

TC1 Agreement Milestone Requirements

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- PJM's goal is to execute GIAs with **realistic, achievable milestones** that reflect a project's development path. This was originally presented at the [May IPS Meeting](#).
- Draft GIAs will include **milestone language** based on PJM guidance.
- We recognize that **each project is unique** — and PJM is open to adjusting milestone dates **if developers can demonstrate valid justification through due diligence**.
- Adjustments should be based on **documented project-specific circumstances**, not general preferences.

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

- PJM will **work in good faith** with developers to reasonably adjust milestone dates as appropriate in accordance with the Tariff. However, PJM expects developers to provide **evidence-based justification** for any proposed changes.
- **Examples of *acceptable* evidence:**
 - A **detailed project schedule** (Gantt chart or similar) showing key activities and how proposed milestones align with the development timeline.
 - **Engineering or procurement schedules** showing timelines for design finalization, equipment selection, or site preparation.
 - A **letter from a manufacturer or supplier** explaining equipment lead times and delivery schedules.
 - **Permitting schedules** or correspondence from local permitting authorities.
 - Any additional documents that demonstrate the projects readiness and ability to achieve proposed dates
- **Examples of *unacceptable* evidence:**
 - Vague statements like: "We just want more time" or "We're not sure yet."
 - Internal delays without supporting documentation (e.g., "We haven't finalized vendor selection yet" with no timeline for doing so).
 - General concerns about market uncertainty
 - Shifting milestones because a consultant or partner suggested it, *without supporting analysis*.

- **Project Financing**

- PJM will refrain from including a project financing milestone for TC1 but reserves the right under the tariff to include such a milestone on a project specific basis
- Indirectly monitored through other milestones

- **Major Electrical Equipment (MOU, Purchase and Delivery)**

- Demonstration of Memorandum of Understandings (MOU) is a Decision Point 3 (DP3) requirement. In cases where demonstration of the MOU(s) is not achievable by DP3, PJM considers six months following agreement execution to be a reasonable and appropriate timeframe, provided the developer can demonstrate due diligence.
- Purchase of equipment is critical for projects success and PJM will maintain this milestone Purchase timing and scope open to negotiation
- Delivery of equipment timing and scope also open to negotiation

- **Permitting (Major & Final Stage)**
 - Demonstration of Permits is a Decision Point 3 (DP3) requirement. In cases where demonstration of the Permits is not achievable by DP3 and the developer can demonstrate due diligence, PJM is open to including a Permit milestone
 - Scope and timing may be adjusted during negotiation for projects specifics
- **Substantial Site Work**
 - Scope and timing may be adjusted during negotiation for projects specifics
- **Dispatchability demonstration**
 - Added since May update. Intended to clarify existing Tariff and Manual requirements
- **Commercial Operation & As-Builts**
 - Adjusted based on feedback

- **PJM will ask and expect MOU is provided during DP3 as the Tariff requires** (Tariff, Part VII Subpart D, section 313 (Decision Point III) and Subpart E section 331 (Milestones)).
 - 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 or on a later date if supported by project-specific development timeline documentation], 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 or on a later date if supported by project-specific development timeline documentation), 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 VII Subpart D, section 313 (Decision Point III) and Subpart E section 331 (Milestones)).
 - In the event it is not available at that time, and the developer demonstrates satisfaction of the Tariff’s requirements for a milestone extension, the following milestones will be added to the agreement
- **6.XX Major Site permits.** On or before [**18 months before COD or on a later date if supported by project-specific development timeline documentation**], 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/timing of permits during negotiation if developer can provide assurance it will not impact commercial operation date.

- **PJM will ask and expect this is provided during DP3 as the tariff requires** (Tariff, Part VII Subpart D, section 313 (Decision Point III) and Subpart E section 331 (Milestones)).
 - In the event it is not available at that time, and the developer demonstrates satisfaction of the Tariff's requirements for a milestone extension, the following milestones will be added to the agreement
- **6.YY Final stage construction- permits.** On or before [**12 months before COD or on a later date if supported by project-specific development timeline documentation**], 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 is open to adjusting the list/timing of permits during negotiation if developer can provide assurance it will not impact commercial operation date.

- **6.XX Substantial Site work completed.**
- 6.XX1 On or before [9 months before COD or on a later date if supported by project-specific development timeline documentation], 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 or on a later date if supported by project-specific development timeline documentation], 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 or on a later date if supported by project-specific development timeline documentation], 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 or on a later date if supported by project-specific development timeline documentation], 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 or on a later date if supported by project-specific development timeline documentation], 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 or on a later date if supported by project-specific development timeline documentation], 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 or on a later date if supported by project-specific development timeline documentation], 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/timing of equipment during negotiation if developer can provide assurance delivery date will not impact desired commercial operation date.

6.XX Dispatchability Demonstration

During test energization, the Project Developer will demonstrate that the Generating Facility is capable of responding to grid operator instructions with reliable, controllable, and timely changes in output, fulfilling all operational requirements for dispatchable resources as outlined in PJM Manual 14-D, including but not limited to the following:

- Demonstrates continuous real-time communication with the system operator.
- Automated dispatch commands can be received and executed without manual intervention.
- Integration with SCADA or EMS systems to receive and act on dispatch signals.
- Completes a series of test dispatch events demonstrating the ability to ramp up/down within specified timeframes (e.g., X MW/min).
- Proves stable minimum and maximum generation output levels without operator overrides.

- 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.XX Dispatchability Demonstration.
- 6.4 “As-Built Data.” As a condition precedent to PJM reflecting an “in-service” status for the Generating Facility or the Merchant Transmission Facilities and no later than 30 days following the demonstration of 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 agreements at this time
- Project Developers will be provided GIA/WMPA drafts during DP3 which runs concurrently with the Final Agreement Negotiation Phase
- Project Developers and Transmission Owners will have the opportunity to provide feedback during negotiation

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