

Slice Product Review Issue Paper  
Draft, Pre-Decisional

TOPIC: Operational Uncertainty

ISSUE: How should the risks associated with ongoing operational uncertainty and imperfect definition of Slice capabilities be shared among Slice and non-Slice customers?

PBL CONCERN: PBL considers Slice deliveries as a firm obligation with inherent uncertainty that results from the customers' contractual right to make changes as late as 30 minutes prior to each hour. The difference between the Slice product and other Requirements products is the additional uncertainty related to Slice customers marketing activity and resource integration. Because of this inherent uncertainty, the PBL schedulers tend to operate the FCRPS in a more conservative fashion in order to cover potential changes (increases or decreases). PBL is concerned that this conservatism results in de-optimization of the FCRPS and a cost-shift to the non-Slice customers (loss of potential revenue). Also, allocating Slice on a "share of system" concept without calculating specific aspects of system capability at any given time results in a potential difference between Slice calculated share and actual capability. That difference is absorbed within the non-Slice portion.

PBL is also concerned that, while automation and information can play an increased role in addressing this issue, there is significant risk in relying solely on automation into the future. The complexity of the FCRPS operation and the potential for significant and rapid change in both the industry and non-power requirements would be staff intensive for BPA, leave the Agency exposed to risk when gaps due to timing or precision occurred and the cost of the infrastructure and ongoing support may be more than customers are willing to bear.

SLICE CUSTOMER COMMENTS: PBL could reduce or eliminate the Slice load uncertainty by developing tools that (1) monitor the non-Slice share of the system so that PBL can optimize within that portion, (2) provide a feedback loop of information to the PBL real-time scheduler, including the potential Slice change for each hour, given a comparison of current Slice limits to current Slice schedules, (3) provide a regression-based forecasting model to predict Slice scheduling trends, and/or (4) receive schedule projections from the Slice customers. A financial alternative could be applied, where PBL would track the cost of the operational uncertainty related to Slice and charge the full amount to the Slice customers.

NRU COMMENTS: Consider establishing limits to changes from preschedules that would give slice customers the ability to change schedules to serve firm requirements load only. This, in conjunction with better data and feedback between BPA and slice customers, could substantially reduce or eliminate the slice load uncertainty. The operating bands established by BPA for schedule changes could be wide enough for this flexibility, but narrower than they are today.

## IDEAS TO CONSIDER FOR A FUTURE SLICE PRODUCT:

**Idea 1:** Offer a preschedule product that would allow daily adjustments to day +1 and would allow a window of time for real-time changes in the event of significant changes to limits (compatible with product Option 3)

**Idea 2:** Allow hour-ahead change rights, but develop a method that minimizes within-day operational uncertainty, such as:

- Limit hour-ahead changes to a specified band around the prescheduled quantity
- Develop a mechanism where the Slice customers indicate expected load change several hours ahead.
- Offer multiple-hour-ahead change rights (2-hr, 3-hr, etc), and by schedule type (load, market)

(Compatible with product options 2 and 4)

**Idea 3:** Allow hour-ahead change rights, and develop a mechanism to quantify the cost associated with the uncertainty and charge the Slice customers in order to make PBL and the non-Slice customers whole (may be compatible with product options 2 and 4).

**Idea 4:** Develop tools to separate Slice and non-Slice shares of the FCRPS and optimize within the non-Slice portion (may be compatible with product options 2 and 4).

**Idea 5:** Offer an alternative product (compatible with product option 1).