

TC1 Agreement Milestone Requirements

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- **PJM's Role:** PJM plans the Transmission System, and understanding future generation is vital for resource adequacy and planning system configuration.
- **The Challenge:** Non-viable projects that fail to meet milestones utilize system "headroom".
- **The Impact:** This can lead to unnecessary network upgrades and increased costs for future projects.
- **The Need:** It's critical to track progress, ensure fairness, and make sure only viable projects utilize headroom in the PJM cases. Predictable project advancement also helps Transmission Operators plan their resources efficiently.

First Ready, First Served

**Plan for success while allowing
flexibility for real-world development**



Our Approach: Increased Transparency & Collaboration

- **What We're Doing:** PJM is enhancing milestone language to provide greater transparency on requirements *before* agreements are signed.
- **Our Intent:** These milestones monitor project advancements to ensure timely in-service dates to meet the PJM resource adequacy needs.
- **Key Principles:**
 - **Transparency:** We want all parties to clearly understand contractual requirements upfront.
 - **Flexibility:** We recognize requirements aren't "one size fits all" and will consider different fuel types. We are open to adjusting during negotiations if developers can show a need without impacting the commercial operation date. In the event a developer can demonstrate additional time is required, PJM is open to adjusting dates.
 - **Consistency:** The changes aim to drive consistency across all Generation Interconnection Agreements (GIAs).
 - **Shared Goal:** It's in everyone's best interest to ensure only viable projects remain under agreement.

Our goal is to ensure all parties are aligned on scope and schedule at the time of execution.

Key Tariff Provisions

- A.1 Transmission Provider **must receive** from the Project Developer or Eligible Customer **all of the following required elements** before the close of **Decision Point III** for a New Service Request to remain in the Cycle and proceed through the Final Agreement Negotiation Phase as set forth below:
 - e. Project Developer or Eligible Customer must provide evidence that it has:
 - (i) entered a fuel delivery agreement and water agreement, if necessary, and that it controls any necessary rights-of-way for fuel and water interconnections;
 - (ii) obtained any necessary local, county, and state site permits; and
 - (iii) signed a memorandum of understanding for the acquisition of major equipment.

If Project Developer or Eligible Customer **does not satisfy these requirements, these requirements can be addressed through a milestone** in the applicable interconnection-related service agreement entered into pursuant to Tariff, Part IX

- A. In order to proceed with Generation Interconnection Agreement, within 60 days after receipt of the Phase III System Impact Study (or, if no Phase III System Impact Study was required, then after the results of either the Phase I or Phase II System Impact Study were provided on Transmission Provider's website):
 - 1. Project Developer must demonstrate that it has:
 - a. **entered a fuel delivery agreement and water agreement**, if necessary, and that it controls any necessary rights-of-way for fuel and water interconnections; and
 - b. **obtained any necessary local, county, and state site permits**; and
 - c. **signed a memorandum of understanding for the acquisition of major equipment**; and
 - d. if applicable, obtained any necessary local, county, and state siting permits or other required approvals for the construction of its proposed Merchant D.C. Transmission Facilities or Merchant Controllable A.C. Transmission Facilities

- B. The Transmission Provider **may include any additional related milestone dates beyond those included in the Generation Interconnection Agreement** for the construction of the project Developer's generation project that, if not met, shall relieve the Transmission Provider and the Transmission Owner(s) from the requirement to construct the necessary facilities and upgrades.
 - 1. If the milestone dates in the Generation Interconnection Agreement are not metmay be deemed to be terminated and Transmission Provider may cancel such agreement with the Federal Energy Regulatory Commission, and the New Service Agreement may simultaneously be deemed to be terminated and withdrawn.
 - 2. Such milestones may include **site acquisition, permitting, regulatory certifications** (if required), **acquisition of any necessary third-party financial commitments, commercial operation, and similar events**.
 - 3. The Transmission Provider **may reasonably extend any such milestone dates** (including those required in order to proceed with an Generation Interconnection Agreement) **in the event of delays not caused by the Project Developer**, such as unforeseen regulatory or construction delays that could not be remedied by the Project Developer through the exercise of due diligence.



Tariff, Part VIII, Subpart E, section 429 Milestones

- B. The Transmission Provider may include any additional related milestone dates beyond those included in the Generation Interconnection Agreement for the construction of the project Developer's generation project that, if not met, shall relieve the Transmission Provider and the Transmission Owner(s) from the requirement to construct the necessary facilities and upgrades.
 - 4.Project Developer shall also have a **one-time option to extend any milestone** (other than any milestone related to Site Control) for a **total period of one year regardless of cause**. Other milestone dates stated in the Generation Interconnection Agreement shall be deemed to be extended coextensively with Project Developer's use this provision.
 - 5. Termination and withdrawal of a New Service Request for failure to meet a milestone shall not relieve the Project Developer from reimbursing the Transmission Provider (for the benefit of the affected Transmission Owner(s)) for the costs incurred prior to such termination and withdrawal.

- Project Financing
- Major Electrical Equipment (MOU, Purchase and Delivery)
- Permitting (Major & Final Stage)
- Substantial Site Work
- Commercial Operation & As-Builts

- All fuel types:

- **6.XX Project Financing.**

Within 60 days of the [GIA/WMPA] execution date or the construction kickoff meeting, whichever is later, Project Developer must demonstrate that the Project Developer has secured adequate Project Financing to meet the project specific milestone obligations specified in this [GIA/WMPA]. Project Developer shall provide a **certification of financial close** or **binding financing commitment** from the Project Finance Entity sufficient to support the construction, procurement, and interconnection of the specified Generating Facility.

Tariff Part VIII, Subpart E, section 429 section B.2 provides direction for this milestone

- **PJM will ask and expect this is provided during DP3 as the tariff requires** (Tariff, Part VIII, Subpart C, section 410 Decision Point III).
 - In the event it is not available at that time, milestone will be set for 6 months after GIA execution.
- **6.XX Acquisition of major electrical equipment** . On or before [6 months after GIA/WMPA execution], Project Developer, consistent with PJM Manual 14C, must provide PJM with signed memorandums of understanding setting forth the material terms and conditions for the acquisition and delivery of potentially long-lead time major electrical equipment from the intended manufacturers, including but not limited to:
 - Control buildings
 - Photovoltaic (PV) tracking equipment
 - PV panels
 - Inverters/power conversion systems
 - Switchgear
 - Cabling (on-shore and off-shore wind)
 - Battery Modules
 - Battery Management Systems (BMS)
 - [insert electrical equipment necessary to fulfill Option to Build when applicable]

Only equipment required for the projects fuel type will be included in the provided agreement

PJM is open to adjusting the list of equipment during negotiation if developer can provide assurance lead times will not impact desired commercial operation date.

- **6.XX Purchase of major electrical equipment.** On or before [**6 months after GIA/WMPA execution**], Project Developer must demonstrate its purchase of the following major electrical equipment, consistent with PJM Manual 14C, and the expected delivery dates:

- Main power transformers (MPT)/generation step up transformers (GSU)
- Breakers
- On-shore/Offshore Wind turbine generators
- Offshore substation platforms
- Combustion turbine generators
- Steam turbine generators
- Heat recovery steam generators (HRSGs)
- [insert electrical equipment necessary to fulfill Option to Build when applicable]

Only equipment required for the projects fuel type will be included in the provided agreement

PJM is open to adjusting the list of equipment (or moving between milestones) during negotiation if developer can provide assurance lead times will not impact desired commercial operation date.

- **6.YY Purchase of major electrical equipment.** On or before (**18 months before COD**), Project Developer must demonstrate its purchase of the following major electrical equipment, consistent with PJM Manual 14C, and the expected delivery dates:

- Photovoltaic (PV) tracking equipment
- PV panels
- Control buildings
- Inverters/power conversion systems
- Switchgear
- [insert electrical equipment necessary to fulfill Option to Build when applicable]

PJM recognizes it's not a "one size fits all" for equipment procurement timing

- **PJM will ask and expect this is provided during DP3 as the tariff requires** (Tariff, Part VIII, Subpart C, section 410 Decision Point III).
 - In the event it is not available at that time, the following milestones will be added to the agreement
- **6.XX Major Site permits.** On or before [24 months before COD], Project Developer must obtain all major federal, state, and county site permits or comparable certificates necessary to confirm the project site [,including Option to Build scope,] is viable for development, consistent with PJM Manual 14C , including but not limited to the following:
 - Zoning and land-use permits
 - Wetlands / waterbody impacts
 - Environmental impact assessments (EIA)
 - Cultural resource assessments
 - Endangered species
 - Federal Aviation Administration clearances
 - Noise and visual impact assessments
 - Transportation and access permits
 - Bureau of Ocean Energy Management (BOEM) Lease and Site Assessment Plan (SAP)
 - U.S. Army Corps of Engineers
 - State Coastal Zone Management (CZM)
 - Air quality permits
 - Water use and discharge permits

Only permits required for the projects fuel type will be included in the provided agreement

PJM is open to adjusting the list of permits during negotiation based on project needs. The end goal is to gain alignment on what permits will be obtained and when.

- **PJM will ask and expect this is provided during DP3 as the tariff requires** (Tariff, Part VIII, Subpart C, section 410 Decision Point III).
 - In the event it is not available at that time, the following milestones will be added to the agreement
- **6.YY Final stage construction- permits.** On or before [**12 months before COD**], Project Developer must obtain all remaining necessary local, county, and state site permits, consistent with PJM Manual 14C, such as but not limited to:
 - Stormwater management permits
 - Pipeline and Hazardous Materials Safety Administration (PHMSA) approvals
 - Fire and safety permits
 - Hazardous Materials Safety Permits
 - All remaining ministerial permits

Only permits required for the projects fuel type will be included in the provided agreement

PJM recognizes it's not a "one size fits all" for equipment procurement timing

PJM is open to adjusting the list of permits during negotiation if developer can provide assurance lead times will not impact desired commercial operation date.

- **6.XX Substantial Site work completed.**
- 6.XX1 On or before [9 months before COD], Project Developer must demonstrate, via a construction status report submitted to PJM, completion of at least twenty percent (20%) of the major project site construction activities, consistent with PJM Manual 14C, which states that substantial site work is typically considered complete with the end of civil construction activities. For this project, substantial site work shall include, but is not limited to:

Solar:

- Site clearing and grading in accordance with the construction plan [including Option to Build Scope];
- Installation of access roads capable of supporting construction and material deliveries [including Option to Build Scope];
- Implementation of stormwater and environmental controls (e.g., retention ponds, berms, or silt fencing) necessary to stabilize the site [including Option to Build Scope];
- Commencement of racking system installation, or pile-driving activities sufficient to demonstrate material progress; and
- Completion of civil work required to support installation of major electrical equipment specified in this [GIA/WMPA] [including Option to Build Scope].

PJM is open to adjusting scope items as needed based on developers construction schedule

- **6.XX Substantial Site work completed.**
- 6.XX1 On or before [9 months before COD], Project Developer must demonstrate, via a construction status report submitted to PJM, completion of at least twenty percent (20%) of the major project site construction activities, consistent with PJM Manual 14C, which states that substantial site work is typically considered complete with the end of civil construction activities. For this project, substantial site work shall include, but is not limited to:

On-Shore Wind:

- Site clearing and grading necessary for turbine pads, crane pads, and laydown areas;
- Construction of crane pads and access roads suitable for transporting turbine components and supporting heavy equipment;
- Initial turbine foundation preparation (e.g., excavation, rebar placement, or partial concrete pours) demonstrating measurable progress;
- Installation of stormwater and erosion control measures in accordance with applicable permits [including Option to Build Scope]; and
- Completion of civil work required to support installation of major electrical equipment specified in this [GIA/WMPA] [including Option to Build Scope].

PJM is open to adjusting scope items as needed based on developers construction schedule

- **6.XX Substantial Site work completed.**
- 6.XX1 On or before [9 months before COD], Project Developer must demonstrate, via a construction status report submitted to PJM, completion of at least twenty percent (20%) of the major project site construction activities, consistent with PJM Manual 14C, which states that substantial site work is typically considered complete with the end of civil construction activities. For this project, substantial site work shall include, but is not limited to:

Off-Shore Wind:

- Completion of onshore site preparation activities, including construction of onshore substation facilities or cable landfall transition stations;
- Demonstration of measurable progress in marine construction activities, such as marine surveying, initial foundation installation, or docking/fabrication preparation for offshore structures;
- Deployment of environmental controls in both marine and onshore zones to meet applicable permitting requirements (e.g., sediment control, marine wildlife protection measures) [including Option to Build Scope]; and
- Shore-crossing and cabling preparations indicating substantial progress toward establishing export capability.

PJM is open to adjusting scope items as needed based on developers construction schedule

- **6.XX Substantial Site work completed.**
- 6.XX1 On or before [9 months before COD], Project Developer must demonstrate, via a construction status report submitted to PJM, completion of at least twenty percent (20%) of the major project site construction activities, consistent with PJM Manual 14C, which states that substantial site work is typically considered complete with the end of civil construction activities. For this project, substantial site work shall include, but is not limited to:

Natural gas/Oil/Fuel Oil:

- Site clearing, grading, and compaction for the generation block and supporting infrastructure [including Option to Build Scope];
- Excavation and initial concrete pours for main building foundations, turbine pedestals, or other structural elements [including Option to Build Scope];
- Installation of access roads and stormwater control measures in compliance with regulatory requirements [including Option to Build Scope]; and
- Demonstrable progress in utility interconnections, including preparations for gas lines, water supply, or other essential infrastructure.

PJM is open to adjusting scope items as needed based on developers construction schedule

- **6.XX Substantial Site work completed.**
- 6.XX1 On or before [9 months before COD], Project Developer must demonstrate, via a construction status report submitted to PJM, completion of at least twenty percent (20%) of the major project site construction activities, consistent with PJM Manual 14C, which states that substantial site work is typically considered complete with the end of civil construction activities. For this project, substantial site work shall include, but is not limited to:

Battery Storage:

- Site clearing and grading for the placement of battery modules and associated enclosures [including Option to Build Scope];
- Installation of access roads or drive lanes sufficient for equipment transport and emergency response [including Option to Build Scope]; and
- Foundation or pad preparation (e.g., concrete slabs, piers, or structural supports) for battery enclosures, transformers, and related infrastructure [including Option to Build Scope].

PJM is open to adjusting scope items as needed based on developers construction schedule

- **6.XX Substantial Site work completed.**
- 6.XX1 On or before [9 months before COD], Project Developer must demonstrate, via a construction status report submitted to PJM, completion of at least twenty percent (20%) of the major project site construction activities, consistent with PJM Manual 14C, which states that substantial site work is typically considered complete with the end of civil construction activities. For this project, substantial site work shall include, but is not limited to:

Hybrid facility:

- Clearing and grading of the overall project site, including designated areas for both solar panel arrays and battery enclosures [including Option to Build Scope];
- Installation of access roads and laydown areas suitable for solar module and battery component deliveries [including Option to Build Scope]; and
- Initial construction and foundation work on both solar racking systems and battery module pads or enclosures [including Option to Build Scope].

PJM is open to adjusting scope items as needed based on developers construction schedule

- **6.XX Delivery of major electrical equipment.** On or before [6 months before COD], Project Developer must demonstrate that the following major electrical equipment, consistent with PJM Manual 14C, has been delivered to Project Developer's project site:
 - Main Power Transformers (MPT)/ generation step up transformers (GSU)
 - Breakers
 - Control buildings
 - Photovoltaic (PV) tracking equipment
 - PV panels
 - Wind Turbine generators
 - Cabling / export cabling
 - Offshore substation platforms
 - Combustion turbine generators
 - Steam turbine generators
 - Heat recovery steam generators
 - Battery modules
 - Inverters/power conversion systems
 - [insert electrical equipment necessary to fulfill Option to Build when applicable]

Only equipment required for the projects fuel type will be included in the provided agreement

PJM is open to adjusting the list of equipment during negotiation if developer can provide assurance delivery date will not impact desired commercial operation date.

- 6.3 Commercial Operation. On or before [3 years from agreement filing OR longest upgrade construction schedule +3 months], Project Developer must demonstrate commercial operation of all generating units in order to achieve the full Maximum Facility Output set forth in section 1.0(c) of the Specifications to this GIA. Failure to achieve this Maximum Facility Output may result in a permanent reduction in Maximum Facility Output of the Generating Facility, and, if necessary, a permanent reduction of the Capacity Interconnection Rights, to the level achieved. Demonstrating commercial operation includes achieving Initial Operation in accordance with section 1.4 of Appendix 2 to this GIA and making commercial sales or use of energy, as well as, if applicable, obtaining capacity qualification in accordance with the requirements of the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region and fulfillment of 6.4 “As-Built Data” milestone.
- 6.4 “As-Built Data.” Within one month prior to commercial operation, Project Developer must provide certified documentation demonstrating that “as-built” Generating Facility or the Merchant Transmission Facilities, and Project Developer Interconnection Facilities are in accordance with applicable PJM studies and agreements. Project Developer must also provide PJM with “as-built” electrical modeling data and confirm that previously submitted data remains valid. All modeling data must conform to the PJM Dynamic Model Development Guidelines for Interconnection Analysis in effect as of the effective date of this [GIA/WMPA].

- PJM is drafting TC1 final agreements at this time
- Project Developers will be provided GIA/WMPA drafts at the start of TC1 DP3 stage.
 - Project Developers and Transmission Owners will have the opportunity to provide feedback during negotiation
 - PJM will work with developers on milestone adjustments provided they can demonstrate need for change based on project schedule or procurement timelines

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