

PJM Interconnection Process Workshop 2 Stakeholder Presentations Comments from BayWa Solar Projects LLC

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PJM Interconnection Process Improvements

- BayWa has been experiencing routinely significant interconnection delays for several renewable projects currently active in PJM interconnection queue.
- PJM has not been able to meet the Interconnection Tariff timeline for numerous projects in the study clusters and as a result interconnection studies are not released by PJM in a timely manner to Interconnection Customers (ICs) which results in significant delays for ISA executions and commencing engineering activities with the utilities.
- These indefinite delays are unacceptable and have adverse impacts to our highly viable projects and impacts ability to meet commercial obligations.
- BayWa respectfully requests PJM to engage external consulting resources to manage the interconnection workload resulting from the large influx of renewable projects in the queue clusters to complete interconnection studies in alignment with the timeline outlined in the Tariff.

PJM Interconnection Process Improvements (cont'd)

- PJM studies IC projects in a serial process and often re-studies are required due to withdrawal/removal of prior queued projects which triggers significant shift for assigned network upgrades and cost responsibilities for IC. These changes are significant for financial security posting calculations and imposes significant burden to IC which were not known to IC during the initial System Impact Studies (SIS) completion phase.
- These changes also impact project COD dates and negatively impacts project's commercial success (commitments made to an off-taker by IC on project delivery date). PJM should consider studying projects in a geographic cluster (similar to CAISO) collectively so that identified network upgrades can be allocated to all projects causing the grid impacts in a fair and equitable manner (either pro-rata share or based on PTDFs).
- Cluster study approach will help avoid performing extensive restudies and unforeseen delays for IC projects. IC requires certainty before ISA execution regarding assigned cost, scope and schedule of assigned transmission upgrades (both for interconnection facilities and network upgrades)

PJM Interconnection Process Improvements (cont'd)

- PJM should consider having a cost cap on all assigned network upgrades upon completion of the System Impact Study (or Cluster Phase I Study) so that IC has a definitive idea for maximum cost responsibility and project cost exposures before ISA execution.
- PJM can perform operational studies (6-12 months prior to project in-service date) to confirm project impacts to the grid and implement necessary mitigation (if needed) measures prior to granting project synchronization to the grid. Unknow cost exposure creates major financing risks for IC and renders project unfinanceable with lenders.
- Construction of identified network upgrades (NUs) which are currently classified as a non-reimbursable cost often creates incremental transmission grid capacity which are beneficial to lower queued generation projects and customer load (both retail and wholesale) connected to the utility grid.
- These upgrades often enhance utility load serving capabilities and improve system reliability which are currently paid by ICs without reimbursement. PJM has a five-year cost sharing policy for all downstream generators in the queue for network upgrades to avoid a “free rider” concern.
- However, this is insufficient and unfair since ICs are inherently paying for PJM grid reliability improvements and helping to create additional load serving capability for PJM jurisdictional utilities. PJM should consider making network upgrades fully refundable for ICs over a period of time (say five year) and seek necessary FERC approval for a Tariff amendment for reclassification of NU costs.

PJM Interconnection Process Improvements (cont'd)

- PJM should clearly document all interconnection milestones for IC, utility and PJM in a stand-alone Exhibit of the ISA. This will help to ensure all parties are tracking and meeting their respective milestones in a timely manner. IC can apply for a milestone extension request as outlined in the PJM BPM via submission of the schedule change request.
- PJM identifies all Affected Systems (AS) during the SIS and notifies Affected Parties (AP) regarding these impacts to their grid. PJM also requires that these AS issues be fully resolved between IC and AP prior to allowing the IC project to interconnect to the grid. ISAs also include rather stringent language regarding completion of these identified AS upgrades prior to generator being allowed to meet their COD.
- This imposes a huge burden on IC given subsequent studies may show results otherwise regarding these third party owned grid impacts and lack of coordination between PJM and AP to reach an amicable mitigation measure to address reliability concerns.
- PJM should be more involved in all AS discussions with IC and AP and help mediate for a timely and acceptable solution so that IC can meet their ISA milestones accordingly and project can accomplish desired in-service date as memorialized in the ISA.

PJM Interconnection Process Improvements (cont'd)

- BayWa has routinely encountered interconnection project cost overruns for various PJM interconnection projects. Often these cost overruns are not known to BayWa until after the project completion date and invoices have been sent to BayWa by the PJM jurisdictional utility as late as a year after the COD with large overruns that impose unplanned financial burden to IC.
- To avoid such large cost overruns, PJM and utility should consider developing a quarterly financial expenditure forecast (including all taxes) and include it in the ISA so that IC has a clear understanding of all financial obligations (construction quality job estimates with 10-15% contingency) prior to contract execution.
- A project true-up should take place within six months of the project completion date and IC should be promptly notified if there is any cost overrun by utility and PJM.
- Project inverter technology change (after completion of SIS studies) is often unavoidable for an IC due to engineering reasons (and betterment) and hence the need for a Material Modification Analysis (MMA) is triggered for PJM. This simple technology change evaluation should not trigger the need to perform a full-blown SIS re-study that takes seven months and a deposit of \$20k. Other ISOs perform similar scope MMA analysis for inverter change in 30 days with a \$5k deposit. PJM should revisit their MMA timeline and funding requirement since this is currently an undue burden for IC and impacts project schedule adversely.