

## Frequently Asked Questions New Tagging Requirements

**Q:** Are there new E-tagging requirements related to the new fifteen minute market and FERC Order No. 764 fifteen minute scheduling implemented on May 1, 2014?

**A:** No. Neither FERC Order No. 764 or the ISO's new market rules included new e-tagging requirements. Participants should continue to comply with all e-tagging requirements issued by the appropriate governing body as it pertains to their business. However, with the implementation of the new fifteen minute market an important change in practice as adopted by the ISO as of May 1, 2014. As defined in the Section 31.8 of the ISO tariff, in the day-ahead market, the ISO now enforces a net physical intertie schedules limit in the residual unit commitment (RUC) process and enforces a net physical and virtual intertie schedules limit in the integrated forward market (IFM) of the day-ahead market. This is to ensure that the schedules at the interties cleared in the day-ahead market are physically feasible and not encumbered by virtual intertie schedules. Prior to May 1, 2014, the ISO enforced a net physical intertie schedules limit in the IFM. As a result of this change, the ISO operators now use the RUC schedules to evaluate E-tags submitted in the pre-scheduling timeframe. Previously, the IFM enforced a constraint that required net physical schedules to not exceed an intertie's scheduling limit. For the first twelve months of the new market design, because virtual intertie bids are not permissible, the intertie constraints are effectively the same.

Consistent with NERC/WECC requirements, if the net amount of e-tags exceeds an intertie's scheduling limit the ISO operators may curtail the E-tags in the pre-scheduling period. In other cases where the net amount of E tags does not exceed the net intertie scheduling limit, the ISO operators may still curtail individual tags that exceed the RUC schedule during the pre-scheduling period, using the RUC schedule, or delay the decision until real-time using hour-ahead scheduling process (HASP) schedules. The operators continue to use the market schedules as they are available through the various market processes, for e-tag consideration as it did prior to May 1, 2014.

Therefore, in the pre-scheduling period, the RUC schedule represents the expected delivery and E-tags that market participants should submit in the pre-scheduling time period, and not the IFM schedule. While not required to submit their E-tags in the day-ahead timeframe, market participants are encouraged to do so and in such cases should base their tag on the RUC schedule. If not, E-tags greater than RUC schedules may be curtailed by the ISO. This applies to all dynamic and static intertie schedules.

**Q:** Why did the ISO implement the different physical/virtual and physical only limits in the IFM and RUC, respectively, on May 1?

**A:** The use of the differing net intertie constraints limits in the IFM and RUC were adopted with the implementation of the new fifteen minute market and scheduling functionality consistent with FERC Order No. 764 on May 1, 2014. The ISO prepared to be ready to implement the new functionality with the ability to reintroduce intertie virtual bids if mandated by FERC. However, at the start of the new market design, intertie virtual bids are

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prohibited, which is implemented by having set the virtual bid limit at each intertie to zero (0). This limit will be gradually increased twelve months after the start of the new market.

**Q:** If virtual bids are not yet in place, why would a RUC schedule at an intertie be less than an IFM schedule?

**A:** Because the IFM clears supply against bid-in demand, including both physical and virtual, while RUC clears physical supply against ISO forecast demand, RUC may see any over physical supply from IFM and may rebalance the solution by decreasing physical supply that cleared IFM, as necessary. There may also be other conditions in the system that require RUC to resolve congestion based on all constraints enforced in RUC, including internal constraints, that in IFM were influenced by virtual bidding on internal locations. This too may result in RUC adjusting intertie schedules.

**Q:** Are the intertie limits used in IFM different to the limits used in RUC?

**A:** No, the limits used for interties in IFM and RUC are the same.

**Q:** Why are intertie schedules from IFM not treated like internal generation resources in RUC?

**A:** Prior to May 20, both internal and intertie IFM schedules were protected using the same penalty prices in the RUC process. Therefore, if oversupply or congestion conditions exist in RUC, the market clearing software may determine that the most optimal solution is to reduce schedules for either internal resources, intertie resources, or a combination of the two. On May 20, the ISO implemented different priority to protect IFM intertie schedules over internal schedules in RUC. This does not disadvantage internal resources as RUC does not de-commit resources. However, because the ISO evaluates E-tags in the pre-scheduling time-frame based on RUC schedules, differences between the IFM and RUC schedules for intertie schedules may result in scheduling coordinators to have to tag below their IFM schedule. The new priority ensures that the IFM and RUC intertie schedules are more likely to be aligned.

**Q:** What has changed in the RUC process starting on May 1?

**A:** No changes were made to the RUC process in the spring functionality release. The RUC process has always had the ability to rebalance IFM schedules in cases of over- or under-supply and to procure additional capacity for instances where more capacity is needed to meet demand forecast. Also, the RUC process has always been made to enforce transmission constraints and redispatch internal and intertie resources for congestion management purposes. The ISO has always enforced a physical only net intertie limit on RUC. Prior to May 1, if an intertie resource was reduced in RUC there were no tagging implications because the ISO used the IFM schedules to evaluate the E-tags during the pre-scheduling period and not the RUC schedules.

**Q:** What is the RUC schedule, and how is that different from RUC capacity and RUC award?

**A:** RUC schedule is the total MW per hour amount of capacity committed through the RUC process, which includes the MW per hour amounts committed in the IFM as reflected in resource's Day-Ahead Schedule. RUC capacity is the positive difference between the RUC Schedule and the greater of the Day-Ahead Schedule and the Minimum Load level of a resource. The RUC award is the portion of the RUC capacity that is eligible to receive RUC Availability Payments, which is exclusive of minimum load capacity, capacity designated as Reliability Must Run, or capacity under resource adequacy requirements.

**Q:** How does a decrease in RUC Schedule on interties impact the Resource Adequacy obligation of the intertie resource?

**A:** A scheduling coordinator must offer into the real-time market all of an intertie resource's resource adequacy capacity that has cleared through the IFM or RUC. That is, they must submit up to the minimum (Resource Adequacy Capacity,  $\max(\text{IFM schedule, RUC schedule})$ ). See 40.6.2: "Resource Adequacy Resources that have received an IFM Schedule for Energy or Ancillary Services or a RUC Schedule for all or part of their Resource Adequacy Capacity must remain available to the CAISO through Real-Time for Trading Hours for which they receive an IFM or RUC Schedule, ***including any Resource Adequacy Capacity of such resources that is not included in an IFM Schedule or RUC Schedule.***" [emphasis added]

**Q:** When can I submit an e- tag for the full amount of an IFM intertie schedule in the event an intertie schedule clears at a lower amount in RUC?

**A:** The ISO expects market participants to tag to their RUC schedules not the IFM, and E-tags above the RUC schedule may be curtailed for the reasons discussed above.

**Q:** Why is the RUC solution different from the IFM solution?

**A:** The RUC process may produce different schedules than the IFM for several reasons: 1) the IFM clears against physical and virtual bid-in demand, while RUC clears supply against the ISO forecast of load, 2) there is no virtual supply and demand in RUC leaving only physical resources to be considered, 3) RUC accounts for changes in supply based on the ISO forecast of renewable output, mainly wind and solar. Renewable resources are not required to schedule their forecast in the day-ahead market and most do not. For example, a wind resource may have a day-ahead forecast of 20 MW but only schedule 10 MW in the IFM so RUC. Rather than just assuming a self-schedule of only 10 MWs, knowing that the resource is likely to come into the real-time at 20, the ISO will assume a self-schedule of 20 MW for that resource in RUC. This allows the ISO to account for the actual production of renewable resources in the RUC process, but creates a difference between the amount of self-schedule capacity considered in the IFM versus the RUC for that resource. Another factor impacting RUC is that even if the power balance between supply and demand remains unchanged, virtual bids may have been used in IFM to manage congestion. When those virtual bids are removed in RUC because for the reasons discussed above, RUC will use the most effective resource to manage the congestion regardless if it is an intertie or internal generator.

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**Q:** What happens when only one side of a wheel is curtailed in RUC?

**A:** Any wheel pair that needs to be reduced in RUC will be always in balance, where the import and export are reduced at the same level.

**Q:** If the IFM schedule is greater than the RUC schedule and I tag the RUC schedule and then HASP fails, what schedule will the ISO default to?

**A:** The ISO will default to the RUC schedule when HASP fails. Prior to the implementation of the new fifteen minute market on May 1, 2014, the ISO fell back to IFM schedules in such cases. Under the new market design the ISO will eventually allow for intertie virtual bids in the IFM, which will provide counter-flow and may cause net physical imports to exceed an intertie's scheduling limit. Therefore, only the RUC will produce physical intertie resource schedules that respect the intertie's physical scheduling limits. Consequently, only RUC will provided the physical schedule that can be relied on in the real-time when the HASP or FMM fails.

**Q:** Can you clarify the HASP reversal rule issue on page 4 of the FAQ where it says a change will occur in Fall 2014 and will be retro-active to May 1, 2014?

**A:** Section 31.8 states that "Day-Ahead Schedules precluded from submitting an E-Tag in the Day-Ahead on this basis are exempt from the charges described in Section 11.32." This provision was approved as of May 1, 2014. Therefore, to the extent the scheduling coordinator submits an E-tag to meet their RUC schedule which is lower than their IFM schedule, the ISO will not apply the HASP reversal rule to the difference between the IFM and RUC scheduled amounts. The current charge codes are not configured to recognize this requirement, but they will be configured to do so as of October 1, 2014, effective May 1, 2014. The ISO will account for the settlement differences going back to May 1, 2014, in regularly scheduled resettlement statements for the applicable trade dates.

**Q:** Why is it now optional to submit e-tags for day-ahead market awards?

**A:** Nothing has changed. The ISO did not have a rule requiring submission of E-tags in the day-ahead timeframe prior to the implementation of the FERC Order 764 market changes on May 1, 2014. The ISO has not modified the NERC/WECC tagging requirements. Information on ISO e-tagging requirements and intertie management is available at:

<http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=D3AD0598-A5A8-4F6C-AE08-C700257915A2>.

Twenty minutes prior to hour after the applicable hour-ahead scheduling process (HASP) any market award or ISO schedule must be tagged. The HASP reversal rule applies to interchange schedules that are not tagged by this time.

**Q:** The ISO should clarify whether or not participants can tag their IFM schedule in the day-ahead.

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**A:** Participants should continue to tag consistent with the NERC/WECC tagging requirements. As discussed above, an e-Tag that exceeds the RUC schedule may be subject to curtailment.

**Q:** If a resource has a self-schedule in the IFM, can this be reduced in the RUC process?

**A:** Yes, self-schedules can be reduced in RUC, but they are less likely to be curtailed because they have a higher order priority than economic bids. Even if an IFM self-schedule is reduced in the RUC process, the full IFM schedule settles at the IFM price.

**Q:** Are there any illustrative examples for what RUC schedules are?

**A:** For illustration purposes use the following examples.

Example 1

IFM schedule=100 MW, RUC=100 MW, E-tag for day ahead, if submitted=100 MW  
Thus, RUC capacity=0MW, RUC award=0 MW

Example 2

IFM schedule=100, RUC schedule=90 MW, E-tag for day ahead if submitted=90 MW  
Thus, RUC capacity=0 MW, RUC award=0MW

Example 3

IFM schedule=100MW, RUC schedule=110MW, E-tag for day ahead if submitted=110MW.  
RUC capacity=10 MW,  
RUC award: If one assumes RA capacity=104MW, then RUC award=6 MW.

**Q:** Where do I find the RUC schedule values for my intertie resources?

**A:** Scheduling coordinators may view the RUC schedule in the entry labeled as *RUC award* through the RUC Capacity report in the California ISO Market Results Interface (CMRI).

**Q:** How should Ancillary Services on the ties should be treated under this new tagging requirement?

**A:** There is no change for tagging of Ancillary Services because the treatment of Ancillary Services in both the IFM and RUC process and its tagging remained unchanged after May 1.

**Q:** Can a value below the RUC schedule be tagged in the day ahead, will the system reject it or adjust it?

**A:** An e-Tag below the RUC schedule can be submitted. The ISO evaluates the E-tags based on the maximum amount scheduled in RUC.

**Q:** Is there a requirement to tag in the day ahead?

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**A:** The ISO does not impose any additional e-tagging requirements in the day-ahead time frame. However, parties may be required to tag in the day-ahead for different reasons.

**Q:** What will happen if I do not tag in the day-ahead market?

**A:** Tagging for the day ahead is not a requirement. The participant may wait until the real time to find out the amount needed for tagging

**Q:** What will happen if I do not submit any bid in the real time market for my RUC intertie schedule?

**A:** If a bid is not submitted in the real time market, the ISO system (SIBR) will automatically generate a self-schedule up to the IFM schedule.

**Q:** If I have a wheeling through transaction, if RUC reduces the schedule, will this be in balance?

**A:** Yes

**Q:** What are the settlement implications of this new tagging requirement?

**A:** There are no changes to the settlement of day-ahead market results: Megawatt hours of energy in the Day-ahead Schedule will be settled at the IFM LMP. With the addition of the fifteen minute market, any difference between IFM and FMM schedules are settled at the FMM LMP. As explained above, the HASP reversal rule will not apply to differences between the IFM and RUC schedules if the E-tag is consistent with the RUC schedule.

**Q:** How is the HASP reversal process affected by this tagging logic?

**A:** The HASP reversal rule compares the tagged energy to the day-ahead schedule to determine if the resource can profit from buying back in HASP at a lower price. The lower of the IFM or RUC schedule needs to be e-tagged before the HASP in order to not subject the schedule to the HASP reversal rule.

The following examples are not intended to be exhaustive but provide general scenarios of settlements and implications of the HASP reversal rule.

### Example 1

If IFM schedule= 100MW, RUC schedule = 90MW, e-Tag prior to HASP = 90MW  
and

- In real time, SC submits a self-schedule=100MW

Then

- FMM schedule =100MW
- Modify real-time e-tag to 100MW
- Paid 100MW at IFM LMP
- No FMM settlements since there is no change with respect to IFM schedule

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- The SC is not subject to HASP reversal rule because FMM schedule= IFM schedule and day ahead e-tag=minimum(IFM schedule, RUC schedule)

### Example 2

If IFM schedule= 100MW, RUC schedule = 90MW, e-Tag prior to HASP = 90MW

and

- In real time, SC submits an economic bid for up to 100MW

Then

- FMM schedule =75mw
- Modify real time e-tag to 75MW
- Paid 100MW at IFM LMP
- Charged 25MW at FMM LMP
- The SC is not subject to HASP reversal rule because day ahead e-tag=minimum(IFM schedule, RUC schedule)

### Example 3

If IFM schedule= 100MW, RUC schedule= 90MW, e-Tag prior to HASP = 80MW

and

- In real time, SC submits an economic bid for up to 80MW

Then

- Paid 100MW from IFM at IFM LMP
- FMM schedule=80 MW
- Real-time e-tag =80 MW
- Charged 20MW at FMM LMP
- Charge 10 MW at the max (0, IFM LMP - FMM LMP)
- 10MW (90MW – 80MW) is subject to HASP reversal rule

### Example 4

If IFM schedule = 100MW, RUC schedule= 110MW, e-Tag prior to HASP = 100MW

and

- In real time, SC submits an economic bid for up to 110MW

Then

- FMM schedule = 110MW
- Modify real-time e-tag=110MW
- Paid 100MW at the DA LMP

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- Paid 10MW at the FMM LMP
- The SC is not subject to HASP reversal rule

### Example 5

If IFM schedule = 100MW, RUC schedule = 110MW, e-Tag prior to HASP = 100MW  
and

- In real time, SC submits an economic bid for up to 110mw

Then

- FMM schedule = 90MW
- Modify real-time e-tag=90MW
- Paid 100MW at the IFM LMP
- Charged 10MW at the FMM LMP
- The SC is not subject to HASP reversal rule because day ahead e-tag=min (IFM schedule, RUC schedule)

### Example 6

If IFM schedule= 100MW, RUC schedule= 110MW, e-Tag prior to HASP = 110MW  
and

- SC does not submit any bids for real time

then

- SIBR generates a self schedule up to the IFM schedule
- FMM schedule=100 MW
- Modify real-time e-tag =100 MW
- Paid 100MW at the IFM LMP
- No FMM settlements since there is no schedule difference with respect to IFM
- The SC is not subject to HASP reversal rule