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Responses to Concept Questions for EPIC 4 Concept VPP-FLEX

Additional submitted attachment is included below.

Responses to Concept Questions for EPIC 4 Concept VPP-FLEX

How can community-owned VPPs be effective in shifting load and providing grid benefits?

- Market rules need to be aligned with the operational needs of customer-sited DERs, rather than the operational characteristics of generation resources

What are the technical and market barriers to implementing VPP programs, and your suggestions for overcoming these barriers?

- Market rules are not aligned with DER operational needs and don't effectively compensate VPPs for their full range of benefits
    - VPPs should be able to show availability for two-hour vs. four-hour periods, which better aligns with their optimal dispatch capabilities
    - VPPs providing RA capacity should be compensated for the transmission line losses that they allow grid operators to avoid (compared to generation resources)
    - Dual-participation rules should be re-evaluated to make it easier for customers to be "stack" VPP services by participating in multiple (non-overlapping) programs
- Access to complete and/or accurate data from customer meters is often delayed
    - Utilities should be required to provide revenue quality meter data (RQMD) within a pre-established timeframe
    - Service Level Agreements (SLAs) should be put in place with utilities to ensure timely and accurate provision of meter data

How can load shifting programs be expanded to increase customer participation and provide grid benefits?

- Create a more streamlined process for customer sign-up than "Green Button Connect"
    - Many customers do not know their utility account log-in info and will not proceed with the sign-up process when asked for it.
    - Leap has found that "one-click" enrollment processes have increased participation by as much as 4x
- Allow customers with behind-the-meter batteries and EVs to be credited for exporting electricity back to the grid.
- A two-hour dispatch product would encourage greater participation by residential customers, as this is the optimal dispatch time for most residential batteries and HVAC

What performance metrics should be used to measure the technical and economic effectiveness of a VPP program?

- For economic effectiveness, market-integrated VPPs should always be viewed in terms of the operational parameters of the devices themselves
    - If a VPP has been dispatched for 3 consecutive days and is allowed to take an outage on the 4th day, the resource should not be viewed as "not showing up" on that fourth day
    - VPPs should not be mischaracterized as "not showing up" on weekend or holidays

- Performance of market-integrated VPPs should be compared to actual market dispatches from CAISO, not the supply plan or contracted quantity
    - Dispatches are a better “denominator” for performance calculations because they represent how much energy the system needs at a given time
    - Measuring against supply plan or contracted quantity can mischaracterize the economic effectiveness of VPPs, making it look like they are “under-performing” against a metric that isn’t relevant to the direct market need

What are common practices for energy measurement and verification?

- “XX-in-10” baselines are commonly used but have several issues:
    - Discourages frequent dispatch because the more a VPP is dispatched, the more difficult it is to establish an effective baseline
    - Baselines don’t provide effective counterfactuals during extreme weather events, when actual customer use would have been significantly different than what the baselines would indicate
- “Control group” measurement methodologies are more effective measures of VPP energy delivery and performance, as demonstrated in CAISO’s 2021 report