

Workshop Discussion Topic: Contribution to Financial Risk Mitigation from Reserves-Based Ancillary Services and Control Area Services (ACS) Rates*

**ACS Rates include Variable Energy Resources Balancing Service (VERBS), Dispatchable Energy Resource Balancing Service (DERBS), Regulation and Frequency Response, Operating Reserve – Spinning, and Operating Reserve – Supplemental*

This document provides background on BPA’s financial risk mitigation approach, and how ACS rates have supported financial risk mitigation in the current and previous rate periods, to give context for the August 22nd discussion with parties on how to address this issue in rates for 2014/15. BPA is asking parties for feedback both on ideas for how ACS rates can support financial risk mitigation and on principles and considerations for deciding among various ideas, and for any other comments parties care to offer on the topic.

How BPA has approached risk mitigation in rates

In January 1993, BPA adopted the “10-Year Financial Plan” (updated and renamed the “Financial Plan” in 2008) which formally embraced the 95% two-year Treasury Payment Probability (TPP) standard:

BPA shall establish rates to maintain a level of financial reserves sufficient to achieve a 95 percent probability of making its U.S. Treasury payments in full and on time for each 2-year rate period.

As described in the Financial Plan (Plan) and as implemented since then, the main tool for ensuring that TPP is at least 95% at the time rates are set is financial reserves¹. Planned Net Revenue for Risk (PNRR²) and the Cost Recovery Adjustment Clause (CRAC³) serve to bolster reserves when reserves are not adequate to ensure a 95% TPP, given the financial risks that BPA models. The Plan called for the use of an Interim Rate Adjustment (IRA), which is essentially the same as a CRAC. The purpose of the IRA, and the purpose of subsequent CRACs, is to replace reserves that have been consumed to make up for shortfalls in cash flow so that reserves can provide a sufficient buffer against the possibility of future shortfalls.

¹ Financial reserves comprise cash and other instruments in BPA’s account at the U.S. Treasury plus deferred borrowing. Deferred borrowing refers to planned Treasury borrowing to fund capital projects that BPA has deferred for a short time, perhaps because interest rates are expected to be more favorable or to consolidate many borrowings into fewer. Deferred borrowing can be converted quickly to cash by completing the borrowing.

² PNRR is a line item in a business line’s revenue requirement that, if non-zero, raises rates in order to generate incremental cash flow.

³ The CRAC is an upward rate adjustment that goes into effect if reserves for risk attributed to Power Services’ deteriorate as measured by a specified criterion.

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BPA's rate case risk mitigation approach since dividing into two business lines (first TBL and PBL, now TS and PS) has been to aggregate the quantifiable risks for each function and apply general-purpose risk mitigation tools (chiefly reserves available for risk⁴, PNRR, the CRAC and DDC⁵) to the aggregated risks to ensure each function (or business line) meets the TPP standard. The CRAC has usually been applied equally to all rates subject to it, that is, a CRAC percentage has been calculated and each subject rate has been increased by that percentage. Applying the same CRAC percentage to all subject rates essentially allocates the CRAC revenue collection responsibility by the total revenue forecast for each rate. (Application of PNRR and CRAC amounts to reserves-based ACS rates was done differently; as described below.) The BP-12 rates subject to the CRAC (and eligible for the DDC) are the Non-Slice Customer rate, the PF Melded rate, the Industrial Firm Power rate, the New Resource Firm Power rate, and the reserves-based ACS rates.

BPA has not attempted to quantify the relationship between individual risk factors and specific products. In order to do so, we would need to assess the degree of relevance (e.g., 0% to 100%) for perhaps all combinations of risks and products or services. Then we would need to assess the relative contribution of each risk to our total risk. It is likely that the assumptions and simplifications necessary to accomplish this would be very time consuming and highly controversial. Disaggregating the risks would probably increase the cost of risk mitigation; when large numbers of risks are aggregated, BPA's modeling captures the likelihood that in years when some risk factors are more expensive than average, others are less expensive.

The Slice rate is not subject to the CRAC, not because we have determined that CRAC-related risks are not relevant to Slice, but rather because Slice has a completely different risk mitigation approach that is roughly as comprehensive as the non-Slice risk package.

Residential exchange benefits under the Regional Dialogue contracts are exempt from the CRAC, as decided in the Residential Exchange Settlement negotiations.

Generation function risks modeled in the BP-12 rate case

Modeled in RiskMod:

- Market price for electricity (based in turn on natural gas variability and basis risks; hydro uncertainty in the Pacific Northwest, California, and British Columbia; wind generation shape and uncertainty; transmission availability; and regional thermal plant output uncertainty),
- BPA load risk,
- Columbia Generating Station (CGS) output risk,

⁴ Reserves available for risk ("reserves for risk") are the total financial reserves attributed by BPA's finance staff to a business line less amounts classified as Funds Held for Others – for example, deposits, or funds collected in rates intended to be paid out as Residential Exchange payments that have been withheld pending final resolution of litigation.

⁵ The DDC – dividend distribution clause – is a downward rate adjustment, parallel to the CRAC, that goes into effect if the reserves attributed to PS increase significantly beyond the level needed for TPP support.

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- Uncertainty in wind generation under contract to PS,
- Risk in PS expenses for transmission and ancillary services,
- System augmentation expense, and
- Federal hydro generation.

Modeled in the Non-Operating Risk Model (NORM):

- CGS O&M,
- CGS condenser outage duration,
- Corps of Engineers O&M,
- Bureau of Reclamation O&M,
- Residential Exchange Program (REP) Exchangeable Load,
- Conservation expense,
- Settlements for the Colville and Spokane tribes,
- PS internal expenses,
- Fish and Wildlife (BPA Direct program, U.S. Fish and Wildlife Lower Snake River Hatchery expense, Bureau of Reclamation Leavenworth Complex O&M, FCRPS Biological Opinion
- (BiOp) Performance Standard uncertainty,
- CGS Condenser Replacement Outage, and
- ACS Sales Volume uncertainty.

ACS, CRAC, and Critical Water background

In the 2010 initial proposal, BPA proposed setting the ACS rates using a critical-water methodology without application of the CRAC/DDC. In the Draft Record of Decision (ROD), the draft decision was to use average water as the basis for establishing the uses of the capacity of the FCRPS. The reasoning was based on arguments raised by parties that use of critical water in the embedded cost methodology did not reflect all of the FCRPS. One risk mitigation tool, PNRR, had been included as a component of the cost of ACS in the 2007 case, and was also included in BP-10 and BP-12, however, there was no PNRR needed in the latter two cases. Basing the cost allocation on average water instead of critical water raised the issue whether risk mitigation tools should apply to the ACS rates. The issue was considered, but it was concluded such change was not necessary, because it would have been difficult to supplement the record to support applying the CRAC and DDC at that point in the case.

In the BP-12 initial proposal, BPA proposed to apply the CRAC and DDC to reserves-based ACS rates. These rates were calculated using a methodology that assumed average water. This average-water assumption led to lower ACS rates than would have been calculated using a critical-water methodology.

One reason BPA staff proposed a change in this methodology for FY 2012-2013 was the recognition that use of average water creates risks in both the collection of revenue for embedded costs assigned to the ACS rates and also the variable costs assigned to the ACS rates. Use of average water to allocate embedded costs to different uses of the

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system creates the risk that the embedded costs assigned to sales of surplus energy above the amounts of energy produced under critical water will not be collected because those sales will not occur. Assigning embedded costs to these sales creates a potential use of BPA's risk mitigation tools. In addition, if BPA had calculated variable costs assuming critical water and not on the average of 70 water years, the variable costs attributable to the ACS rates would have been \$40 million instead of the \$25 million used in the initial proposal. Use of average water in this calculation creates a potential for the use of risk mitigation tools.

The application of the CRAC and DDC to ACS rates was a contentious issue in the BP-12 ROD (BP-12-A-02), with some parties arguing for full inclusion and others for full exclusion of the CRAC/DDC to ACS rates. The Administrator's decision was as follows:

BPA will apply the risk mitigation tools to the balancing reserve capacity-based ACS rates, because there are significant risks associated with the ACS rate design, and customers that benefit from the use of the FCRPS should bear the costs of the system, including financial risk mitigation; however, BPA recognizes that the set of risks associated with the provision of Ancillary and Control Area Services may not be identical to the set of risks which have historically been mitigated by the risk mitigation tools, and will therefore reduce the fraction of any CRAC, Emergency NFB Adjustment, or DDC amount to be recovered from ACS rates from 7.2 percent to 3.6 percent for the FY 2012–2013 rate period. In addition, for the next rate period BPA will work with parties to investigate and assess the risks associated with these ACS rates and to determine the appropriate risk mitigation to be borne by ACS rates.