquisition Conservation Acquisition is increased based on Employment Cost projections for FY 2020 to FY 2030 averaged at 3.8%.” Is this 3.8% per year? Or 3.8% across the 10 years?

The rate of increase is 3.8% per year.

Page ix: “DSI Loads assumed current long-term contract demand quantities as included in Alcoa and Port Townsends’ contracts. Alcoa’s load reflects the recent reduction in contract demand and assumes this level continues throughout the forecast period even though the contract expires earlier” What are you assuming Alcoa continues to purchase after the contract expires at the end of FY 2022?

Yes, we assume DSI load service at current contracted-to levels beyond FY 2022. This is consistent with forecasting assumptions BPA has made in the past for DSI load service.