



# Reliability services phase 2 discussion

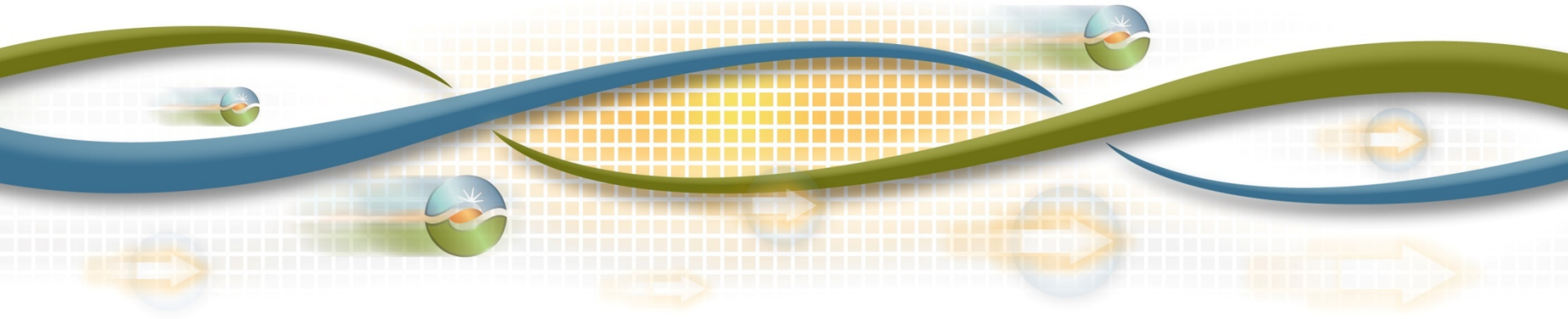
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Market Surveillance Committee Meeting

General Session

December 11, 2015



# The goal is to continue improving aspects of the ISO's availability and outage substitution rules, and clarifying the RA process

1. Develop a template that captures and codifies RA requirements contained in an LRA's RA program documentation
2. Develop planned outage substitute capacity rules for flexible capacity resources \*
3. Assess adequacy of existing planned and forced outage substitution rules for local capacity resources \*
4. Establish change management process for resources that require updated Effective Flexible Capacity (EFC) quantities
5. Apply RAIM availability assessments to Masterfile changes
6. Design rules needed to apply RAIM to combination flexible capacity resources \*
7. Streamline monthly RA showing process

\* Three topics we will discuss during today's MSC meeting

## Item 2: Planned Outage Substitution Rules for Flexible Capacity Resources – Proposal

- Modified from initial “category-or-better” proposal
- Substitute capacity confirm resource is capable of meeting must-offer obligation for duration of resource outage
  - Ensure substitute provides comparable quality of flexible capacity to resource going on planned outage
  - This is comparable to requirement for flexible capacity on forced outages established in RSI phase1

## Example: Category one flexible capacity resource takes a one-week planned outage

Substitute resource would have to confirm that

1. It can start or ramp twice a day for every day of outage (i.e. has 14 starts remaining in month if two starts per day are required of resource or seven if one start per day is required),
2. It will be required to economically bid all flexible capacity of resource into day-ahead and real-time markets from 5:00 a.m. through 10:00 p.m., and
3. ISO will evaluate all flexible capacity from resource according to availability rules for category one flexible capacity must offer obligation

## Item 3: Forced Outage Substitute Capacity for RA Resources in Local Capacity Areas – Proposal

- 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
- If any portion of a resource designated as a local capacity, then whole resource would be local capacity
  - Would have to replace all capacity on outage with another local resource to avoid RAIM charges
- ISO may consider partial local RA resources as a further enhancement in a future initiative

## Item 6: RAIM Combination Flexible Capacity Resources – Proposal

- Create a pseudo-resource for two resources in combination
  - Pseudo-resource is used only for purposes of calculating RAIM charges or payments
- Need for pseudo-resources comes from need to capture both full system and flexible capacity obligations contained by combined resources
- No need to determine contribution of each resource because resources to have same Scheduling Coordinator
- Has no other implications to
  - Bidding behavior,
  - Dispatches, or
  - Other settlements for two resources in combination

The appropriate way to measure availability of combination flexible capacity resources is to assess the *total* obligation

- Must be able to calculate total availability obligations, system and flexible, of both resources
  - Only flexible capacity aspect of resources are combined
  - System obligations are cumulative



# Appropriate way to measure availability of combination flexible capacity resources is to assess *total* obligation

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  - System obligations are cumulative

- Example

Resource	PMax	System RA	Flexible RA
Resource A	125	100	75 (combined)
Resource B	100	50	75 (combined)
Total	225	150	75

- Each resource has an system requirement that must be met
  - Total system requirement of 150 MW
- Flexibility requirement only needs to be met by one resource
  - Combined flexible requirement of 75 MW



# An example of why a pseudo-resource is needed

## Hypothetical Combination Resource

Resource	PMax	System RA	Flexible RA
Resource A	125	100	75 (combined)
Resource B	100	50	75 (combined)
Total	225	150	75

Assessment RAIM assessment uses highest quality MOO for resources

- Assesses compliance with MOO for 75 MW flexible capacity first
- Compliance for MOO for system capacity after compliance with flexibility MOO

If Resource A meets flexible capacity MOO, resource B also meets flexible capacity MOO

- If Resource B meets flexible capacity MOO, then it also appears to meet system MOO

Resource	Availability (Flexible)	Incremental Availability (System)	Total
Resource A	75	25	100
Resource B	75	0	75

Outage of Resource B would result in 50 MW reduction in system capacity because

- Flexible capacity exceed system capacity for Resource B
- Resource A fulfills flexible capacity obligation for Resource B

Reduction to system capacity cause by outage should be captured in RAIM

# An example of how a pseudo-resource would work

## Hypothetical Combination Resource

Resource	PMax	System RA	Flexible RA
Resource A	125	100	75 (combined)
Resource B	100	50	75 (combined)
Total	225	150	75

Pseudo-resource sums system obligations and combines flexible obligations

Resource	Availability (Flexible)	Incremental Availability (System)	Total
Resource C	75	75	150

Loss of system capacity caused by outage of Resource B can now be captured in RAAIM while flexible obligation is still covered by Resource A

## Next steps in RSI Phase 2 stakeholder process

- Stakeholders submitted comments on straw proposal on December 9, 2015; ISO is currently assessing those comments
- Draft final proposal will be posted on January 7 2016
- A stakeholder call will be held on January 14, 2016