Reliability Services – Phase 2 Revised Straw Proposal
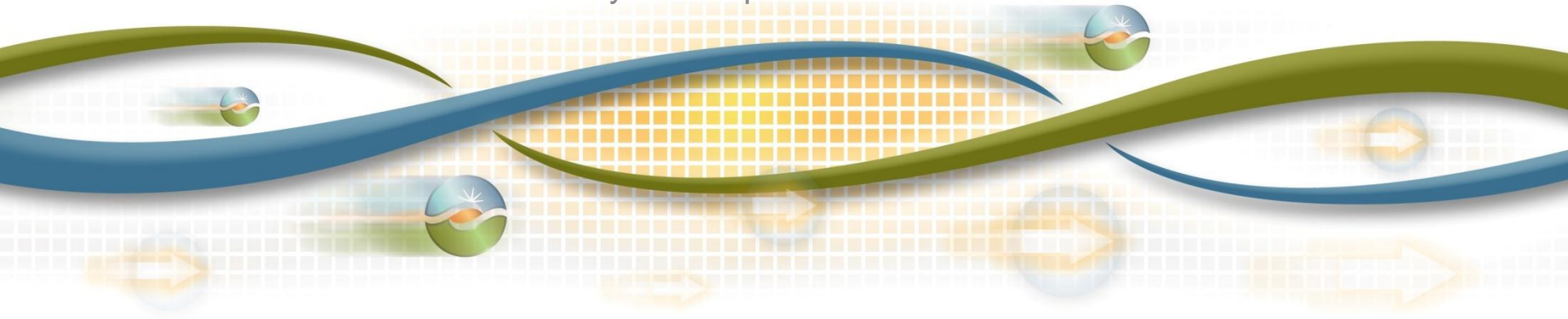
October 14, 2015

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Market Design and Regulatory Policy Lead

Eric Kim
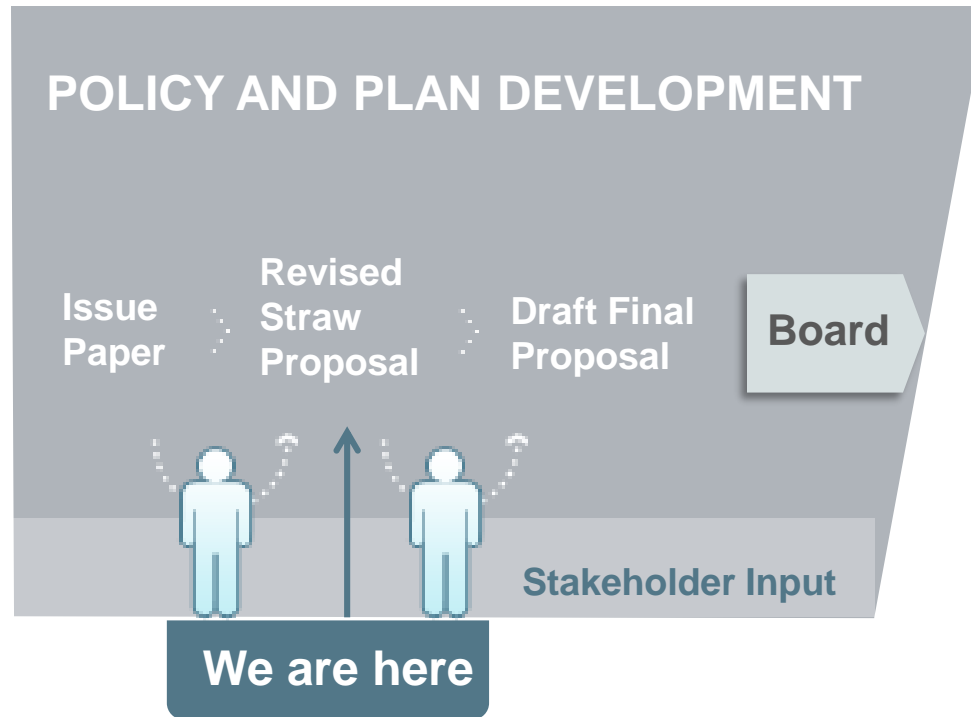
Market and Infrastructure Policy Developer

Stakeholder Meeting – Agenda – 8/26/15

Time	Topic	Presenter
1:00 – 1:05	Introduction	Kristina Osborne
1:05 – 1:10	Summary of stakeholder comments	Eric Kim
1:10 – 1:35	LRA and ISO process alignment	Perry Servedio
1:35 – 1:55	Planned outage substitution for flexible capacity	Eric Kim
1:55 – 2:30	Planned and forced outage substitute capacity in local capacity areas	Karl Meeusen
2:30 – 2:45	Updating EFC	
2:45 – 3:05	Masterfile changes and RAAIM availability	
3:05 – 3:35	Combination flexible capacity resources	
3:35 – 3:55	Streamlining monthly RA showings	
3:55 – 4:00	Next Steps	Kristina Osborne

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ISO Policy Initiative Stakeholder Process

POLICY AND PLAN DEVELOPMENT

Issue Paper → Revised Straw Proposal → Draft Final Proposal → Board

Stakeholder Input

We are here

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Timeline

Date	Reliability Services Initiative – Phase 2
October 14, 2015	Stakeholder meeting on revised straw proposal
October 26, 2015	Comments due on revised straw proposal
November 4, 2015	Draft final proposal posted
November 11, 2015	Stakeholder meeting on draft final proposal
December 1, 2015	Comments due on draft final proposal
Feb 3-4, 2016	Board of Governors

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The goal of this initiative is to continue improving aspects of the ISO's availability, outage substitution and replacement 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 the adequacy of existing planned and forced outage substitution rules for local capacity resources
4. Establish a change management process for resources that require updated Effective Flexible Capacity (EFC) quantities
5. Apply RAAIM availability assessments to Masterfile changes
6. Design the rules needed to apply the RAAIM to combination flexible capacity resources
7. Streamline monthly RA showing process

STAKEHOLDER COMMENTS

Eric Kim

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Stakeholder Comments

- Stakeholders agree that the ISO should pursue better process alignment to eliminate duplicative efforts
  - Wanted clarifications on types of validations to perform, clarifications on differences between the ISO methodology and CPUC methodology, standardization, and advocated for conformed timelines

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Stakeholder Comments

- SCE and Six Cities suggested that there should not be more stringent requirements for flexible capacity resources on a planned outage

- NRG,SCE, and SDG&E offered an alternative solutions to specifically identify if capacity has been procured as local or system

Stakeholder Comments

- SCE and SDG&E requests additional clarity regarding all Masterfile parameters that could impact the EFC of a resource and how it is assessed under RAAIM

- Several stakeholders sought additional explanation about why the ISO's proposed exemption is necessary and details about how it will be applied

Stakeholder Comments

- The Small POU Coalition asked for options to streamline the RA showing process and to adjust the penalty structure to account for the size of the LSE
  - In scope

- CDWR asked if the ISO is considering the removal of the RAAIM exemption for wind and solar resources
  - Not in scope

- PG&E requested that the ISO consider cogeneration resources that can provide economic bids in day-ahead market but cannot respond to real-time dispatch should be exempt from RUC obligations and bid insertion
  - Not in scope

LRA AND ISO PROCESS ALIGNMENT

Perry Servedio

Proposal

- Provisions detailing under what circumstances the ISO will use its default

  – Template that will specify the information needed regarding an LRA's RA program

  – Template does not change the provisions of an LRA's RA program, it serves only to standardize the manner in which the information is provided to the ISO

  – Most information can roll over year to year

    - A few pieces of information must be provided each year

Why the process alignment is needed

- Provide LRAs and market participants clear guidance on when LRA requirements or ISO default provisions apply

- Allow market participants to better understand their obligations under the ISO tariff and mitigate potential deficiencies

- Tariff requires the ISO to perform a compliance evaluation of LSE RA demonstrations

- Tariff also requires the ISO to use the LRA methodologies in determining overall net deficiencies in meeting the total monthly Demand & Reserve Margin requirements and in determining proper cost allocation for any backstop procurement

- Need official documentation of LRA RA program/components to appropriately ensure ISO evaluations are accurate

Updates to proposal

- The ISO will need information for the upcoming RA compliance year prior to the first business day in October
  - Tariff to formalize circumstances under which ISO defaults apply
  - Actual dates will be implementation detail in BPM
  - Most elements will roll-over automatically year to year

- The ISO will work with LRA to gather the proper LRA documentation, align configurations, and implement any system updates if needed

- If the ISO does not receive a completed template, the ISO will use its configuration defaults for that compliance year

- ISO default configuration published in this proposal (Appendix B)

PLANNED OUTAGE SUBSTITUTION RULES FOR FLEXIBLE CAPACITY RESOURCES

Eric Kim

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Proposal

- In the event of a planned outage for flexible RA capacity, the ISO will allow the scheduling coordinator for the capacity to provide planned outage substitute capacity

- Any substitute capacity must be eligible to provide at least the same category of flexible capacity as the capacity that goes on a planned outage
  - Category 1 (Base)
  - Category 2 (Peak)
  - Category 3 (Super Peak)

Flexible RA capacity must provide the same category or better

- Six Cities asserts that ISO Tariff section 40.10.6 supports Flexible RA capacity should only be required to provide a substitute resource that is capable of meeting the must-offer obligation

- The ISO intent is not to allow substitute capacity to meet *only* the must offer obligation without regard to the quality of the flexible capacity provided
  - SC could show a resource qualified for a given category on the first day of the month and replace it with a lower quality flexible capacity resource on the second day

Flexible RA capacity must provide the same category or better

- The ISO notes that Section 40.10.6 defines the must-offer obligations of the flexible capacity resources shown in specific flexible capacity categories

- These must offer obligations are defined based on flexible capacity categories defined in section 40.10.3.2-4, including the qualifying criteria for the categories

- The ISO will clarify the language in the RSI2 filing to more clearly reflect the "same category or better concept"

PLANNED AND FORCED OUTAGE SUBSTITUTE CAPACITY FOR RA RESOURCES IN LOCAL CAPACITY AREAS

Karl Meeusen

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Proposal for local capacity resources on forced outages

The ISO reviewed four options:

1. Status quo: like-for-like substitute capacity or be subject to RAAIM charges (No Change)

2. Local RA showing study: Only study capacity reflected in the local RA showing towards meeting local capacity requirements

3. ISO discretion: Resource request the ISO to grant a waiver of the local-for-local substitution requirement

4. Add an additional flag to monthly and annual RA submissions to track system and local procurement, allowing for like-for-like substitute capacity for forced outages

Option four: Add a local capacity designation to RA showings and allow for like-for-like forced outage substitute capacity

- Add a designation to supply plans that identifies the specific capacity used to meet its local capacity requirements

- Only use the designated resources to determine if an LSE has shown sufficient local capacity
  - If an LSE has not designated sufficient local capacity, the ISO will notify the LSE and provide an opportunity to cure
  - If an LSE designates sufficient local capacity it will not be allocated CPM costs caused by an individual local deficiency

Option four: Add a local capacity designation to RA showings and allow for like-for-like forced outage substitute capacity

- ISO will notify both LSE and resource if there is a discrepancy between the RA showing and a supply plan
  - i.e. a resource is flagged as local on one, but not the other
    - ISO would default to supply plan if discrepancy is unresolved

- Collective deficiencies in a local area would still be determined using all RA resource that impact the given local area
  - ISO needs to accurately model the topology of the local area and capture all resources impact (positive or negative) on the local area.

PROCESS FOR UPDATING RESOURCES' EFC AND/OR OPERATIONAL PARAMETERS

Karl Meeusen

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Updating resource EFCs during the year

- Several reasons a resource may request an EFC during the year

  – Switching from non-dispatchable to dispatchable,

  – Resource goes online,

  – Resource's NQC increases

- The ISO will update EFC only upon request from the SC for the resource

- Request must come either at the same time or after the SC submits the request to change the NQC value
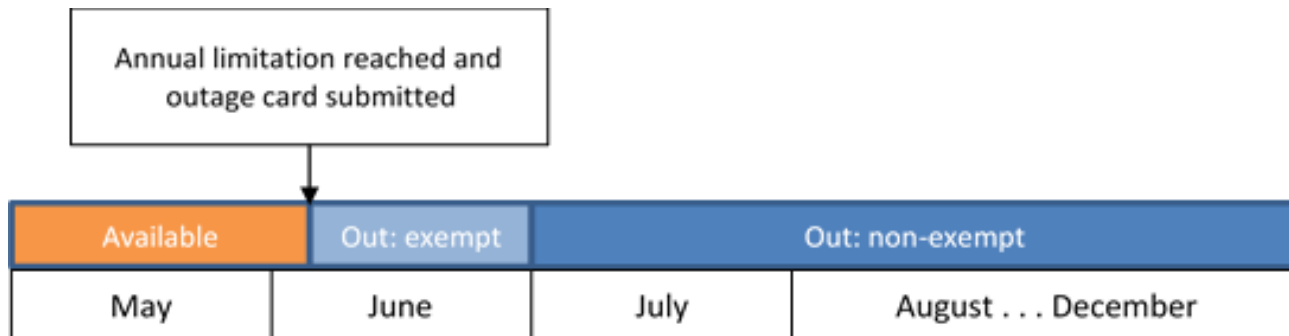
How the ISO will use use-limitation information

- In RSI1, the ISO established a process by which SCs for use-limited resources will provide resources' statutory, regulatory, court-imposed, or operational use-limitations to the ISO

- The ISO will utilize the data to determine whether a resource qualifies to provide Base, Peak, or Super-Peak flexible capacity

- The use of the monthly use-limitation data ensures the ISO has more data than daily limits to base category qualifications

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Use-limited outage card RAAIM treatment

- SC will submit and outage card when a use-limited resource reaches its limitation and is no longer available

- Resource will be exempt from RAAIM for the remainder of the month

- Resource will be non-exempt from RAAIM starting the first day of the next month until it becomes available again

- Intended to ensure sufficient capacity is still available to the markets

Annual limitation reached and outage card submitted			
Available	Out: exempt	Out: non-exempt	
May	June	July	August . . . December

APPLYING RAAIM TO MASTERFILE CHANGES

Karl Meeusen

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Masterfile changes that impact the <u>quantity</u> of EFC the resource may be able to provide

- Some resource parameters determine the quantity of flexible capacity a resource can provide
  - Start-up time
  - Pmin

- A resource may request a change to Masterfile that increases the start-up time, lowering the EFC of the resource

- RAAIM tool developed in RSI1 is sufficient to address these changes

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Masterfile changes that impact the <u>category</u> of EFC the resource may provide

- Some resource parameters determine the category of flexible capacity a resource can provide
  – Minimum down time
  – Daily starts
  – Dispatchable flag

- Resources could reduce the number of starts per day after it has been qualified for a given category
  – Even if base ramping resource bids during all hours, the ISO would optimize the resource as though it has one start

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Proposal

- Apply the RAAIM to resources where Masterfile changes disqualify them from providing a flexible capacity category
  - i.e. Assess as unavailable under RAAIM resources that change Masterfile parameters that lower the flexible capacity category eligibility to a category below the one for which it is shown
  - RAAIM applies as of the date of the Masterfile change
  - Resources may provide substitute capacity to avoid exposure to RAAIM charges
- The SC is responsible for knowing the implications of Masterfile changes and a resource's exposure to RAAIM charges

COMBINATION FLEXIBLE CAPACITY RESOURCES

Karl Meeusen

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Combination flexible capacity resources are currently exempt from RAAIM

- Combination flexible capacity resources are a pair of flexible capacity resources that individually do not meet the requirements for a higher flexible capacity category, but when combined are able to meet the requirements for the higher category

- Revised tariff language in FRACMOO filing ensures that at least one of the combined resources is available to the ISO

- Needed tariff provisions and structure needed to apply the RAAIM rules to combination flexible capacity have not been developed

The ISO proposes to apply RAAIM to the combination flexible capacity resources

- The limited exception proposed in the straw proposal did not provide the same functionality as the combination flexible capacity resources
    - This limited exception options has been removed

- Flexible capacity availability determined based the combined resource's availability using the maximum *daily* availability of the two resources

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Example of flexible capacity availability

Resource	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Total
Resource A	95%	93%	92%	90%	75%	0%	0%	80%	90%	97%	
Resource B	75%	80%	90%	92%	80%	90%	92%	75%	80%	50%	
Maximum	95%	93%	92%	92%	80%	90%	92%	80%	90%	97%	90.1%

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

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

The ISO proposes to create a pseudo-resource for the two resources in the combination

- This pseudo-resource is used <u>only</u> for purposes of calculating RAAIM charges or payments
- The need for pseudo-resources comes from the need to capture both the full system and flexible capacity obligations contained by the combined resources
- Has no other implications to
  - bidding behavior,
  - dispatches, or
  - other settlements for the two resources in the combination

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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 RAAIM assessment uses highest quality MOO for resources

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

Outage of Resource B would result in a 50 MW reduction in system capacity because
- Flexible capacity exceed system capacity
- Resource A fulfills the flexible capacity obligation

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

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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)	Availability (System)	Total
Resource C	75	75	150

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

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STREAMLINING THE MONTHLY RA SHOWING PROCESS

Karl Meeusen

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The ISO proposes to automatically roll all RA showings made in annual plans into the monthly RA showing for all LSE

- LSEs are required to submit year ahead RA showings
  - 100 percent of local capacity requirement
  - 90 percent of flexible capacity requirement
  - May submit annual system RA showings (based on LRA requirements)
- All annual RA showings will automatically roll through to month-ahead file for LSEs
  - LSE may make changes as part of the monthly RA showing
  - If there are no changes from the year-ahead RA showing, then no action by the LSE is required
    - year-ahead showing that LSE should provide 100 percent of all RA requirements (system, local, and all applicable flexible capacity categories)

The ISO is <u>not</u> proposing to automatically roll annual resource supply plans into the monthly showings

- Ensures resources actively review their upcoming RA obligation
  - Resource SC ultimately bears the substitute capacity burden
- If no supply plan is provided, both the LSE and the resource SC will be notified of the discrepancy
  - If discrepancy is not resolved, the ISO will defer to supply plans

NEXT STEPS

Kristina Osborne

Timeline

- Stakeholder comments on the revised straw proposal are due October 26, 2015; submit to initiativecomments@caiso.com

- Draft final proposal will be posted on November 4, 2015

- A stakeholder call will be held on November 11, 2015