April 20, 2018

California Independent System Operator
250 Outcropping Way
Folsom, CA 95630

NextEra Energy Comments on the California ISO's Storage as a Transmission Asset Issue Paper

NextEra Energy Resources ("NEER") and NextEra Energy Transmission ("NEET" and, together with NEER, "NextEra Energy") appreciate the opportunity to provide comments on the California ISO's ("ISO") Storage as a Transmission Asset Issue Paper dated March 30, 2018 ("Issue Paper") for the ISO's consideration. NextEra Energy was active in FERC Docket No. PL17-2-000 and supportive of the framework established by FERC to reconsider traditional cost recovery mechanisms to address the multi-functional grid services and benefits of energy storage. Accordingly, NextEra Energy supports the ISO's proposed construct to allow an energy storage resource to seek recovery on a cost-of-service basis for resolving transmission needs while also optimizing the use of the asset through participation in the wholesale market (referred to herein as "Multi-Function Rate Treatment"). While NextEra Energy understands the ISO proposes to focus on reliability projects, we believe the framework under development should be expanded to include economic and public policy projects. In addition, to secure benefits for ratepayers while ensuring the scope of this new initiative is manageable, NextEra Energy recommends that the ISO begin this effort by limiting its review to storage projects that are eligible for competitive solicitation (i.e., non-upgrades at the 200 kV level or above). Linking the development of a framework for Multi-Function Rate Treatment to the competitive transmission planning process may offer the ISO a better opportunity to focus on policies that will be most effective in the near term. Additionally, utilizing the existing competitive transmission processes will benefit the market by gaining insight into innovative approaches from market participants and will benefit ratepayers by harnessing the power of competition to maximize ratepayer savings.

Scope of Policy Examination

The ISO states that its initial scope for this stakeholder process is to enable energy storage to provide cost-based transmission services and receive revenues from market participation. Specifically, the ISO will focus on 1) transmission-connected energy storage only, and 2) energy storage resources identified as needed to provide reliability-based transmission services. The ISO asks for comments on the proposed scope and for specific rationale for additional items that should be added to the proposed scope of this initiative.

> Energy Storage Procurement Beyond Meeting Reliability Transmission Need Identified in the Transmission Planning Process ("TPP")

Energy storage can provide a broad range of benefits including reliability, economic and policy transmission needs. Limiting the scope of this initiative to reliability transmission needs may omit opportunities that provide cost savings for ratepayers and policy benefits for the state. Moreover, expanding the framework under development to include economic and public policy transmission needs would be consistent with the scope of the ISO's transmission planning process and the comparability requirements of FERC's Order No. 890. If the ISO nevertheless restricts the focus of this initiative to only to reliability projects, NextEra Energy requests that the ISO commit to developing the economic and public policy framework immediately following the development of the reliability framework for implementation in time for the following TPP (i.e., within 1 year after including this new framework in the TPP).

Transmission Planning Process Evaluation Methodologies

The ISO's methodology and criteria as applied to traditional transmission facilities are well-established and understood by stakeholders and already have been used by the ISO to evaluate and select storage as a transmission asset. To our knowledge, however, the ISO's evaluation of those storage proposals did not include an assessment of the market revenues potentially available from the selected storage resources. NextEra Energy believes the ISO could adapt the Transmission Economic Assessment Methodology ("TEAM") to assess the market value of a storage proposal in the project selection stage of the TPP. In this structure, all projected earnings from the market would be credited back to ratepayers through a reduction in the storage resource's transmission revenue requirement, analogous to cost savings arising from congestion relief provided by traditional transmission projects. The ISO states that estimating varying levels of anticipated market revenue could make the competitive evaluation complex. NextEra Energy contends that using the TEAM methodology in the technical studies and transmission solutions as part of Phase 2 of the TPP will provide for cost effective project selection. Indeed, we believe using the TEAM methodology to factor market solutions in Phase 2 is consistent with how economic transmission projects are evaluated currently and supportive of maximizing value to ratepayers.

In Phase 3 of the TPP NextEra Energy contends market revenues could be accounted for by allowing developers to propose binding minimum market revenues in the competitive solicitation process similar to how cost caps are currently proposed to transmission capital investment, transferring risk from ratepayers to competitors and streamlining the ISO's comparative analysis of solutions. Utilizing an existing transmission planning process such as TEAM and allowing developers to propose binding minimum revenue streams for projects 200 kV and above would promote ease of implementation and allow ratepayers to start quickly realizing the benefits of storage as a transmission asset.

NextEra Energy also requests that the ISO provide transparency regarding the evaluation methodology and selection criteria that it uses for storage resources. The ISO's Issue Paper on page 7 refers to the two battery storage proposals that have been approved in the recent TPP, so the ISO already has applied some evaluation methodologies and selection criteria. A discussion of how the ISO evaluated and selected those energy storage projects would be instructive for developers seeking to put forward future projects. Specifically, the ISO should explain the methodology that it has used to compare energy storage to traditional transmission resources. For example, when a storage solution defers a traditional transmission infrastructure investment, there will naturally be a cost comparison of the alternative solutions, taking into consideration factors such as the time value of money, the differential asset life (i.e., the life of a storage asset can be shorter than the 30-plus year life of a traditional transmission asset), the avoided upfront capital cost, and other benefits presented by the storage solution. The ISO should clarify how it balances short-term vs. long-term transmission solutions and what types of benefits the ISO considers in its evaluation methods.

The ISO should also clarify its view as to the information required in order to fully evaluate storage proposed as a reliability transmission solution in comparison to a traditional transmission infrastructure solution. For example:

- Number of hours of storage duration
- Number of starts and stops per day
- Start time duration to full operation
- Ability to transition quickly from min to max and back
- Number of operating cycles
- Deliverability and timing of charging
- Guarantees, warranties or liquidated damages for underperformance

Cost Recovery Mechanism

The ISO states that it has offered two alternative cost recovery mechanisms for discussion as part of the Issue Paper:

1. Asset in Participating Transmission Owner's ("PTO") Transmission Access Charge ("TAC") rate base, and
2. Contractual provision of "cost-based" transmission service without becoming a PTO.

The ISO requests comments on these two options and any other options the ISO has not identified. Additionally, the ISO asks for comments on the "wholly in rate base" and "partially in rate base" alternatives discussed within each of the above options.

TAC Rate Base vs. Contractual Provision

NextEra Energy supports a Multi-Function Rate Treatment model that includes the asset cost wholly in the TAC and credits market revenues back to ratepayers (i.e., market revenues offset the TAC recovered revenue requirement). NextEra Energy agrees with the ISO that rule changes will be necessary to address how the ISO would have assurance that the asset will be available in the right state of charge for purposes of reliability transmission services, while allowing the resource owner, or a third party contractor, to bid into the ISO's energy and ancillary services markets. NextEra Energy is in favor of modifications or exemptions to the existing PTO agreements to accomplish these rule changes, rather than developing an alternative agreement for storage resources that would not require the resource owner to become a PTO. Utilizing the existing PTO framework also allows for easier implementation rather than creating new agreements. The regulatory framework currently exists to allow this model to be adapted for storage. This framework will also align with FERC's jurisdiction over rates for transmission in interstate commerce.

As a general matter, the ISO must maintain its independence and thus not participate in the market. This requirement must be balanced with the ISO's operational control of the transmission system to ensure a reliable grid. As the ISO stated in the Issue Paper, this might involve notification timelines, duration needs and cycle limitations ("performance obligations"). To establish the scope of the ISO's operational control, NextEra Energy recommends the ISO specify performance obligations as part of the PTO agreement to ensure the resource is under ISO control to meet reliability needs. These performance obligations would be analogous to the obligations existing PTOs have to maintain equipment in a way that makes it available to the ISO for use in providing transmission service. Moreover, inclusion of performance obligations in the PTO agreement would ensure that the scope of the ISO's operational control over the storage asset is publicly available and known to market participants. To allay concerns regarding the ISO's independence as the market operator and increase market transparency, NextEra Energy further recommends that the ISO publish when a storage asset receiving Multi-Function Rate Treatment's performance obligations are triggered, in a manner analogous to how it notifies market participants of changes in the availability of traditional transmission facilities (e.g., outages).

Preserving Wholesale Market Integrity

NextEra Energy agrees that the potential impact of cost recovery through cost-based rates on competitive prices in the wholesale markets needs to be considered. To mitigate concerns regarding undue price impacts, the ISO could develop a mechanism similar to the must offer obligation for Resource Adequacy resources to make the resource available to all ISO markets within the limits of the market power mitigation rules. This approach has the benefit of 1) generating economic bids, 2) maximizing the market revenue credit offset for ratepayers, 3) preserving the ISO's independence, and 4) providing a clear and simple audit trail for revenues and transactions. This approach should address concerns about market suppression by providing equal

market incentives across market participants. However, a downside of this approach is that an economic bid might not always clear the market thus reducing the credit offset.

NextEra Energy is open to discussing an alternative approach that could include use of proxy bid pricing or default bids automatically submitted on behalf of the storage resource receiving cost-of-service compensation.

Other

The ISO seeks additional comments not addressed elsewhere, including any comments on process or scope of the Storage as a Transmission Asset initiative.

NextEra Energy seeks clarification from the ISO of the following:

Interconnection Requirements

Similar to traditional transmission projects, storage as a transmission asset should not go through the interconnection process because it is already evaluated as part of the TPP. The ISO should confirm that storage as a transmission asset would not go through the Generation Interconnection Process.

Eligibility of Co-located Storage as a Transmission Asset

The ISO should address whether storage co-located with a generation resource (e.g., solar, wind, natural gas, coupled with energy storage) would be eligible. For example, could an energy storage device that is paired with a solar generation resource provide transmission services in the summer for a line that is over-subscribed seasonally, and then devote the battery to other services the rest of the year such as balancing the solar resource?

Conclusion

NextEra Energy appreciates the opportunity to comment on the ISO's Issue Paper.

Sincerely,

Soria Talbot
Director, Regulatory Affairs

(561) 691-2411 (office)