

Affected System Study Update for Transition Cycle Projects

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What is Affected System Study for New Service Request?

Affected System Study is set of studies performed by Affected System Operator(s) that may be affected by a PJM New Service Request project.

 Not all projects are marked for affected system study, rather the projects that meet affected system screening criteria would require affected system study by one or multiple Affected System Operator(s).

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PJM Neighboring Affected System Operators

NYISO MISO DEP DEC LGE-KU TVA



PJM Cycle Project Impacts on Neighboring System

PJM Manual 14H, Section 13

Affected System Screen:

- PJM will work with Affected System Operator to determine if Affected System Study needed for a PJM Cycle project.
- PJM Cycle project will be made aware of the need for Affected System Study in Phase I SIS report.

Project Developer Support for Affected Systems Study:

 The Project Developer is responsible for entering into necessary Affected Systems Study agreement (if required) with Affected System Operator (for review of system impacts through analysis).



PJM Cycle Project Impacts on Neighboring System

Other Agreements with Affected System Operator:

 If any reinforcements are required as a result of the studies, the PJM Project Developer will be responsible for entering into necessary Facilities Study and Construction Agreements with the Affected System.

Cost Responsibility:

 PJM Project Developer will be responsible for the costs on any upgrades required to address the impacts to the Affected System (according to Affected System Operator's Tariff).

Limited Operation Study:

If any required Affected System upgrades have <u>not</u> been completed, prior to the commencement of the operations of the Generating Facility or Merchant Transmission Facility (Initial Operation), PJM at its discretion may <u>limit service of the project's facilities</u>, in accordance with Good Utility Practice, until any interim deliverability analysis by the Affected System Operator are completed.

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Conventional steps for an Affected System Study

 TC1 Project Developers are required to reach out to the Affected System Operator (ASO) and follow their tariff language for Affected System Study requirements

A Project meets screening criteria and Affected System Operator confirms the need for study

Project Developer to enter into an affected system study agreement * Affected System Impact Study is performed by the Affected System Operator If need for upgrade is identified then Facility Study and Agreement will be required Based on finding of the Facility Study, the Project Developer enter into necessary construction agreement(s)

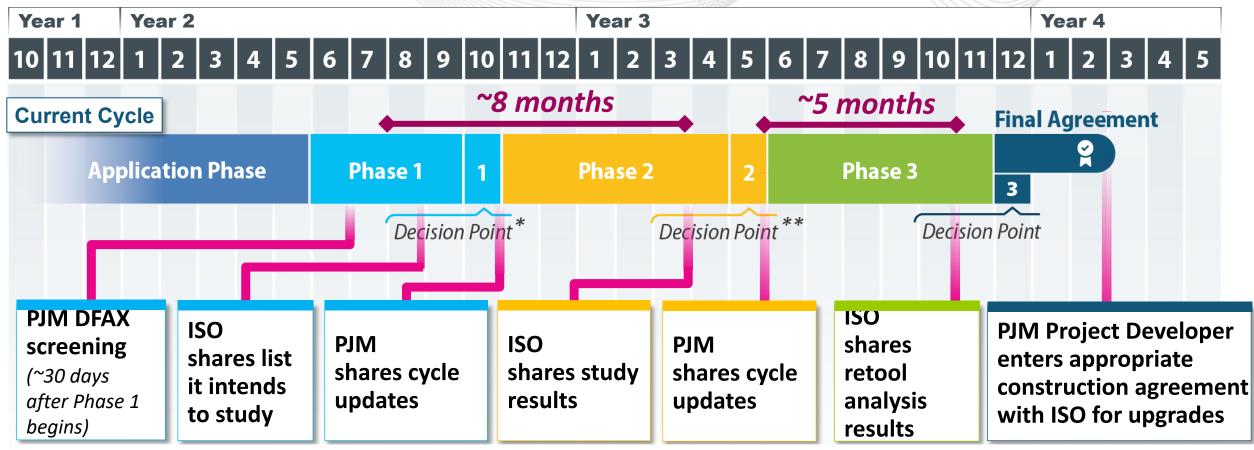
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^{*} MISO does not require affected system study agreement

^{**} TC1 Project Developers that need affected system study must enter into an affected system study agreement with the Affected Systems Operator (if required by the affected system) no later than the conclusion of the DP2 of TC1. Failure to comply will result in withdrawal from the Cycle. It is highly recommended to reach out to the ISOs as soon as possible as each ISO has its own internal processes and timeline.



Affected System Study Coordination – PJM Customers



PJM Project Developers that:

THIS PROCESS WILL APPLY TO EACH CYCLE.

^{*} Are screened for Duke, LG&E or TVA
Affected System Study should enter
into a Affected System Study
Agreement.

^{**} The Project Developer must enter into an affected system study agreement with the Affected System Operator by the later of end of DP2 or 60 days after PJM notification or they will be withdrawn from the cycle

^{**}If available, PJM will provide Affected System Study results to Project Developers



TC1 Projects – Next Steps in Affected Systems Process

- AFS Agreements Signed: All TC1 Project Developers that were required to execute an affected system study agreement based on TC1 Phase 1 System Impact Study report, did enter into those agreements. (MISO does not require AFS Agreement)
- Affected System Studies in progress: PJM is coordinating with all Affected Systems Operators to ensure the Affected System Study results are included in the PJM TC1 Phase III SIS reports.
- Affected System Results to be in Phase III SIS: AFS results will be included in the TC1 Phase III SIS reports to be posted on PJM.com <u>Cycle</u> <u>Service Request page</u>.



TC2 Projects – Affected Systems Process

First Notification:

- Email: PJM will send an email to TC2 projects before the end of Phase I if they need an Affected System Study. We will include a contact person for the agreement needed with the Affected System Operator. (excluding MISO who does not need an agreement)
- Phase I SIS: TC2 projects will also will be notified in their Phase I SIS report if an Affected Systems Study is required based on the screens.
- AFS Agreements: If a TC2 project is required to have an Affected Systems Study, they will need to enter into the necessary Affected Systems Study Agreement with the Affected System Operator (*excluding MISO*).
- Timing: It is preferred that this be done within 60 days of DP1 to accelerate the process with the neighboring entities and ensure results can be communicated as early as possible and no later than the Phase III SIS.



Affected System Section in Phase III SIS





Readiness Deposit

Transmission Owner Scope of Work

Transmission Owner Analysis

Developer Requirements

Revenue Metering and SCADA Requirements

Summer Peak Analysis

Summer Potential Congestion due to Local Energy

Deliverability

Winter Peak Analysis

Winter Potential Congestion due to Local Energy

Deliverability

Light Load Analysis

Light Load Potential Congestion due to Local

Energy Deliverability

Short Circuit Analysis

Stability Analysis

Reactive Power Analysis

Steady-State Voltage Analysis

New Service Request Dependencies

Affected Systems

System Reinforcements

Attachments

Affected Systems

In Phase II of the Cycle, PJM provides the Affected System Operator any updates on the PJM projects that require an Affected Systems Study based on their response at DP1. New Service Requests that require an Affected Systems Study are required to enter into an Affected Systems Study Agreement with the Affected System Operator, as applicable, prior to the close of DP2 or they will be withdrawn from the Cycle.

If the Project Developer already entered into the necessary agreement and the results are available, PJM will supply them in the Phase II SIS report. See below for the status of any required Affected Systems Study. A status of "Pending" means that the study is not yet completed by the Affected System Operator. If your project requires an Affected Systems Study and your results are not provided for Phase II SIS, PJM anticipates providing them in the Phase III SIS per Tariff Part VII.D.312.

Midcontinent Independent System Operator (MISO)	Study Pending
New York Independent System Operator (NYISO)	Not required
Tennessee Valley Authority (TVA)	Not required
Louisville Gas & Electric (LG&E)	Not required
Duke Energy Carolinas (DUKE)	Not required
Duke Energy Progress - East (CPLE)	Not required
Duke Energy Progress - West (CPLW)	Not required



Links for other ISO affected system procedure

- MISO JOA and TVA JRCA
 - https://www.pjm.com/library/governing-documents
- NYISO:
 - https://www.nyiso.com/documents/20142/2924447/tei_mnl.pdf/b2f926e9-2faa-2c42-5a09-2402cdb8bacc?t=1672852997127
- Duke Energy Progress (DEP)
 - https://www.oasis.oati.com/cpl/
- Duke Energy Carolinas (DEC)
 - https://www.oasis.oati.com/duk/



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