## Explanation of Assumed Active and Terminated Vested Continuation Percentage

Due to software limitations we were unable to directly calculate the effective continuation percentage (ECP ${ }^{1}$ ) related to death benefits of a beneficiary of an active participant or terminated vested participant post retirement.

We note the issue only occurs when a participant selects the $50 \%$ or $75 \%$ Joint \& Survivor Form. When selecting the $100 \% \mathrm{~J} \& \mathrm{~S}$ Form there is no issue - death benefits were directly calculated for $100 \% \mathrm{~J} \& \mathrm{~S}$. Additionally, benefits payable to the surviving spouses of retired participants are calculated directly, and no "work around" was made for their benefits and cash flows. Because only half of the non-retired participants are married and most ( $60 \%$ ) take the $100 \% \mathrm{~J} \& \mathrm{~S}$ the issue only operates on an extremely small portion of the cash flow.

Consequently, in the interest of being conservative and keeping calculations simple, we assumed $100 \%$ ECP for all J\&S forms for the application. We offer the following analysis and reasoning to demonstrate the difference between our assumption and direct calculation is de minimis.

## Assumption vs. Direct Calculation

First we ran our cash flows at the other extreme: assuming the minimum ECPs ( $50 \%, 75 \%, \& 100 \%$ ) for the three respective possible J\&S forms knowing that a direct calculation method would be between this and the cash flows of our application. Additionally, our analysis of actual ECP at NRA indicates that an assumption to most closely match a direct calculation method would probably be more like $70 \%, 90 \%, 100 \%$ for the three $\mathrm{J} \& \mathrm{~S}$ forms. We ran this scenario as well.

The table below summarizes the key funding measures as of the end of the extended period (3/31/2049) along with the present value (PV) of the PBGC's financial assistance in a partition under the three ECP scenarios.

| Scenar | Effective Continuation |  | Application Metrics |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | As of 3/31/2049 |  |  |  |
|  |  |  | Funded | Solvency | Available | Financial |
|  |  | Percentage (ECP) | Percentage | Ratio | Resources | Assistance |
| 1 | Minimum | (50\%/75\%/ 100\%) | 33.4\% | 8.4 | \$31.4M | \$ 87,077,811 |
| 2 | Probable | (70\%/ 90\%/ 100\%) | 32.7\% | 8.1 | \$30.6M | \$ 87,332,061 |
| 3 | Maximum | (100\%/100\%/100\%) | 31.6\% | 7.7 | \$29.3M | \$ 87,671,710 |

The attached graphs provide projections under Scenarios $1 \& 2$. The suspension application is based on Scenario 3.

The table and graphs indicate that even under Scenario 2, when using the probable ECPs, the Plan is expected to meet the requirements of MPRA at the end of the extended period and the level of the requested Partition would not change. As a result, we believe our assumption of the maximum ECPs are easily within a range of reasonableness, as described in Section 3.4 of ASOP 35, and that any further refinement of this assumption would not be material, as described in Section 3.10.2 of ASOP 35.

[^0]- " $A$ " equals the spouse's actual death benefit after application of the MPRA suspension including all protections (including 10\% above the PBGC maximum benefit guarantee formula).
- " $B$ " equals the members post retirement (pre death) benefit after application of the MPRA suspension including all protections (including 10\% above the PBGC maximum benefit guarantee formula).


















Benefit Pay


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[^0]:    ${ }^{1}$ We are defining "effective continuation percentage" or ECP as the percentage that results from dividing " $A$ " by " $B$ " where:

