

CDWR has following questions on the white paper and RAAIM calculation modification model. CDWR is submitting these questions for better understanding of the whitepaper prior to the scheduled call and the comments submittal due date.

- 1) In order to fully understand modified availability calculation, CDWR would like to know CAISO calculation from the slight modification of the Example 7 on page 13 - 14 of the white paper

CDWR's understanding from example 7 is that daily 5 hours of System availability assessment hours are overlapped in daily 17 hours of Flexible Category 1 assessment hours, and the resource provides 2 MW of self-schedule.

Instead of original example 7 'Resource is fully on-line, but self-schedules the entire day', let's have two different scenarios of compliance, (a) with 1 MW self-schedule and no Economic bid and (b) with 1 MW Economic bid and no self-schedule:

- a) With scenario of the resource providing only 1 MW self-schedule, CDWR would like to know whether availability % for System RA is 50% or 100%, while availability % for Flexible RA is still 0%.
- b) With scenario of the resource providing only 1 MW Economic bid, CDWR would like to know if availability % for System RA is 0%, 50%, or 100% while the availability % for Flexible is changed to 100%.

In the existing RAAIM calculation when there is an overlapping MW (providing both generic and flexible RA), an economic bid covers both Flexible RA and Generic RA. In the proposed RAAIM modified calculation, does economically bid energy cover only one type of Flexible RA or Generic RA at a time?; and if so, what decides whether Flexible RA or Generic RA is covered for that economic bid? What if, although Flexible RA is not fully met but CDWR still would like some economic bid to apply to Generic RA instead to allocate scheduling to stay within 94.5% for both Generic RA and Flexible RA? (There effectively is a larger tolerance band to manipulate by separating Generic RA and Flexible RA. Additionally, Flexible RA comparatively has more MW hours to allocate to Generic RA).

On the contrary to the viewpoint above, in the proposed RAAIM modified calculation, does economically bid energy during overlapping MW (providing both generic and flexible RA) cover both Flexible RA and Generic RA at once like the existing RAAIM calculation? If so, if the two different products perform above the upper band, will the same MW receive payments from assessment on two different products (which may end up getting paid twice for the same MW)? On the other side, if the same MW performs below the lower performance band, will the same MW be charged twice for the same MW based on assessment for two different products (generic and flexible RA)?

- 2) The white paper did not address the hierarchy of market vs. type of RA. CDWR would like information on the hierarchy of the modified RAIM calculation.

In the existing RAIM calculation, final availability and obligation is the worst performance from the Day-Ahead Market and the Real-Time Market for the combination of System and Flexible RA.

Hierarchy of the existing RAIM calculation is:

Per day, MIN performance percentage from (Day-Ahead Market (Combination of System and Flexible RA), Real-Time Market(Combination of System and Flexible RA))

In the proposed modified RAIM calculation, System and Flexible RA are no longer combined; rather each type of RA is separated for its own calculation. CDWR would like to know how each RA product type deals with the Day-Ahead Market and the Real-Time Market.

Is the hierarchy of modified RAIM calculation intended to be as follows?

Per day, MIN performance percentage from System RA(Day-Ahead Market, Real-Time Market) and MIN performance percentage from Flexible RA(Day-Ahead Market, Real-Time Market)

- 3) If the same resource provides Category 1 and category2, the current rule converts all to flex RA category 1. Will this continue under RAIM modification? If it continues, and if a resource provides 1 MW category 1 and 200 MW category 2, it will convert all to category 1 in which case it will be extremely punitive for the resource to convert the 200 MW Category 2 to 201 MW category 1 and the resource that could provide category 2 of 200 MW could fail to provide that because it could probably not provide 17 hours of 201 MW. Will the RAIM modification address this issue?

Overall, if CAISO could provide examples with explicit formulas for RA capacity obligation, compliance calculation, and availability determination, we could understand the CAISO's proposed modified RAIM calculation better.