

## Q&A Session for Track 3B Workshop Day 2

Session Number: 1461281440

Date: 2020-11-23

Starting time: 09:12

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□-Peter Griffes - 09:44

Q: with the cap at the LCR need, will all

Priority: N/A-

-Simone Brant - 09:59

A: This question has been answered verbally.-

-Simone Brant - 09:59

A: This question has been answered verbally.-□

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□-Peter Griffes - 09:45

Q: subsequent battery additions count for zero in meeting LCR need?

Priority: N/A-

-Simone Brant - 10:21

A: This question has been answered verbally.-□

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□-Doug Karpa(dkarpa@peninsulacleanenergy.com) - 09:45

Q: Batteries store energy, so as long as the energy stored is sufficient to meet load, the "duration" (ie, ratio of discharge to energy capacity) doesn't matter. Why are local RA and LCR methodologies still talking about "duration" not energy?

Priority: N/A-

-Simone Brant - 10:11

A: This question has been answered verbally.-□

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□-Carrie Bentley - 09:46

Q: Can you please walk through slide 14 in detail and explain what it means and how stakeholders should interpret it?

Priority: N/A-

-Simone Brant - 10:06

A: This question has been answered verbally.-□

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□-Peter Griffes - 09:46

Q: if so, will those batteries still count full NQC for system RA?

Priority: N/A-

-Simone Brant - 10:00

A: This question has been answered verbally.-□

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□-Ben Gustafson - 10:02

Q: Is there any data about curtailment being done in Local Areas? and has CAISO looked at how curtailment could be reduced and actually be "counted" toward charging of batteries in the local areas?

Priority: N/A-

-Simone Brant - 10:21

A: This question has been answered verbally.-□

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□-Nuo Tang - 10:02

Q: What is the CAISO proposing for the CPUC to approve in Track 3B decision? Is it cost allocation of CPM backstop?

Priority: N/A-

-Simone Brant - 10:14

A: This question has been answered verbally.-□

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□-Peter Griffes - 10:03

Q: Doesn't this set up an incentive for LSEs to meet their local requirement with batteries and push any CPM costs to other LSEs?

Priority: N/A-

-Simone Brant - 10:15

A: This question has been answered verbally.-□

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□-Scott Olson - 10:06

Q: How would individual deficiencies due to overreliance on batteries be determined if LSEs do not know what other LSEs are procuring? Will individual LSEs only be allowed battery procurement up to their share of the battery maximum based on peak share?

Priority: N/A-

-Simone Brant - 10:15

A: This question has been answered verbally.-□

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□-Steve Letendre - 10:08

Q: How does the analysis change with hybrid solar + storage.

Priority: N/A-

-Simone Brant - 10:21

A: This question has been answered verbally.-□

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□-Nuo Tang - 10:16

Q: I don't think Catalin answered my question

Priority: N/A-

-Simone Brant - 10:21

A: This question has been answered verbally.-□

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□-Ben Gustafson - 10:38

Q: WPTF, identified that requirements between CAISO and CPUC should be consistent, can you comment on how non-CPUC jurisdictional entities may react to being proposed with a 3 year system commitment, to create consistency across all of CAISO?

Priority: N/A-

-Brian Theaker - 10:47

A: Peter observed that the changing resource mix drives increasing complexity. In that light, while simplification is a reasonable goal, what aspects of the RA program realistically can be simplified?

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□-Karl Meeussen - 10:53

Q: Are the requirements still monthly or would it be a single annual requirement?

Priority: N/A-

-Simone Brant - 11:03

A: This question has been answered verbally.-□

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□-NANCY RADER - 10:57

Q: Re multi-year RA: By "equitable" cost allocation, do you mean (at least in part) allocation based on each LSE's causation for the need for resources, (and/) or something else?

Priority: N/A-

-Simone Brant - 11:24

A: This question has been answered verbally.-□

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□-Patrick Cunningham - 11:06

Q: Currently, there is a penalty price for deficient system showings and no ability for a waiver. Would those factors need to be reconsidered if System RA Requirements are tripled in length, likely increasing deficient showings by LSEs?

Priority: N/A-

-Simone Brant - 11:57

A: This question has been answered verbally.-□

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□-Karl Meeussen - 12:04

Q: What can we draw from this study How did you develop the 8760 load profiles?

Priority: N/A-

-Simone Brant - 12:22

A: This question has been answered verbally.-□

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□-Matt Barmack - 12:15

Q: Why is interchange more than 6000 MW. I thought that imports were capped at 5000 MW at least in critical hours?

Priority: N/A-

-Simone Brant - 12:25

A: This question has been answered verbally.-□

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□-Mark Specht - 12:16

Q: One of the take-aways from the preliminary root cause analysis seems to have been that heatwaves like the one we had in August 2020 will (and perhaps already have) become more common. Did this analysis adjust at all for changing weather?

Priority: N/A--□

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□-Nuo Tang - 12:18

Q: Donald, what type of Load did you use for this LOLE?

Priority: N/A--□

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□-Karl Meeussen - 12:20

Q: What can we draw from this study about PRM needs for the other 9 or 10 months of the year?

Priority: N/A-

-Simone Brant - 12:24

A: This question has been answered verbally.-□

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□-Doug Marker - 12:21

Q: In your decision to constrain imports in peak hours, is that based on assuming a physical limitation of generation or transmission?

Priority: N/A-

-Simone Brant - 12:26

A: This question has been answered verbally.-□

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□-Karl Meeussen - 12:21

Q: Is the backup data available for these runs? Will it be posted?

Priority: N/A-

-Simone Brant - 12:30

A: This question has been answered verbally.-□

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□-Matt Barmack - 12:25

Q: What does the CPUC plan to do with this analysis?

Priority: N/A-

-Simone Brant - 12:29

A: This question has been answered verbally.-□

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□-Nuo Tang - 12:26

Q: If there is an NQC shortage to meet the PRM, how can the PRM then be reliable?

Priority: N/A-

-Donald Brooks - 12:59

A: TO Nuo - NQC amounts also reflect energy only or ELCC accounting that is not included in the model. Resources, operating in a LOLE model, may contribute to reliability that is not counted in the NQC list. Also storage mandate MW are not on NQC list yet.-□

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□-Nuo Tang - 12:30

Q: Will ED submit a proposal on Dec 18 for this LOLE study?

Priority: N/A--□

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□-Michael Alcantar - 12:34

Q: Don, what modelling did you assume for existing CHP resources? Is there any accounting for retirement or withdrawal from service of these resources?

Priority: N/A-

-Simone Brant - 12:37

A: Fantastic work and really interesting. Do you have a ballpark notion of how much the D.19-11-016 procurement will pull us back from the edge?-

-Donald Brooks - 12:37

A: There was no explicit retirement of CHP resources past what we see currently in the CAISO generating capability list.-□

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□-Doug Karpa(dkarpa@peninsulacleanenergy.com) - 12:59

Q: Fantastic work and really interesting. Do you have a ballpark notion of how much the D.19-11-016 procurement will pull us back from the edge?

Priority: N/A--□

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□-Bridget Sparks - 13:24

Q: I had to re-call in, so I made need to made a panelist again, thanks!

Priority: N/A-

-Simone Brant - 13:40

A: done-□

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□-Paul Neslon (CLECA) - 13:41

Q: For the UCAP, on deliverability, did CAISO take into account weather adjustments such as the impact hot weather has on the output of combustion turbines? For the UCAP, on deliverability,

Priority: N/A--□

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□-Paul Neslon (CLECA) - 13:45

Q: How does the top 20% supply cushion hours compare to the hours using a LOLE analysis?

Priority: N/A-

-Simone Brant - 14:01

A: This question has been answered verbally.-□

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□-Peter Griffes - 13:47

Q: The LOLE analysis did not show any load loss in any other hours than HE 18-20. What is the justification for looking at hours outside that window for availability?

Priority: N/A-

-Simone Brant - 14:02

A: This question has been answered verbally.-□

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□-Michael Alcantar - 13:51

Q: Since NQC is based upon historical operations, yet there is concern about going forward capacity, how is the condition where a power sales contract has or will soon expire to consider the availability of existing and near term future capacity?

Priority: N/A--□

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□-Paul Neslon (CLECA) - 13:52

Q: On slide 64, please clarify that if the CPUC does not approve ELCC for DR, then CAISO will substitute some other historic performance test as opposed to the CPUC approved methodology?

Priority: N/A-

-Simone Brant - 14:09

A: This question has been answered verbally.-□

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□-Peter Griffes - 13:55

Q: The CAISO's own reliability assessment didn't show any shortfalls in the the HE6-8 period. Why are these included in the hours to assess availability?

Priority: N/A-

-Simone Brant - 14:04

A: This question has been answered verbally.-□

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□-Barbara Barkovich(barbara@barkovichandyap.com) - 13:55

Q: Why does page 65 show only 235 MW of demand response?

Priority: N/A-

-John - 13:56

A: It's only DRAM and DR shown on supply plans -□

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□-Barbara Barkovich(barbara@barkovichandyap.com) - 13:59

Q: Thank you. Are you using CPUC RA values for DRAM?

Priority: N/A-

-Simone Brant - 14:06

A: yes-□

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□-Nuo Tang - 13:59

Q: Is the lack of substitution making RAIM not work as intended? Has the CAISO considered raising the RAIM penalty price and removing exemptions to improve the substitution? Is it also driven by the bilateral market and difficulty of obtaining capacity?

Priority: N/A-

-Simone Brant - 14:06

A: This question has been answered verbally.-□

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□-Scott Olson - 14:01

Q: Slide 58 states that MOO must be offered up to DQC--is that correct? Don't LSEs need to contract on an NQC not a DQC basis (they are not allowed to just contract the DQC), and thus the MOO is the NQC?

Priority: N/A-

-Simone Brant - 14:10

A: This question has been answered verbally.-□

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□-Mark Specht - 14:05

Q: Does this UCAP methodology account for temperature derates too?

Priority: N/A-

-Simone Brant - 14:12

A: This question has been answered verbally.-□

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□-Cathleen Colbert - 14:04

Q: Is there any computational challenges or rationale for not performing the availability assessment for all hours?

Priority: N/A-

-Simone Brant - 14:13

A: This question has been answered verbally.-□

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□-Peter Griffes - 14:04

Q: But don't your numbers show that the there is potential loss in he HE14-17 often greater than in HE6-8?

Priority: N/A-

-Simone Brant - 14:17

A: This question has been answered verbally.-□

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□-Nuo Tang - 14:05

Q: How does the top 20% of supply cushion hours correlate to the CAISO's proposed Stage 2 deficiency in its RA portfolio assessment analysis?

Priority: N/A--□

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□-Nuo Tang - 14:14

Q: is the CAISO expanding the definition of what's considered Planned and Forced outages which increases the outages that would impact a resource's UCAP value?

Priority: N/A--□

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□-Mark Specht - 14:17

Q: Is the CAISO proposing that the CPUC start to use UCAP as well? If so, how would UCAP be incorporated into the RA program and how should the PRM be adjusted?

Priority: N/A-

-Simone Brant - 14:35

A: This question has been answered verbally.-□

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□-Peter Griffes - 14:21

Q: Under this methodology, won't resource counting be dependent on output of wind/solar which is not under the generator's control?

Priority: N/A--□

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□-Peter Griffes - 14:40

Q: How would this work in a multi-year framework?

Priority: N/A-

-Simone Brant - 14:43

A: This question has been answered verbally.-□

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□-Brian Theaker - 14:46

Q: In order for a year-ahead deficiency that is cured in the month-ahead time frame to result in reduced CPM backstop procurement, wouldn't the CAISO have to wait until the month-ahead showings to backstop any year-ahead deficiency?

Priority: N/A--□

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□-Cathleen Colbert - 14:52

Q: In practice, does this mean CAISO is proposing to only have resource-specific system resources?

Priority: N/A--□

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□-Peter Griffes - 14:57

Q: How much of the CAISO's concern with the CPUC's current import rule is that it doesn't assure showing up and how much of the concern is the bidding requirement 'biases' the CAISO energy market?

Priority: N/A--□

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□-Peter Griffes - 14:59

Q: How will the CAISO assure that the RA import markets will not be monopolised by entities buying up 7-F transmission rights?

Priority: N/A-

-Simone Brant - 15:16

A: This question has been answered verbally.-□

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□-Brian Theaker - 14:59

Q: For Milos: Does the CAISO propose that the LSE and the RA Import supplier both demonstrate that they have secured 7-F transmission on the last leg and at least 5-NM transmission at the time of the RA showing, either yearly or monthly?

Priority: N/A--□

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□-Brian Theaker - 15:01

Q: Milos just answered my question with this slide, thanks.

Priority: N/A--□

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□-Cathleen Colbert - 15:03

Q: On slide 105, it says "capacity shown is owned or contractually secured" - what is the CAISO envisioning for contractually shown - all hours within month, peak period only, availability assessment hours only etc.?

Priority: N/A--□

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□-Scott Olson - 15:07

Q: Is this proposal contingent upon similar rules being adopted by the CPUC for RA showings? If not, how will the two be reconciled?

Priority: N/A-

-Simone Brant - 15:20

A: This question has been answered verbally.-□

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□-Mary Neal - 15:14

Q: Given the variability in hydrological conditions, how would the capacity of imported hydro be determined under this proposal and who would be responsible for evaluating the amount of capacity hydro qualifies for?

Priority: N/A--□

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□-Danphy Wong - 15:02

Q: Wouldn't a requirement for WSPS Schedule C energy at a CAISO tie-point satisfy the need for energy delivery and transmission certainty? This would allow a pool of resources to provide the energy rather than relying on a single resource?

Priority: N/A-

-Simone Brant - 15:18

A: This question has been answered verbally.-□

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□-Peter Griffes - 15:21

Q: How many of the 13 entities are already providing imports? Namely, how much transmission capacity is actually transacted in the timeframe applicable to monthly RA showings, i.e. prior to 45-days in advance of delivery month?

Priority: N/A--□

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□-Justin Pannu - 15:22

Q: How many of the entities holding long term firm transmission rights are using those rights to serve load versus what is available to the general market? There is a general feeling that only a few entities hold the marketable firm rights and we need to dive

Priority: N/A--□

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□-Justin Pannu - 15:23

Q: deeper into that issue as to what the general market sentiment is that more secondary firm transmission rights are marketed

Priority: N/A--□

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□-Justin Pannu - 15:24

Q: \*are not marketed

Priority: N/A-



-Jaime Gannon - 15:49

A: Lauren, Would you be able to respond to some of the questions in teh chat?-□

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□-Justin Pannu - 15:27

Q: At the current time NOB/COB is trading \$20-25 over midc, that is significant ..and that is not a reasonable price spread from midc

Priority: N/A--□

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□-Justin Pannu - 15:27

Q: for Q#

Priority: N/A--□

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□-Justin Pannu - 15:27

Q: for Q3

Priority: N/A--□

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□-Justin Pannu - 15:29

Q: The NOB/COB price is currently over SP15 and MIDC..due to the demand and limited marketed sales

Priority: N/A--□

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□-Jennifer Chamberlin - 15:38

Q: If using ELCC does that mitigate the need for MCC buckets - as these resources are already now capped based on expected use/availability? Also, if a resource is only built/sold/counted as a summer season do you still look at the year or just the season?

Priority: N/A--□

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□-Paul Neslon (CLECA) - 15:40

Q: When will CAISO submit an updated study in the Track 3B? Will CAISO have a process to review its updated ELCC results?

Priority: N/A-

-Lauren Carr - 15:59

A: We are planning to submit the updated study in the next round of proposals and vet through this RA proceeding and the DRMEC forum-□

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□-Jennifer Chamberlin - 15:42

Q: That sounds like we could give up LIP for third parties, based on what John Goodin said, as we are currently working to figure out which parts of LIP go to the QC? I want to understand the potential trade offs of the proposal.

Priority: N/A--□

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□-Jennifer Chamberlin - 15:42

Q: Would we have DRP level ELCC?

Priority: N/A-

-Lauren Carr - 16:00

A: Answered in disussion-□

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□-Peter Griffes - 15:43

Q: Is the CAISO also proposing the ELCC methodology be applied to storage as well?

Priority: N/A-

-John - 16:01

A: That is a topic that is ripe for discussion. -□

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□-Paul Neslon (CLECA) - 15:45

Q: What information from CAISO's DR ELCC methodology would be provided to design DR programs to maximize qualifying capacity? If DR programs are designed around any program guidance, how long would they receive a QC based upon this ELCC modeling?

Priority: N/A--□

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□-Aimee Wong - 15:46

Q: LIPs are performed for each month. I don't understand John's comment about not looking at all months. Also, the LIPs ex ante tables does provide average amounts for each month

Priority: N/A-

-John - 16:00

A: It looks at select hours not its contribution to reliability all hours. -□

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□-Gil Wong - 15:48

Q: The current RA assessment hours for DR are 4-9 pm, and DR ex ante load impacts are estimated for those hours, while ELCC looks at all hours of the year. Is it CAISO's view that the current RA assessment hours are no longer relevant?

Priority: N/A-

-John - 15:56

A: Answered in discussion-□

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□-Paul Neslon (CLECA) - 15:49

Q: How does the ELCC methodology, which provides a single value, "provide operational flexibility to demand response resources through bidding actual capability?"

Priority: N/A-

-John - 16:00

A: Elcc allows DR to bid its forecast capability providing it more flexibility than today's fixed capacity construct. -□

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□-Carmen Best(carmen@recurve.com) - 15:52

Q: Would an alternative ELCC"esque" method tie into any updates for FERC 2222 by CAISO?

Priority: N/A-

-John - 15:58

A: RA counting is largely a state vs federal issue. So I don't see a nexus with 2222-□

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□-Maryam Mozafari - 15:54

Q: CAISO mentions that there would be no need for LIPs for QC purposes if we were to go to an ELCC methodology. In that case how would the "nameplate" capacity of these resources be calculated in the ELCC? For both existing and new resources?

Priority: N/A-

-John - 15:57

A: Please explain what name plate capacity means for a DR resource. -□

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□-Paul Neslon (CLECA) - 16:01

Q: What is the DRMEC forum?

Priority: N/A-

-Simone Brant - 16:04

A: it's a group of technical experts from the ious, cpuc and cec that discusses methodological issues-□

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□-Mark Specht - 16:02

Q: Are there any differences in this methodology to account for AC-coupled vs. DC-coupled batteries?

Priority: N/A--□

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□-Stefanie Tanenhaus - 16:02

Q: How is the conversion done from energy back to MW for the solar resource?

Priority: N/A-

-Simone Brant - 16:08

A: using the same conversion in reverse-□

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□-Bridget Sparks - 16:03

Q: Simone, could you provide an example for a 100 MW solar and 50 MW storage hybrid- unclear how you determine what is left after charging the battery to multiple the ELCC by. Thanks!

Priority: N/A-

-Simone Brant - 16:08

A: in jan expected energy=4.05\*100=405 MWh. 200 MWh go to the storage. 205 MWh translates to 50.6 MW. ELCC is then applied to 50.6 MW. total QC=50 MW + jan ELCC\*50.6-□

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□-Bridget Sparks - 16:10

Q: Follow-up, do you make any adjustments for round trip efficiency, or do you assume 100% efficiency for the battery?

Priority: N/A-

-Simone Brant - 16:11

A: there's no adjustment-□

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□-Sergio Dueñas - 16:27

Q: Can you explain how they apply it to new resources without gen production data

Priority: N/A--□

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□-Brian Theaker - 16:28

Q: Simone or Jamie - can you clarify whether December 18 proposals have to be modifications of earlier proposals, or can those proposals raise new issues that have not yet been raised in Track 3.B proposals?

Priority: N/A--□

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□-Brian Theaker - 16:32

Q: Thank you for the answer.

Priority: N/A--□