[9:48 AM]

9:48 AM Meeting started

[9:57 AM] Wan, Lisa

Good morning everyone!Reminder that this meeting is being recorded.Please mute yourself. If necessary, I will mute your line if there's excessive background noise.If you are interested in presenting at the next workshop on 12/1 on Need Determination and Allocation, please remember to contact the co-facilitators by this Friday 11/19 and send presentation materials to the co-facilitators by Friday 11/26.The next set of informal comments are due Wednesday 12/22, on the Need Determination and Allocation and the Recap on Slice-of-Day workshops. If you need to find the call-in information, schedule, or contact information for these workshops, they are included in the emails sent to the service list (scroll down to the bottom of the email).

[10:08 AM] David (Guest)

Person eating - please mute mic.

[11:01 AM] Brent Buffington

If the proposal doesn't cover all periods of the day, is it still "slice of day"?

[11:01 AM] Carrie Bentley

Yes, two slices. Peak and net peak.

[11:02 AM] Brent Buffington

Carrie BentleyYes, two slices. Peak and net peak.For example, is there a slice that covers HE8?

[11:03 AM] Carrie Bentley

Our lawyers read is that it complies with commission direction. Yes ELCC plus 24x7 MOO ensures reliability in HE8

[11:11 AM] Nick Pappas

I think this would be a beneficial discussion topic to take up after the presentation.

[11:19 AM] Nuo Tang

Doesn't the 24x7 MOO fix your issue?

[11:19 AM] Nuo Tang

Doesn't the 24x7 MOO fix your issue?

[11:20 AM] Nuo Tang

they effectively exist in all slices

[11:22 AM] Carrie Bentley

many combined cycles need an 8 hour start-up time and cannot even be committed in real-time market- not sure how the "wind up time" for storage is that different... can you explain?

like 2

[11:23 AM] Ric O'Connell (GridLab) (Guest)

Hi Eric, I think you are confusing the LSE showing with the operational time frame? We are focused here on the LSE showing. the CAISO would commit this resource on the DA market to meet reliablility.

like 2

[11:24 AM] Ric O'Connell (GridLab) (Guest)

ELCC doesn't solve this problem either.

[11:26 AM] Ric O'Connell (GridLab) (Guest)

CAISO has visibility into SOC.

[11:27 AM] Carrie Bentley

If you look at the figures, and assume a 24x7 MOO, there is ~120,000 MWh of excess energy to charge batteries

[11:27 AM] Nuo Tang

That is the role for the CAISO to ensure sufficient Energy, not capacity in this stacking

like 1

[11:27 AM] Carrie Bentley

the actual math is even higher. There is not a shortage of energy from RA resources to charge batteries,

[11:27 AM] Carrie Bentley

there is a potential shortage of renewable energy

like 1

[11:31 AM] Bridget Sparks (CAISO) (Guest)

I take Eric's point to be that we should be careful about being too generous with storage counting given how flexible they are, for example- some resources only have warranties that assume 1 cycle per day, and it become very expensive to go into a 2 cycle for that day- such resources shouldn't be allowed to count for more than one slice. Storage resources using ITC can only charge from renewables, unlikely they can charge and discharge twice in a day and maintain their ITC credit, so we shouldn't plan for them to do so

[11:37 AM] David (Guest)

Example of overprovisioning using 4 hours: https://drive.google.com/file/d/1U4SDfjrT2SEDg-s3bCfGEZtd5AS6R13l/view

[11:37 AM] Colbert, Cathleen

I strongly suggest we reserve space to talk about the storage question and perhaps it needs its own workshop meeting to do so. It's important and deserves time. Griffes, Peter Can you consider adding another workshop just on storage so that there is space for that once we decide on a framework and these other details as a primary proposal to move forward?

like 3

[11:41 AM] Gregory Klatt

I second Cathleen's motion for a dedicated workshop for storage. Maybe even two workshops, day 1 to go over issues and tradeoffs, day 2 for concrete proposals.

like 1

[11:54 AM] Julia Prochnik (Guest)

And I would like to also show my support for a storage workshop. Thank you Cathleen.

[11:54 AM] Chris Devon

Why wouldnt the CPUC just want to use the 1-in-10 industry standard... it is a generation adequacy standard in all other NERC regions outside of WECC

like 1 heart 1

[11:54 AM] Nuo Tang

I think IRP and RA both have 0.1 LOLE goal, but the PRMs may end up being different if there are different counting conventions being used to meet that LOLE

like 2 heart 1

[12:05 PM] Chris Devon

great comment Cathleen, spot on about the current PRM not meeting 1 in 10

like 1

[12:06 PM] Nick Pappas

Cathleen - I think all the proposals include tuning up the RA program through an LOLE study to a desired reliability standard

[12:08 PM] Doug Karpa

I neglected to mention that another key factor I. Having RA filings feed into IRP is useful because storage charging/discharging patterns is a critical assumption in IRP modeling. The LSE RA filings could provide useful information about planned charging and discharging of storage.

[12:10 PM] Nuo Tang

I think you can get that info from actual CAISO data w/o using RA filings

like 1

[12:39 PM] Wan, Lisa

Hi Everyone, I'll restart the recording at 12:40PM.

[12:51 PM] Doug Karpa

I would imagine CAISO could provide retrospective data on how storage is dispatched currently, but wouldn't have visibility in how it would be used in 2027 with a much different grid, for example. At the end of the day, the IRP team is going to have to make some assumptions for the capacity expansion process though

[1:02 PM] Nuo Tang

Brent Buffington the challenge with PRM in IRP is that it uses or assumes different counting convention than RA and therefore it needs to be reflected for how much capacity is shown to meet the same 0.1 LOLE. Otherwise we either overcount or undercount in RA and don't achieve that LOLE

like 1

[1:08 PM] Matthew Barmack

Put slightly differently, how would you apply a PRM derived in IRP to slice-of-day, e.g., if IRP determines that a 20% PRM applied to the annual peak (and based on ELCC counting) yields 1-in-10, would you apply 20% to each slice/hour and month/season?

like 1

[1:08 PM] Doug Karpa

It is worth noting that climate modeling is sufficiently advanced that we should be able to develop better weather trend forecasts for California. I could imagine getting some solid inputs from the climate science and meteorological literature.

[1:10 PM] Mark Specht

Dariush, if you have a link to that CPUC PRM study, I'd love to see that!

[1:13 PM] Doug Karpa

Wouldnt th IRP issue be resolved by having IRP use the same counting conventions? I could envision a process where you 1) run the production cost model to hit the LOLE 2) calculate the total RA value of the portfolio 3) use the ratio of the RA value to load. Forecast as the PRM. Would that not work?

[1:14 PM] Matthew Barmack

Mark Specht, I vaguely recall that the shoulder month PRMs in that analysis may have been artificially inflated by counting solar the same, i.e., at a summer-y level, in all of the months. I will try to find the link.

like 1

[1:14 PM] Cunningham, Patrick

The CPUC's last LOLE study was presented on November 23, 2020. Some links down the page here: https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/resource-adequacy-homepage/resource-adequacy-history

like 1

Resource Adequacy History

Principal Resource Adequacy Decision

R.19-11-009

Schedule of Track 3B2 Workshops

November 3, 2021 Track 3B2 “RA Reform” Workshop 4 – Resource Counting

Workshop Recording (AM | PM) an...

[1:15 PM] Chris Devon

Bridget - thanks for raising the planned outage issue again. I have said it before but I am glad to hear CAISO also mention to keep this issue in mind during these discussions.

[1:18 PM] Nuo Tang

Doug Karpa (Guest) you mean if RA uses marginal ELCC values that's being used in IRP and update the PRM, then we should be able to get to 0.1 LOLE w/o modifying the RA Framework?

[1:19 PM] Matthew Barmack

Mark Specht, Dariush may have been referring to slide 20 of this https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/c/6442451593-cpuc-monthly-lole.pdf

like 2

[1:46 PM] Chris Devon

Couldnt you just sell the RA to others on secondary market for RA slice if the LSE doesnt need that part, but the long term contract offtaker can still keep the RPS RECs? RA values are variable for VERs under ELCC today so they arent fixed for the entire term of the contracting.

[1:47 PM] Scott Murtishaw

I don't see any upside to the net load approach.

like 2

[1:52 PM] Bridget Sparks (CAISO) (Guest)

So what would the capacity value of wind and solar be for the CAISO validation under a net load approach? Would we still count them at ELCC value?

[1:52 PM] Nick Pappas

Scott MurtishawI don't see any upside to the net load approach.From a VER counting perspective, gross load + 24-slice framework seems to resolve a lot of these issues (better than netting).The only upside/rationale for netting would be to capture hourly VER output for a multi-hour slice framework.

[1:55 PM] Scott Murtishaw

Nick PappasFrom a VER counting perspective, gross load + 24-slice framework seems to resolve a lot of these issues (better than netting). The only upside/rationale for netting would be to capture hourly VER output for a multi-hour slice framework.I don't even see it being necessary under multi-hour slices.

[2:06 PM] Bridget Sparks (CAISO) (Guest)

Could we tack on these discussions onto the January workshops?

[2:08 PM] Chris Devon

Add a friday meeting or two... its important enough to have more meetings on. CAISO is having tons of WGs on all topics, we should have more if needed, squeeze them in, dont extend the time.

like 1

[2:09 PM] Colbert, Cathleen

Griffes, Peter - Can you confirm who the coordinating team is?

[2:09 PM] Scott Murtishaw

Or hold another workshop during one of the "off" weeks

like 1

[2:25 PM] Carrie Bentley

+1 to Cathleen's suggestion for a matrix

like 1

[2:30 PM] Dariush Shirmohammadi

Matt's reference is correct!