

Stakeholder Comments Template

Submitted by	Company	Date Submitted
Sarah Qureshi, Esq. (415) 317-9956 Sarah.qureshi@nexteraenergy.com	NextEra Energy Resources, LLC ("NextEra")	May 17, 2018

Please use this template to provide your comments on the FRACMOO Phase 2 stakeholder initiative Second Revised Draft Framework Proposal posted on April 27, 2018.

Submit comments to InitiativeComments@CAISO.com

Comments are due May 17, 2018 by 5:00pm

The Second Revised Draft Framework Proposal posted on April 27, 2018 and the presentation discussed during the May 3, 2018 stakeholder meeting may be found on the [FRACMOO](#) webpage.

Please provide your comments on the Second Revised Draft Framework Proposal topics listed below and any additional comments you wish to provide using this template.

Eligibility criteria, counting rules, and must offer obligations

The ISO has identified a preliminary list of resource characteristics and attributes that could be considered for resource eligibility to provide each product. Additionally, the ISO has proposed new EFC counting rules for VERs and storage resources that are willing to provide flexible RA capacity.

Comments:

NextEra appreciates the opportunity to comment on this second revised proposal. We appreciate the ISO moving forward with the proposal to unbundle flexible resource adequacy (RA) from system and local RA, and to allow for an Effective Flexible Capacity (EFC) that is no

longer dependent on the Net Qualifying Capacity (NQC). Further, NextEra supports the ISO's proposal to hold a separate stakeholder process to develop a flexible deliverability study that looks at a resource's flexible attributes and its ability to serve the operational needs of the system during times of the greatest flexible need.

While NextEra appreciates the ISO's partial acceptance of its request to enable storage resources to be counted for the full MW range of their flexible capability (full charging to full discharging), we do not support the ISO limiting this to the Day-ahead product only. NextEra disagrees with the ISO that a storage resource may not be able to address ramping needs through both its charge and "output" capabilities during real-time uncertainty, and thus should limit counting under the Real-time product to its "instantaneous maximum output." Such a constraint would unduly limit storage resources from providing valuable and much-needed flexibility to address real-time flexible needs such as major transmission-related or generation-related outages. Storage resources are uniquely qualified to address such uncertainties and can provide the ISO with additional options to use if they are counted for the benefit of their full range of charge to discharge services.

For instance, battery storage systems are able to transition from full charging to full discharging within a fraction of a second as soon as a dispatch signal is received. This range of almost instantaneous flexibility (or of only a few minutes for other types of storage systems) will be extremely helpful to the ISO in managing increasingly steep ramps occurring over the course of only a few minutes as well as other contingencies requiring fast response generation and/or load. Storage should be treated the same as other non-VERs under the Real-time product, and counted based on its ability to ramp within the 15 minute and 5 minute timeframes, factoring in any transition time between charge and discharge in calculating its EFC for each. Other non-VER resources are not subject to such restrictions as proposed here, and given the ISO's impetus to remove the much longer 60 minute start-up time requirement for conventional resources, it is unclear why storage systems capable of much shorter transition times (akin to start-up times) would be treated differently.

The ISO simply states that "it is not clear" that the full range of charge to discharge can be used to address real-time ramping needs, but the ISO does not offer details addressing its specific concerns about a storage resource's ability/inability to meet such needs. NextEra believes that a storage resource should have its full range of charge to discharge counted based on its ability to ramp within both the Day-ahead load shaping product and the Real-time products as is true for other non-VER resources, and that the ISO has not provided sufficient evidence to proceed otherwise.

Other

Please provide and comments not addressed above, including any comments on process or scope of the FRACMOO2 initiative, here.

Comments:

In addition to the above comments, NextEra appreciates the opportunity to ask clarifying questions here.

It would be helpful if the ISO could clearly define how start-up times for conventional resources (i.e. gas-fired resources) will be handled in the context of each proposed product, the Day-Ahead and the Real-time products.

Additionally, NextEra seeks more clarity on how the ISO technically defines “transition time.”

Conclusion:

NextEra appreciates the opportunity to provide comments here and we look forward to continuing to work with the ISO and other stakeholders on these issues.

Respectfully submitted,

Sarah Qureshi, Esq.

NextEra Energy Resources