



Reliability services initiative phase 2 and flexible resource adequacy criteria and must offer obligation phase 2 discussion

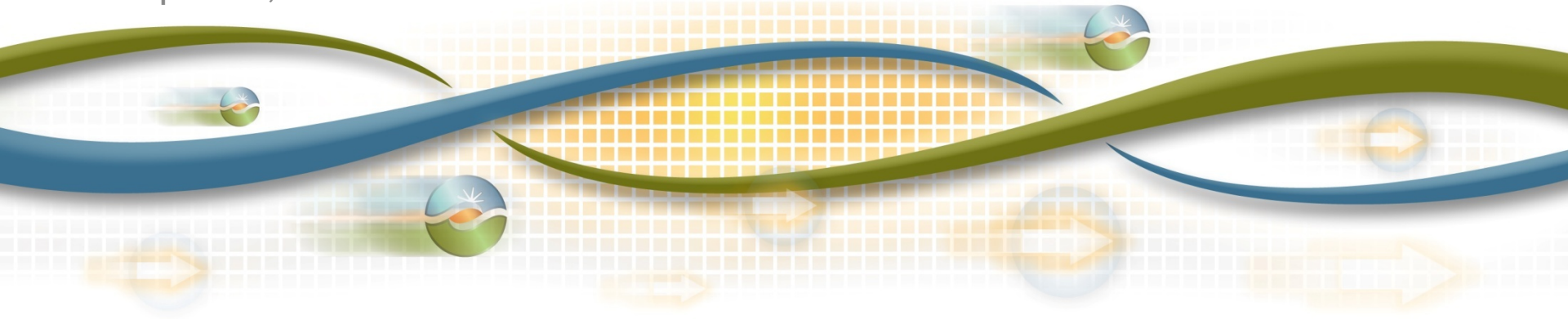
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Market Surveillance Committee Meeting

General Session

April 19, 2016



Overview

- Seek MSC input on:
 - Requirements and offer-obligations for flexible capacity from intertie resources
- Provide explanation of ISO's proposed treatment of pump hydro resources in flex resource adequacy framework
- Provide update on and seek MSC input on ISO proposal for local capacity forced outage substitution rule change

The ISO proposes to allow qualified 15-minute inertia resources to provide flexible capacity

- 15-minute inertia resources can provide reliability benefits
- Still significant variability after dispatch instructions for 15-minute inertia resources
 - Benefits are not comparable to 5-minute dispatchable capacity
 - A measured approach is warranted
- ISO proposes to cap flexible capacity from qualified inertia flexible capacity resources to no more than 50 percent of the total flexible capacity showing
 - ISO can reassess benefits of raising this limit at a later time

15-minute intertie resources must meet basic criteria to provide flexible resource adequacy capacity

- Must economically bid into day-ahead and real-time markets
- Must be resource specific
 - Some stakeholder disagree (See comments of BPA and Powerex to straw proposal)
- LSE must have sufficient maximum import capability (MIC) allocation for the resource
- Firm energy schedule

The ISO will apply RAIM to all import flexible capacity resources

- The ISO will hold an import flexible capacity resource to the must offer obligation of the highest quality of flexible capacity for which it is shown (as is required for other resources)
- Intertie flexible capacity resources on outage must provide substitute capacity from either an internal flexible capacity resource or another qualified flexible import resource
 - Able to provide the same level of flexible capacity for the duration of the outage

The ISO seeks MSC input on the following questions:

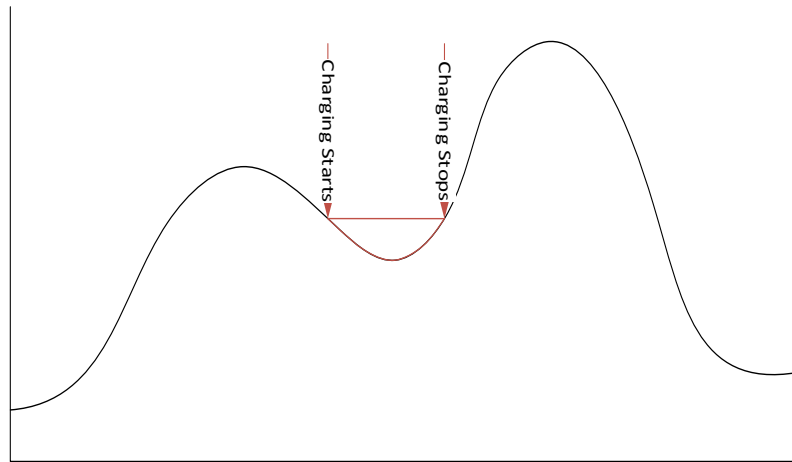
- Should the ISO require flexible capacity to be resource specific resources?
 - Should the requirement differ between EIM based resources and non-EIM based resources?
- Has the ISO properly identified the requirements and obligations for intertie flexible capacity?
- How can the ISO ensure that the flexible capacity sold by 15-minute intertie resource is actually made available for use by the ISO?
- Are there other concerns regarding the RAAIM, or any other aspect of allowing flexible capacity from intertie resources?

The ISO committed to reassess pumped-storage hydro unit model for effective flexible capacity value as part of the current initiative

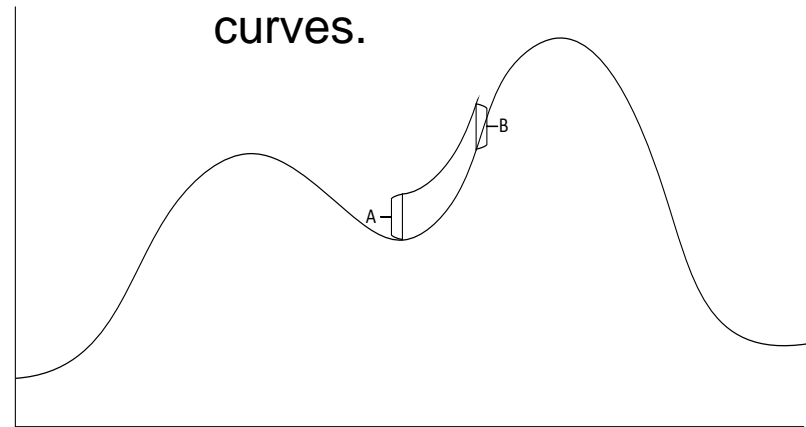
- The ISO's assessment focused on two attributes of pumped-hydro storage resource:
 - Discrete, or blocky, dispatch volumes both on and off
 - Transition time
 - Does not create a reliability basis for disqualifying pumped-storage hydro resources from providing flexible capacity from their pumping load

EFC based on a resource's ability to address the ISO's three hour net load ramp, *not simply lifting the net load*

- NGRs transition smoothly from charge to discharge.
 - Smooth transition from the charging to a zero output state allows NGRs to reduce the net load ramp



- When the resource then stops pumping, load drop means that new net load *drops* immediately back to the old net load curve.
 - In short, the actual ramp, in terms of MW, between A and B is the same on both curves.



ISO proposes not to provide an EFC for pumping load that is subject to discrete dispatches to reduce pumping load

Proposal for local capacity resources on forced outages

- The ISO will only use designated local capacity, not total capacity of resource, to determine if an LSE has shown sufficient local capacity to meet its local capacity requirements
- Allow resources in a local area procured for system RA that go on forced outage to be substituted with another system resource to avoid RAAIM charges
- Resources can be shown with both system and local RA capacity
 - For partial outages and derates, system RA must be replaced first

The ISO will require separate system and local RA showings and supply plans

- All capacity (MWs) on local RA showings and supply plans counts towards system needs
 - No need to include local capacity again on system RA showings or supply plans
- If there is a discrepancy between RA showing and supply plan (i.e. different quantities of local and/or system capacity) the ISO will notify both parties
 - If discrepancy remains unresolved ISO will maintain its current practice of defaulting to supply plan

The ISO seeks MSC input on the following questions:

- Should the ISO allow RA resources in a local area but procured as system RA be allowed to substitute with system capacity to avoid RAIM charges?
- Are there market power concerns the ISO must address prior to making this policy change?
 - See PG&E comments to the draft final proposal