

## BP-16 FCRPS Reserves by Month

### **Background:**

During the Generation Inputs Workshop on October 17<sup>th</sup>, 2014, while discussing the acquisition strategy for spring imbalance acquisitions for the BP-16 rate period, a preliminary analysis was mentioned regarding the projected need to buy during certain months. Several parties asked if BPA could post some of these assumptions on the rate case website. It should be noted that no formal study was actually done, but rather an informal look back at reserve levels for the last four years using lack of market spill as a trigger. As such, it was decided that a narrative might best address this request. Note that all references to reserves are only referring to increasing capacity (*incs*).

### **Narrative:**

As shared during the workshop, the spring months (April, May, June & July) are typically modeled using five distinct periods; the first half of April, the second half of April, and each month thereafter. The logic behind splitting April into two distinct modeling periods is that the runoff characteristics of the Federal Columbia River Power System (FCRPS) are *typically* very different in the first half of the month than the second. BPA had shared that while May & June had high levels of probability of needing additional within-hour reserves, the months of April and the first part of July were not as high. Just doing a high-level look across the past four water years and runoff shapes shows that on average both May & June show an average amount of reserves from the FCRPS as around 650 MW, but during 50% of the runoff years the average reserves were limited to less than 570 MW. For the first half of April, the ability of the system is close to 900 MW of reserves as an average across the years. During the second half of April, approximately 10% of the time, the FCRPS can only supply 500 MW or less. For the first week of July, approximately 36% of the time, the FCRPS was unable to supply the full 900 MW. For the balance of July, however, the system was able to supply the full 900 MW.

**Note:** While the above projections reflect historical performance levels for the last four years, these levels may or may not be representative of what the FCRPS will supply moving forward. This is primarily due to the unpredictability of future water years with respect to both runoff volume and shape.