

LS POWER PROPOSED QUESTIONS

1. Would PM please provide a time line, and what led PJM to the realization there was an issue with intermittent resources being accredited too high due to the inclusion of energy not demonstrated to be deliverable?
 - a. PJM stated it made commitments to project developers that erroneously overstated the project's accreditation: was the error made in the Interconnection Agreements or some other document? (We do not want confidential information but want to understand if there is some other contractual relationship that isn't obvious or necessarily available to all units or in the Tariff besides the PJM that PJM has executed.) What agreements address accreditation as opposed to the level of CIR and associated deliverability (Pre-ELCC and post ELCC tariff changes. If you disagree there was an error, simply explain where the commitment exists in the relevant document, and why it is exclusive to intermittent resources.
2. How did the ELCC impact PJM's accreditation with respect to this undeliverable energy, e.g. it would be helpful to understand whether the implementation of the ELCC caused this problem of recognizing energy output from intermittent generation capacity resources in excess of their tested deliverability. Based on our review we believe this problem has always existed and ELCC just made the problem more transparent. However others have asked for this clarification.
3. How does the need for upgrades to support/demonstrate deliverability differ for the intermittent resources we are discussing versus other resources? Under ELCC will all other resources automatically have increased deliverability if they demonstrate output in excess of their current deliverability? Will such output be included in the ELCC modeling?
4. It would be helpful if PJM would provide more specific information:
 - a. How many facilities are impacted by the current proposal: describe by LDA and identify which ones have actually cleared the BRA or will be entered into the supply stack for the up-coming BRA and how many have signed ISAs.
 - b. What type of intermittent resources are impacted and what are the Mws associated with each (e.g. solar, on-shore wind, off-shore wind) Perhaps aggregated by wind and solar by LDA. Clarify the resources that are included.
 - c. It appears that PJM is proposing to triple the deliverability of these units, or at least the wind (solar not clear). This is from a current default value of 13% to 38%. Is that accurate?
 - i. We understand that this will be coupled with the recognition of only energy up to the deliverability level (about 90% of total energy). Is this Correct.
 - ii. How did you come up with the 90% criteria and what was the objective.

- iii. Mr. Kern indicated this level of upgrade may be increased as needed. E.g. add upgrades to a 95% or energy deliverability criterion if that is needed to maintain the unit accreditation. Is this correct?
- iv. Have you estimated any costs for such upgrades, e.g. going from P90 to P100 for the resources in question today; how about in the future? What is the trigger for making such additional upgrades in the future and who will pay for them?
- d. How did PJM derive the approximate \$100MM upgrade amount, e.g. how many CIRs have been claimed and how many more MWs of deliverability is needed through the transmission upgrade proposal based on LDAs to main the claimed “obligated” level of accreditation?
 - i. We understand this \$100 million applies to only about 30% of the upgrades. Is this correct? How would you quantify the headroom planned to be given to other facilities in order to make them deliverable. (MW and the opportunity cost to reproduce that capability for the rest of PJM).
 - ii. How will the prioritization of these upgrades impact versus other projects in the queue from a cost and timing perspective? E.g. will they be delayed or will their upgrade costs increase? What is the cost estimate for this impact on these facilities, how long will they be delayed?
 - iii. PJM says it will use existing headroom instead of all new build upgrades, how would that impact the cost and timing of other projects in the queue (same detail as i above)?
- e. What is the percentage of energy delivered by each resource type (e.g. wind, solar): (i) during the 368 peak hours the amount of MWs that are above the CIR levels for each resource for the past 5-10 years and (ii) the percent of energy delivered above their CIRs for all hours for the past 5-10 year. Again we know this may be have to be aggregated by LDA for confidentiality reasons.
- f. What would have been the level of accreditation for these resources (differentiate by wind and solar and LDA) if the energy used in accreditation for last 10 years had been limited to only energy that was deliverable (at or below the ISA designated level of CIRs).
- g. For this upcoming BRA, using ELCC, how would the overall ELCC Class rating for wind and solar be modified if the energy recognized in the analyses for wind and solar generation capacity resources was limited to the energy that has be demonstrated to be deliverable?
 - i. Have you done any analyses to approximate this?
 - ii. Mr. Kern and Levitt have both stated that the impacts would be approximately the same for the “old” averaging approach and ELCC method to be applied. Absent any specific study does PJM still hold this position?

- iii. Have you looked at the average decrease in accreditation by individual unit if this were done? Can you explain the result to us (again we understand the need to aggregate for confidentiality)?