

Geenex Solar

PJM Interconnection Process Workshop

December 11, 2020



PJM Interconnection Objectives

- Timely and efficient interconnection process
- Fair and transparent cost allocation methodology
- Cost certainty
 - Essential for both informed business decision making and project financing
- PJM and Transmission Owner cooperation and flexibility
 - Feasibility Study through Facilities Study
 - ISA/ICSA execution through COD

Current PJM Interconnection Process

- PJM Queue Point
 - Very useful and helpful tool
- Feasibility Study
 - Feasibility Study Report is very high level
 - Doesn't enable informed business decision making given lack of defined potential interconnection costs
 - Significant improvement in on-time delivery of PJM Feasibility Study Reports over last several queues
- Impact Study
 - Impact Study Report offers first look at defined interconnection costs for PJM queue projects
 - Although cost allocations are made, reports still lack sufficient project interconnection cost certainty
 - On-time delivery by PJM of Impact Study Reports has recently improved, but delays still exist
- Facilities Study
 - Facilities Study Report offers interconnection cost certainty
 - Significant improvement is needed regarding PJM on-time delivery of Facilities Study Reports

Overall PJM queue process delays hamper project developers in making informed business decisions and obtaining project financing.

PJM Interconnection Process Specific Issues/Challenges

- PJM study timelines
 - PJM Facilities Study timeline delays are a particular concern
 - This is a critical issue for developers given that these projects are more “real” and have more significant commercial and financial risk associated with them than project in the Feasibility or Impact Study phase
 - ❖ Land option/purchase costs, permitting costs, PJM study costs, equipment deposits, other development costs
 - More attention by PJM Planning is needed to clear this logjam
 - There are numerous projects that have been in PJM Facilities Study phase for several years
 - These projects are clogging up the queue and contributing to other projects’ delays
- Project Suspension Rules
 - Lack of transparency related to how project suspensions affect project milestone dates and overall queue status adversely affects business decision making for other queue projects
- PJM Planning Website (New Services Queue Web page)
 - Need to provide more timely updates to Projected In-Service Dates and Suspension in/out dates

PJM Interconnection Process Specific Issues/Challenges

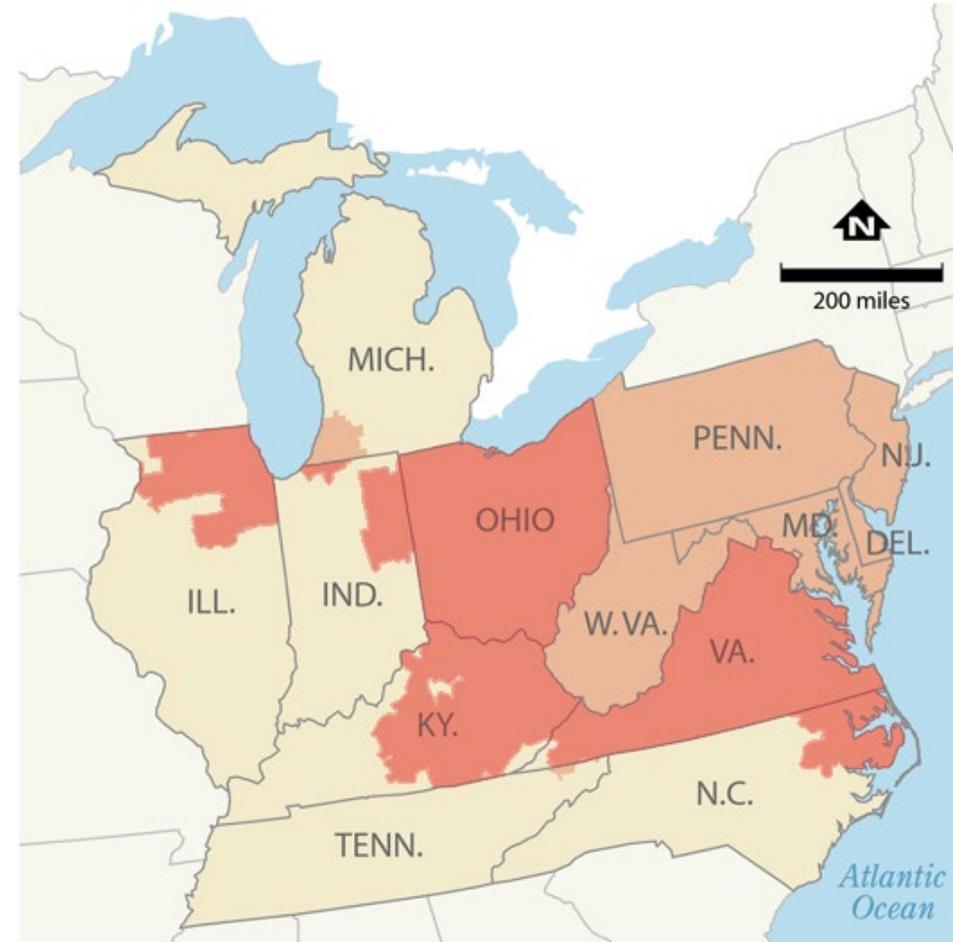
■ Seams Issues

➤ PJM - DEP

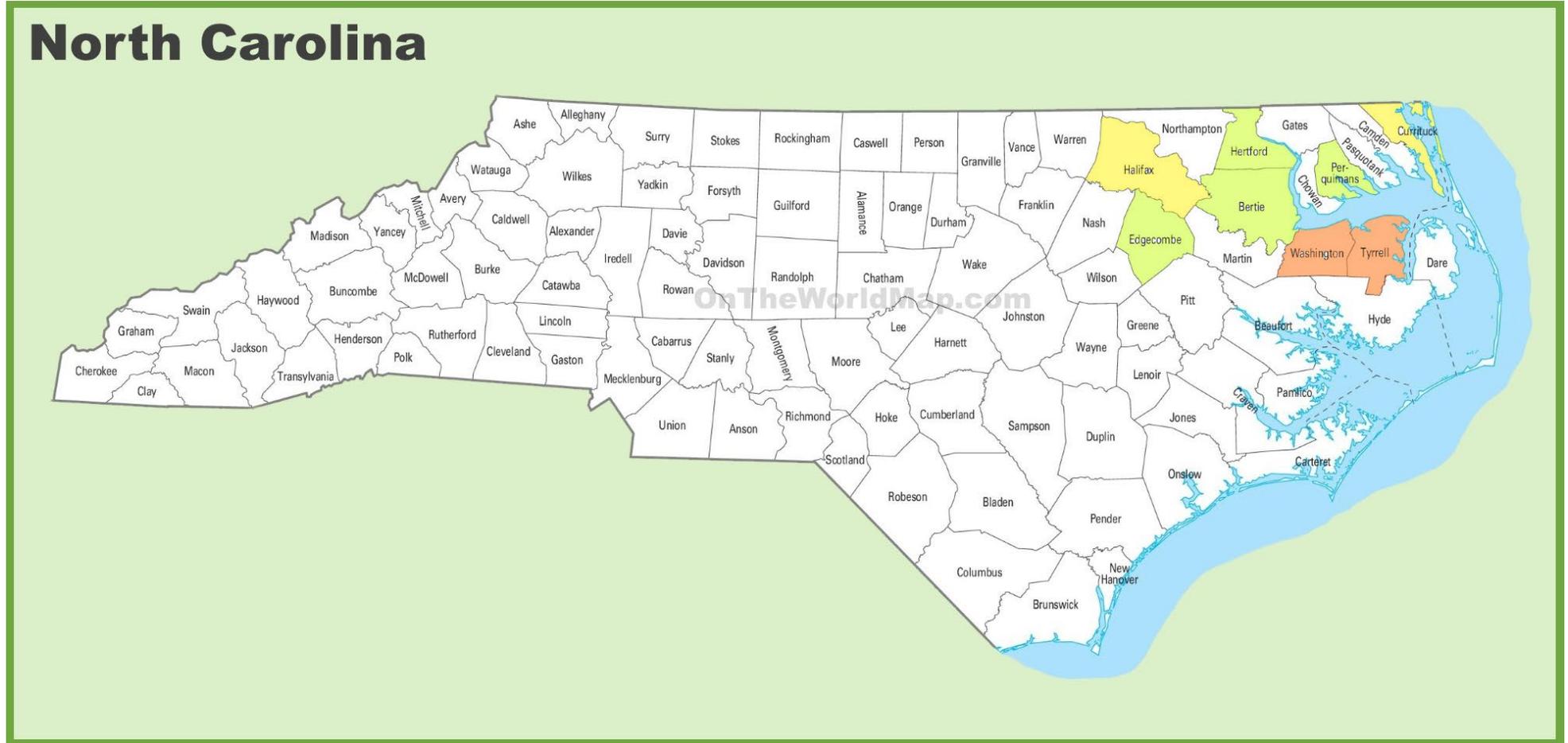
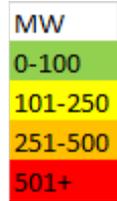
- Unnecessary project delays resulting from lack of PJM - DEP coordination, and PJM retools add to delays.
- All the facilities studies that are in progress in queues AC2 through AF2 are in the Dominion zone.
- These projects are in a handful of counties in Virginia and North Carolina as shown on slides 6 and 7.
- Projects in the North Carolina counties are electrically adjacent to the DEP interface.
- The lack of coordination is causing commercially unreasonable project uncertainty for projects that have followed the PJM process and tariff.

➤ PJM – TVA & PJM – MISO

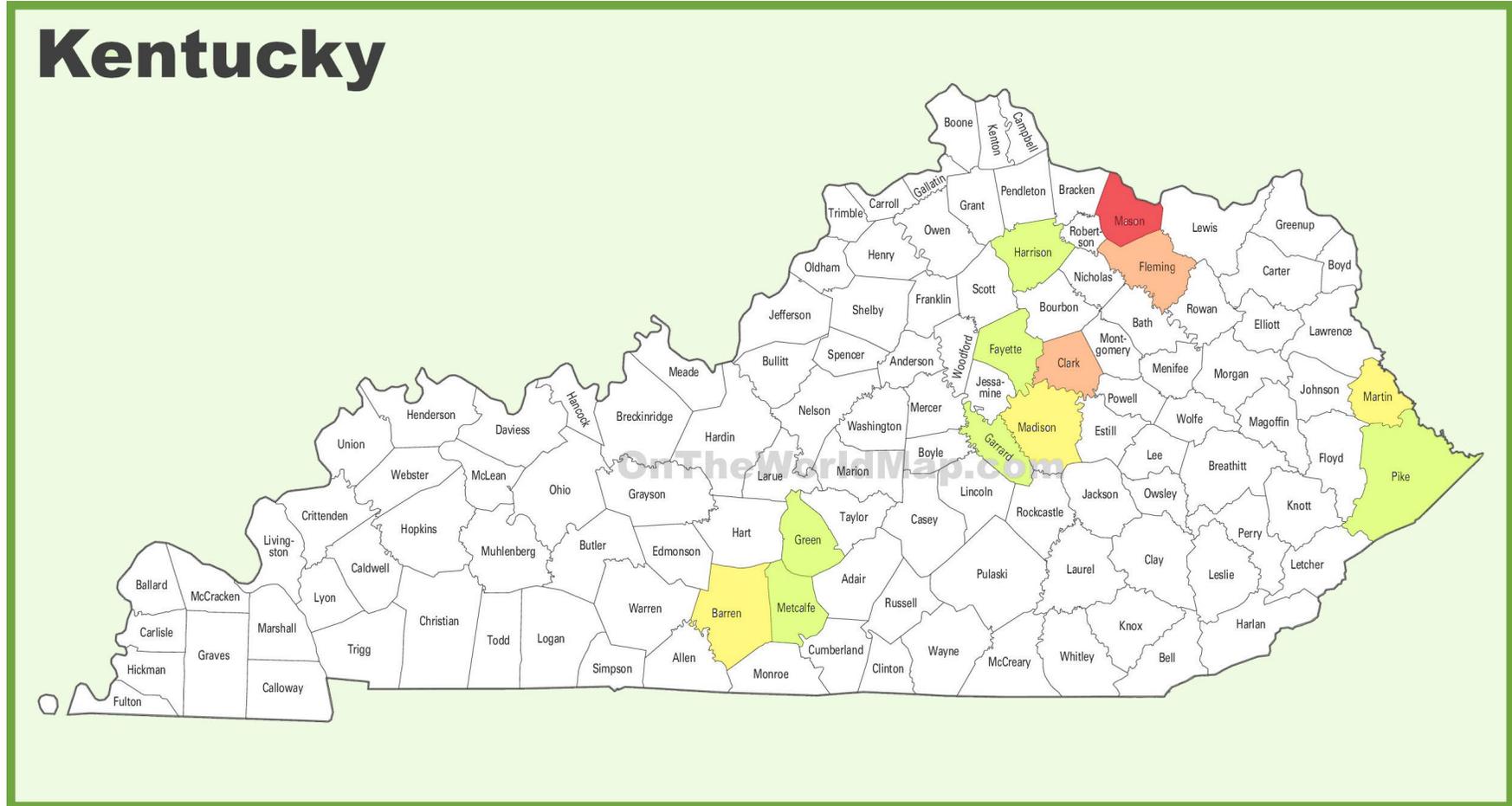
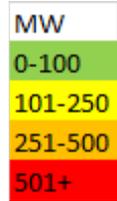
- Seams issues are illustrated on slides 8 and 9.



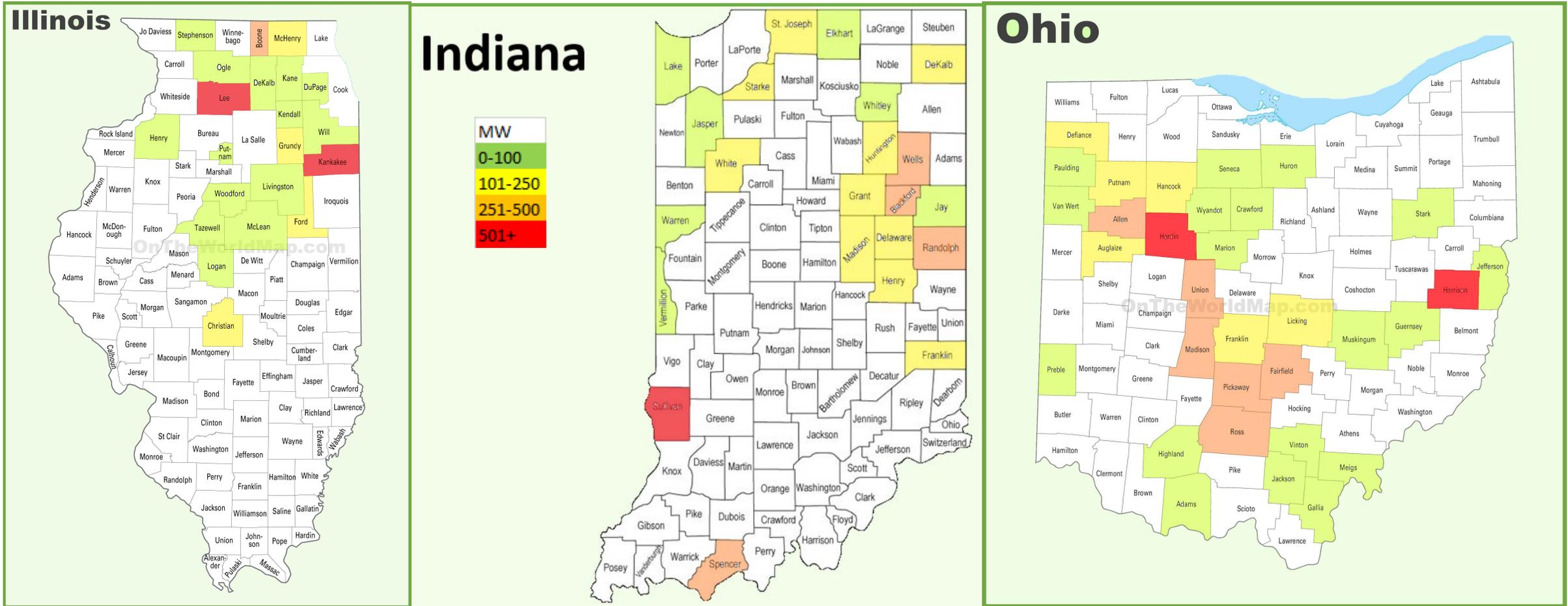
PJM Interconnection Process Specific Issues/Challenges



PJM Interconnection Process Specific Issues/Challenges



PJM Interconnection Process Specific Issues/Challenges



PJM Interconnection Process Recommendations

- PJM Study Process
 - Place higher priority on reducing PJM Facilities Study timeline delays
 - Long delayed queue projects in PJM Facilities Study phase need to be given their reports & ISAs
 - Importance of determining root causes and finding solutions in order to allow PJM queue projects achieve COD in a more-timely fashion

- Cost Allocations
 - Allow for more flexibility in reducing allocations as PJM transmission map and outlook changes

- Seams Issues
 - PJM - DEP (for Dominion) and PJM - TVA (for EKPC)
 - Look to steps taken by PJM - MISO and PJM - NYISO to improve coordination and reduce potential Affected Systems delays for PJM queue projects

PJM Interconnection Process Recommendations

- Project Suspension Rules

- Look for ways to improve and increase overall transparency regarding project suspensions and the subsequent changes to individual queue project milestone dates and project status

- Current lack of visibility/transparency can adversely affect business decision making for other queue projects

- ❖ Transparency needs to taken into consideration

- ❖ Project confidentiality is important - but cannot be at expense of other queue projects affected by that project’s suspensions

- Example of tab that could be added to “New Services Queue” on the PJM Planning website (new tab

marked in red)

					Description	Transmission	Phases & Agreements	Dates	Milestone Dates
Queue ID	Name	State	Status	Transmission Owner	Project Suspension Date	Project Suspension Length	Projected In Service Date (w/o suspension)	Projected In Service Date (with ISA Workscope Change)	If Multiple Suspensions, Amount of Time in Previous Suspensions
AD1-074	Macadamia	NC	Active	Dominion					

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