



# Surplus Interconnection Service Education

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Interconnection Analysis

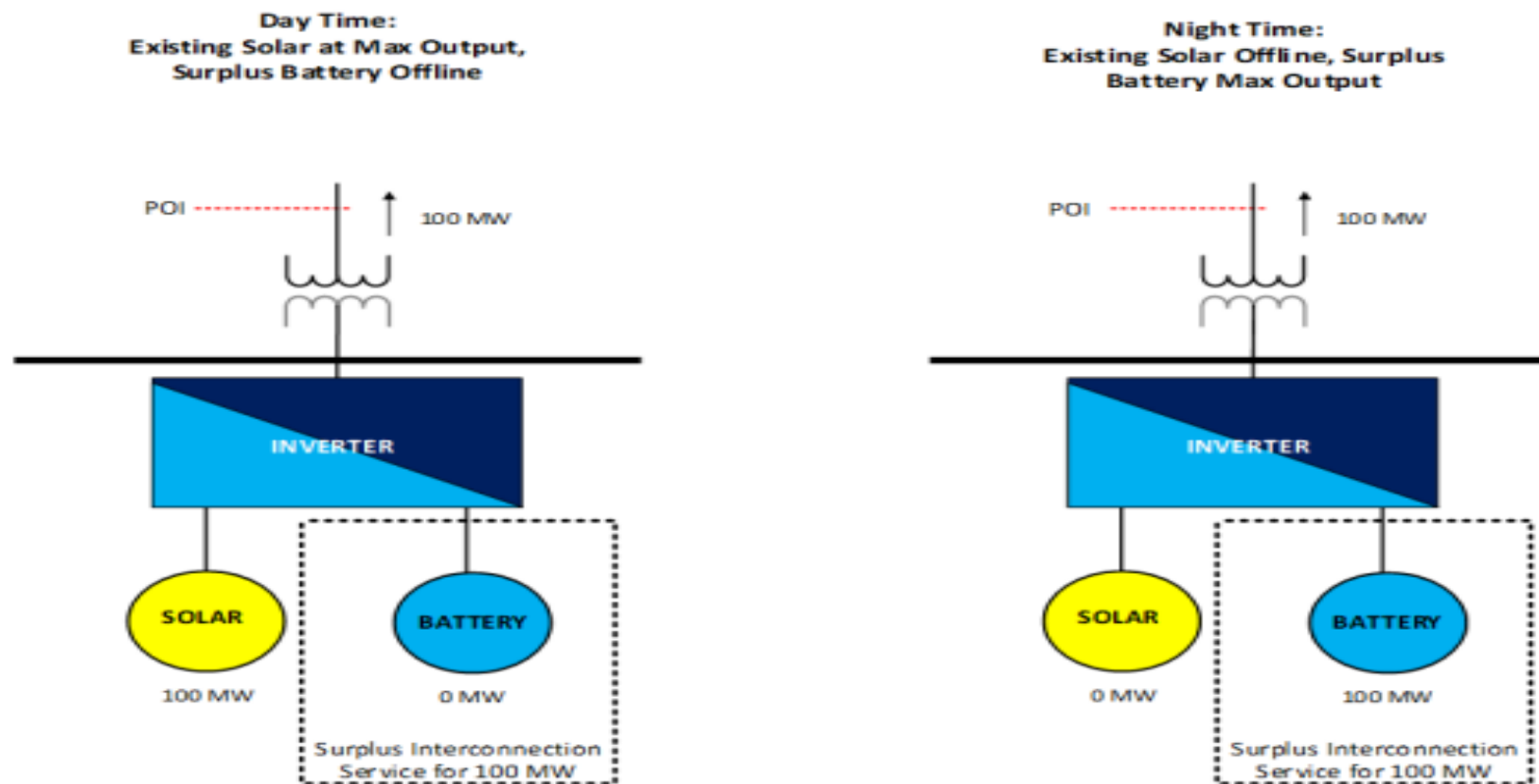
Interconnection Process Subcommittee

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- Part of FERC Order 845
- Surplus Interconnection Service
  - *Surplus Interconnection Service refers to any unused portion of interconnection service established in an ISA, such that if the service is used, the total amount of Interconnection Service at the Point of Interconnection would remain the same.*
- Required Transmission Provider (TP) to establish an expedited interconnection process, separate from the interconnection queue, for surplus interconnection service

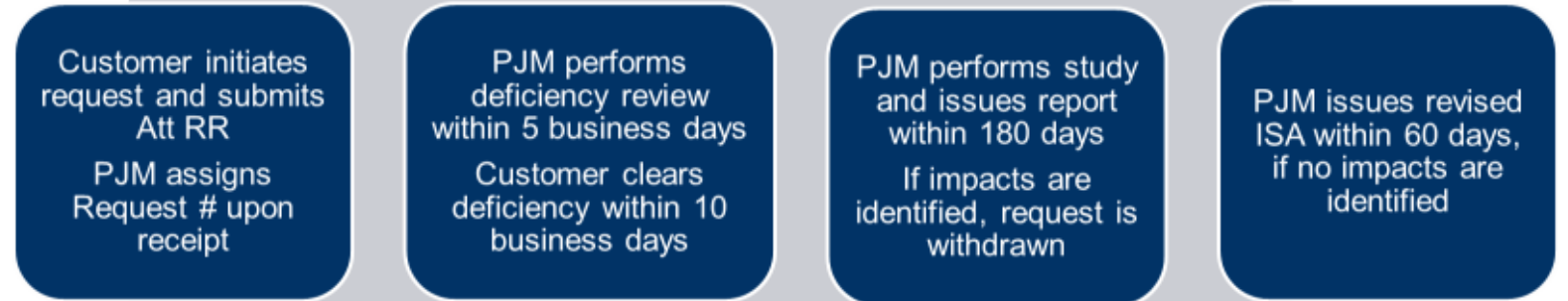
# Surplus Interconnection Service – Example

- Example of a possible Surplus Interconnection Service request that may be submitted to PJM: Adding battery storage to an existing solar facility



## Surplus Interconnection Request Process

- Outlines Surplus Interconnection Request Process



Attachment RR  
Section 36.1.1B  
Section 36.4  
Surplus  
Interconnection  
Service

- Tariff definitions for Surplus Interconnection Customer, Surplus Interconnection Requests and Surplus Interconnection Service
- Attachment RR – Surplus Interconnection Study Agreement
- Section 36.1.1B – details the requirements for Surplus Interconnection Service and the deficiency review process for such requests
- Section 36.4 – details the process for evaluating Surplus Interconnection Requests outside of the New Services Queue

## Attachment G

### Section 1.9

## Surplus Interconnection Service

- Attachment G - Outlines data requirements for submitting Surplus Interconnection Service Requests (similar to System Impact Study data requirements)
  - Data must be submitted via the Queue Point Tool on the PJM website
- Section 1.9 - Details the process for evaluating Surplus Interconnection Requests outside of the New Services Queue
- Section 1.9 - Outlines requirements for approval of Surplus Interconnection Requests:
  - No new network upgrades required to accommodate the request
  - No impacts affecting the determination of upgrades necessary for customers in the New Services Queue
  - No material impacts on the transmission system (with regards to thermal, voltage, short circuit, dynamic limits)

- 1 of the 3 criteria to grant Surplus Interconnection Service (listed on slide 6):
  - No material impacts on the transmission system (with regards to thermal, voltage, short circuit, dynamic limits)
- How does PJM evaluate this?
  - The Surplus Interconnection should not degrade the available transmission system capability that exists without the Surplus Interconnection
  - The total amount of Interconnection Service at the Point of Interconnection, while including the Surplus Interconnection, should not increase



# Surplus Interconnection Service – Material Impacts on the Transmission System

- Considerations/Clarifications:
  - When considering transmission system capability and total amount of interconnection service, PJM is considering not only thermal capability, but also short circuit capability and dynamic capability
    - Although the MFO of the generating plant may not increase with the Surplus Interconnection, the Surplus Interconnection could increase fault current into the system or degrade stability limits on the system. The Surplus Interconnection should not degrade any of these limits while using any unused service.
  - Thermal capability of the PJM transmission system is evaluated at various seasonal conditions (PJM tests deliverability of resources at summer peak, light load, etc). Reference: PJM Manual 14B.
    - Although the MFO of the generating plant may not increase, the Surplus Interconnection could have thermal impacts to the PJM transmission system that did not previously exist, depending on the fuel type of the Surplus Interconnection. Some PJM Planning deliverability tests are fuel dependent such as the Light Load Deliverability Test.
  - Consider how the Surplus Interconnection is proposing to be configured and operate with the existing generating plant
    - In parallel / “simultaneous” operation ?
    - Independent resources via some interlock type scheme where only one resource can operate at a time?
    - If adding battery storage, will the batteries charge from the grid or only from the existing generating resource?



- PJM began accepting Surplus Interconnection Service requests in November 2020
- To date, PJM has received 1 official Surplus Interconnection Service request.

- Surplus Interconnection Service – requests and process is separate from the New Services Queue
- The PJM Queue Transition Plan and new Interconnection process recently filed with FERC does not propose to change the Surplus Interconnection Service process.
- Surplus Interconnection Service process will remain separate from the New Services Queue

- FERC Order 845
- PJM Tariff, Part VI
  - Section 36.1.1B
  - Section 36.4
  - Attachment RR
- PJM Manual 14G
  - Section 1.9
  - Attachment G
- PJM Manual 14B

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