

DER and Inverter-based Resources Subcommittee

WebEx Only

September 10, 2020

9:00 a.m. – 12:00 p.m. ET

Administration (9:00-9:10)

1. Scott Baker opened the meeting and reviewed the agenda.
2. Hamad Ahmed reviewed the meeting participation guidelines. The minutes from the 1st DIRS meeting on August 3, 2020 were approved with 0 objections and 0 abstentions.
3. Scott Baker reviewed the DIRS work plan.
 - Scott Baker stated that PJM will take the final proposal for the utility microgrids to the October MIC and PJM will provide education and document interests for the hybrid resource in this meeting.

Hybrid Resources (9:10-11:30)

4. Jason Miller provided education on how hybrid resources are modeled for the purposes of interconnection studies.
 - Jason Miller reviewed the types of hybrid projects within PJM (AC/DC coupled and charging from the grid vs. DC coupled and charging from on-site generation). He also discussed different modeling configurations when the battery is charging or discharging from the grid and how it captures the worst case scenario for Interconnection studies.
 - Jason Miller also reviewed the DFAX table and a brief example of hybrid modeling Injection + Withdrawal vs. hybrid modeling Injection + withdrawal with the MFO capped.
5. Andrew Levitt reviewed the status quo and provide discussion on market modeling of solar-battery hybrid resources of different electrical configurations.
 - Andrew Levitt reviewed the status quo for hybrid market participation and discussed single market modeling vs separate market modeling. He also discussed different configuration such as DC-couple (open loop/closed loop), AC-coupled (open loop/closed loop) and AC-coupled (no interactions between the components).
 - Andrew Levitt also reviewed six different scenarios for deployment of different fuel types including solar and storage hybrid units, 2nd Draft ELCC Results with new ESR as 4-hour Duration and ELCC model example.

6. Darrell Frogg provided education on the reactive capability of hybrid resources with different electrical configurations.
 - Darrell Frogg reviewed the traditional generator MW/MVAR pairing, a traditional D-curve and an inverter-based reactive curve. He also discussed shared inverter capability curve and a conservative reactive capability curve with examples.
 - Darrell Frogg also reviewed examples of solar-storage shared inverter DC and AC coupled hybrid highlighting the reactive capability for both. He also discussed benefits of simplified conservative approach.
7. Scott Baker reviewed PJM's interest and urged Stakeholders to provide their interest to PJM before the 3rd DIRS meeting on October 02, 2020.

Public Distribution Microgrids (11:30-11:55)

8. Scott Baker reviewed the CBIR matrix associated with Public Distribution Microgrids.
 - PJM will discuss moving the solution package to the MIC for the first read after taking a poll at the next DIRS meeting on October 02, 2020.

Action items and next meeting agenda (11:55 – 12:00)

9. Hamad Ahmed recapped the action items, potential topics and dates for future meetings.

Future Meeting Dates

October 02, 2020	1:00 p.m. – 4:00 p.m.	PJM Conference & Training Center/ WebEx
November 02, 2020	1:00 p.m. – 4:00 p.m.	PJM Conference & Training Center/ WebEx
December 07, 2020	1:00 p.m. – 4:00 p.m.	PJM Conference & Training Center/ WebEx

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