



Flexible Ramping Product discussion

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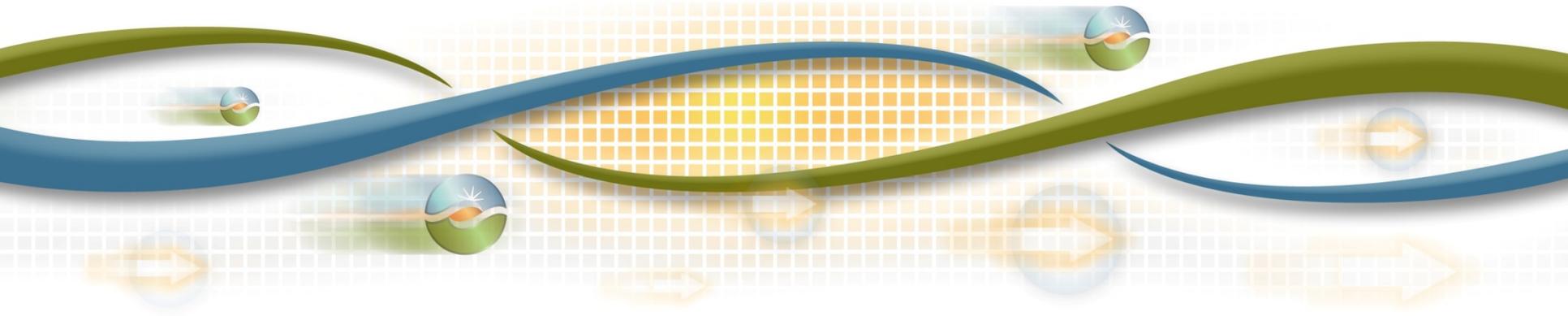
Eric Kim

Market and Infrastructure Policy Developer

Market Surveillance Committee Meeting

General Session

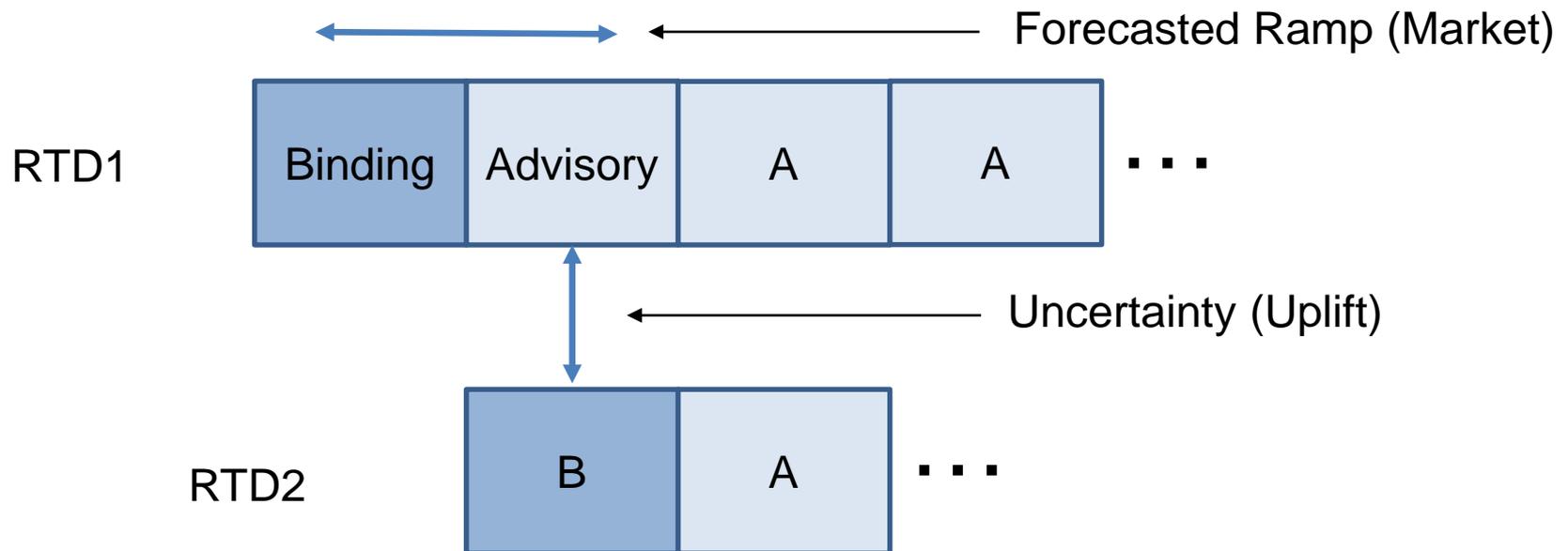
October 20, 2015



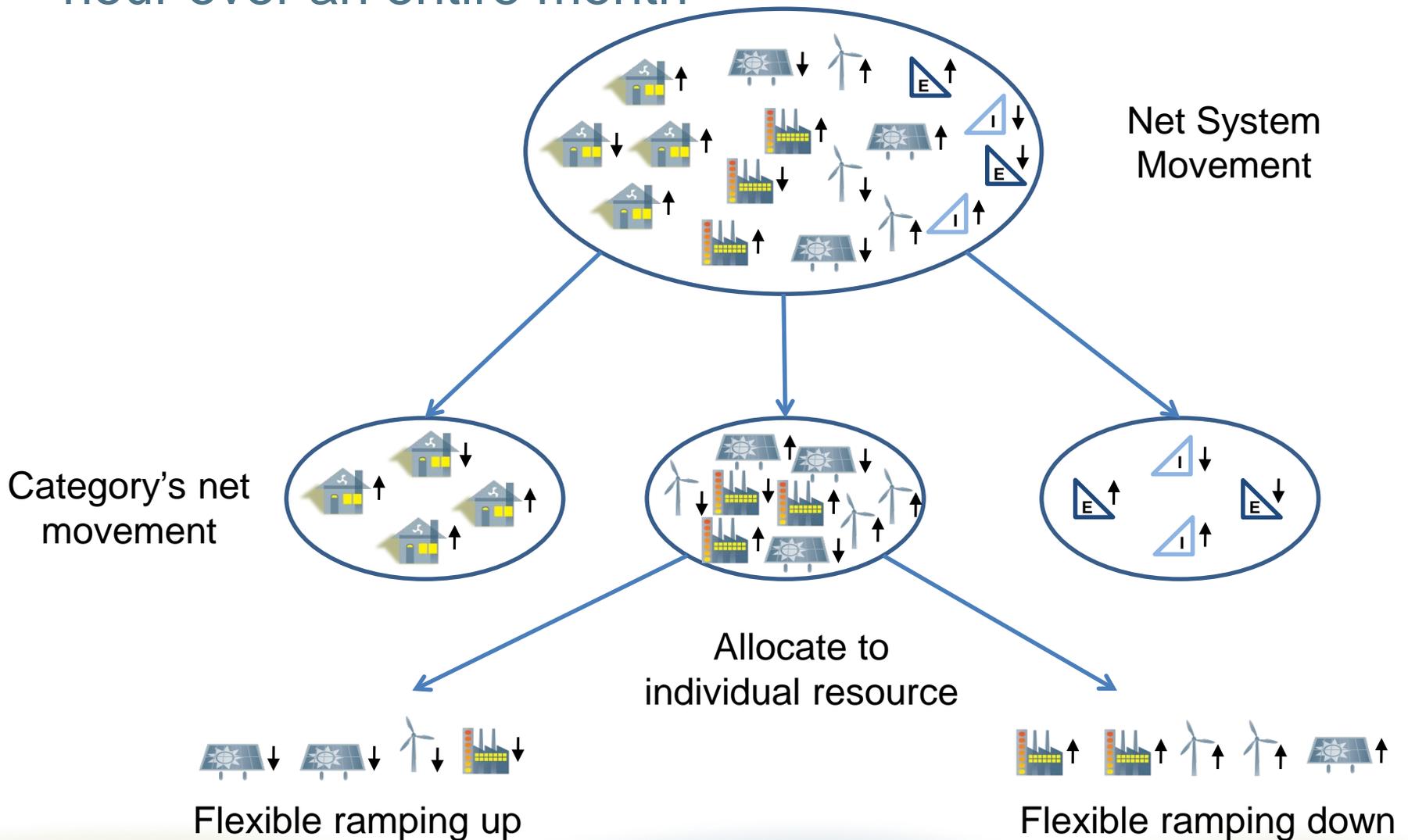
Based upon feedback on technical appendix, ISO has been reviewing the settlement and allocation of FRP

- The current proposal settles FRP by calculating net movement
- The updated proposal will split the settlement into two parts:
 1. A direct settlement in the market for all forecasted movement
 2. A separate calculation and settlement for uncertainty

Updated proposal: Forecasted ramp is settled through the market, uncertainty is an uplift

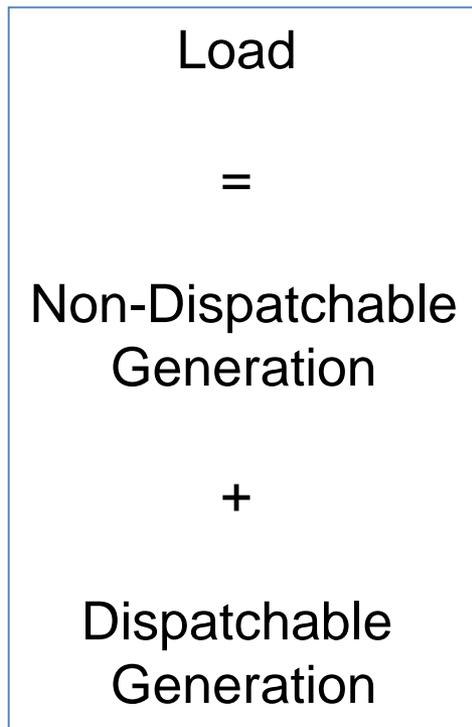


Currently, total cost is allocated to movement in each hour over an entire month

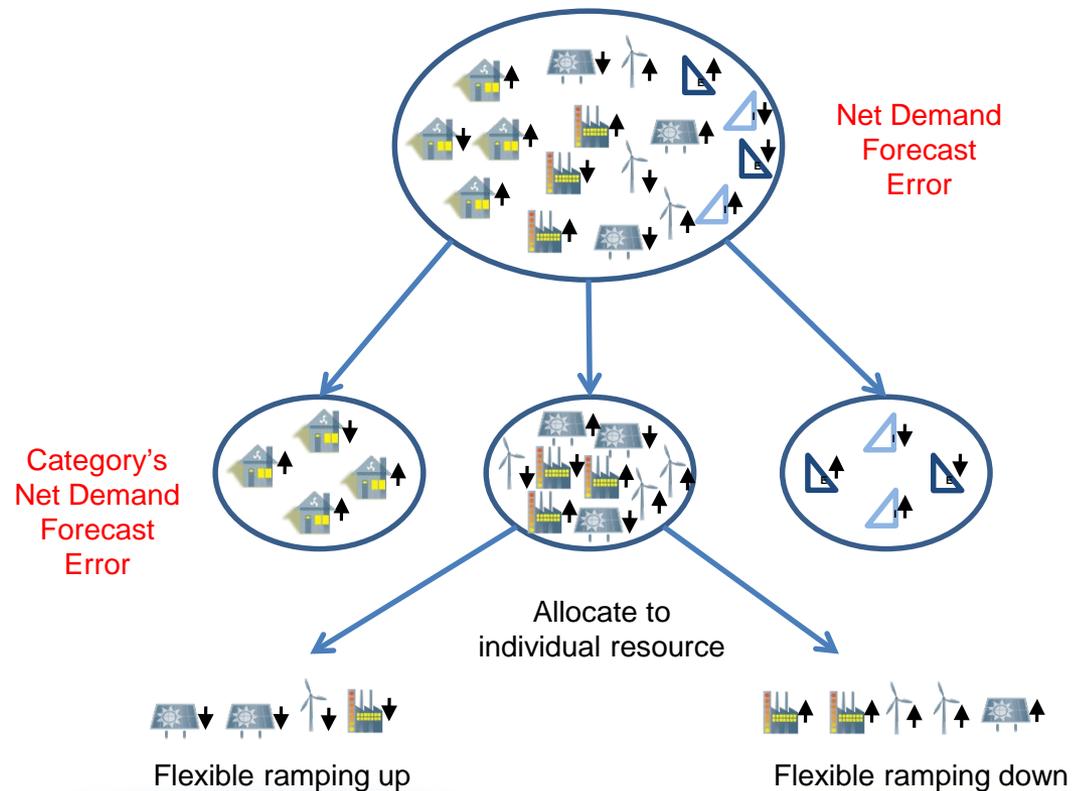


Under the updated proposal, forecasted ramp is settled in market, uncertainty is a monthly uplift

Forecasted



Uncertainty



Assumptions to illustrate difference between current FRP proposal and updated proposal

- Load increasing 1000MW
- Non-dispatchable wind increasing 100MW
- No interval ramp for imports/exports
- Upward uncertainty 80MW

Current vs. New Proposal

Current

- Dispatchable generation paid 980MW FRU
- Cost of 980MW FRU allocated to upward movement

Updated

- Dispatchable generation paid 980MW FRU
- Wind paid 100MW FRU
- Load charged 1000MW FRU
- Uncertainty cost 80MW uplift to upward errors

Forecasted movement is settled in all FMM and RTD intervals

- Load (Hourly metered)
 - Load can result in a payment or a charge
 - Since the forecasted movement is the ISO forecast, propose allocating to metered demand by BAA
- Supply (5-minute metered)
 - Non-dispatchable movement can be paid or charged
 - Dispatchable resources are paid
- Interties (15-minute deemed delivered)
 - 15-minute economic bids are dispatchable in FMM, so paid
 - Non-dispatchable in RTD, so can be paid or charged

Uncertainty will be paid and allocated at the end of the month

- Propose to eliminate the monthly resettlement
 - Resources meeting uncertainty will be paid end of the month
 - Monthly costs by hour for uncertainty will be allocated
- Hourly costs divided between Load, Supply and Interties based upon the gross forecast error
 - Vertical Binding – Advisory
- Then allocate each category using its billing determinant

Uncertainty within each category is allocated pro-rata for upward and downward

- Load (Hourly metered)
 - Gross uninstructed imbalance energy (UIE) over the month
- Supply (5-minute metered)
 - Gross (Resource specific forecast error + UIE)
- Interties (15-minute deemed delivered)
 - Gross operational adjustments

Reviewing how to resolve differences between net-demand between FMM and RTD

- 15-minute economic bids from interties are dispatchable in FMM, but not in RTD
 - Since imports/exports cannot be dispatched in RTD, don't allow imports/exports to meet uncertainty requirement in FMM
- Consider the impact of unit commitment to increase the amount of non-dispatchable generation in RTD when making the decision in FMM

Current schedule

- Technical workshop scheduled for November 17 to review data and updated technical appendix posted on November 9
- Draft final proposal week of December 7
- Board decision February 3-4
- Implementation Fall 2016