Post-Agreement Fuel Type Change

Brian Lynn
Principal Engineer
Interconnection Construction Management

Disclaimer: While materials are current at the time of publishing, applicable requirements may change. PJM Governing Documents control.

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Background

- Invenergy brought forth a Problem Statement and Issue Charge at the 5/8/26 PC, proposing to allow requests for post-agreement fuel type changes based on the results of Necessary Studies.
- The proposed post-agreement fuel changes constitute a new project and should not be permitted to jump ahead of other active projects.
- Implementing the change would adversely impact:
  - PJM's administration of the interconnection process
  - Other active projects

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Cycle Process

The interconnection process relies heavily on the concept of project readiness

- Each project is required to demonstrate that it has reached a level of maturity and that it can be feasibly built

The Cycle study process does not allow for any fuel type changes

- PJM's fuel-based dispatch methodology for load flow studies means that a project's fuel type directly affects the identification of reliability criteria violations and the solutions required to address them
  - Appendix A describes the differences between fuel types
  - Case loading is set to its maximum at the start of a Cycle. Withdrawals of projects (internal to the Cycle and outside) generally reduce loading over the study period

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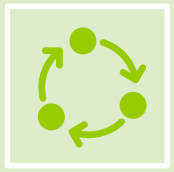
Cycle Process Impacts

Study Variability: Post-agreement fuel type changes would impact loadings phase-to-phase, increasing study variability and cost uncertainty.



Extensive Restudy: Every request would require restudy, with most changes requiring restudy across all three modalities (Load Flow, Short Circuit, Stability). This also subjects previous RTEP series to materiality (Appendix C provides an example).

Undetected Impacts: Headroom may be used by the fuel change before the next Cycle's case is available. The Necessary Study would not be able to derive impacts to that Cycle to determine materiality.

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Post-Agreement Process and Expectations

Today's readiness expectations: actively building the project within ~6 months from a fully executed agreement

- Permitting work has begun and/or some are already in hand
- Fuel type can impact the permits required; changes akin to moving backwards

Project Developer, Transmission Owner, and PJM have signed an agreement that is on file with FERC detailing the project

- The fuel type is a fundamental term of that agreement
- Fuel type impacts power factor requirements, equipment configuration, and Schedule H requirements
- Milestones for permitting, substantial site work, MOU for the purchase of equipment, and commercial operation are detailed for the project as studied

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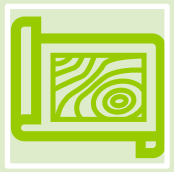
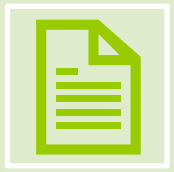
Legal Impacts



Site Control: Changes are not permitted to move milestone dates & TO schedule. Revised site control may be required if acreage requirements differ by fuel type, potentially conflicting with the 180-day requirement



Permitting: Permitting fuel changes at this stage of the process undermines contract law and the readiness expectations.

Contract Items: Milestone shifts pursuant to restarting the permitting process are not permissible. Project changes today are required to stay on the current schedule, not extend/delay it.

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Key Takeaways

1	2	3
Fuel type changes reduce certainty regarding available headroom for subsequent generation projects and may create downstream cost and schedule impacts.	Requiring developers to construct the projects that were studied and committed under their service agreements supports the timely interconnection of new resources needed to maintain PJM resource adequacy.	Fuel type changes effectively create a different project, often requiring revisions to site control, permitting, and related project assumptions. Projects seeking a fuel type change should instead enter the next applicable cycle.

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Contact

Presenter:
Brian Lynn,
Brian.Lynn@pjm.com

Post-Agreement Fuel Type Change Education

Member Hotline

(610) 666-8980

(866) 400-8980

custsvc@pjm.com

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Appendix A - Load Flow Ramp Limits

Change Type	Contingency Type	Summer Ramping	Winter Ramping	Light Load
Thermal <-> Thermal	Single Common Mode	CIR <-> CIR CIR <-> CIR	MFO <-> MFO MFO <-> MFO	CIR <-> CIR CIR <-> CIR
Thermal <-> Solar	Single Common Mode	CIR <-> CIR CIR <-> p80	MFO <-> CF MFO <-> CF	CIR <-> CF CIR <-> CF
Thermal <-> Onshore Wind	Single Common Mode	CIR <-> CIR CIR <-> p90	MFO <-> p90 MFO <-> p90	CIR <-> p90 CIR <-> p90
Thermal <-> Storage	Single Common Mode	CIR <-> CIR CIR <-> CIR	MFO <-> CIR MFO <-> CIR	CIR <-> +/- 100% MFO CIR <-> +/- 100% MFO
Solar <-> Onshore Wind	Single Common Mode	CIR <-> CIR p80 <-> p90	CF <-> p90 CF <-> p90	CF <-> p90 CF <-> p90
Solar <-> Storage	Single Common Mode	CIR <-> CIR p80 <-> CIR	CF <-> CIR CF <-> CIR	CF <-> +/- 100% MFO CF <-> +/- 100% MFO
Onshore Wind <-> Storage	Single Common Mode	CIR <-> CIR p90 <-> CIR	p90 <-> CIR p90 <-> CIR	p90 <->+/- 100% MFO p90 <->+/- 100% MFO

*MFO – Maximum Facility Output, CIR – Capacity Injection Rights, CF – Capacity Factor (Refer to manual 14B Generation Deliverability Test)

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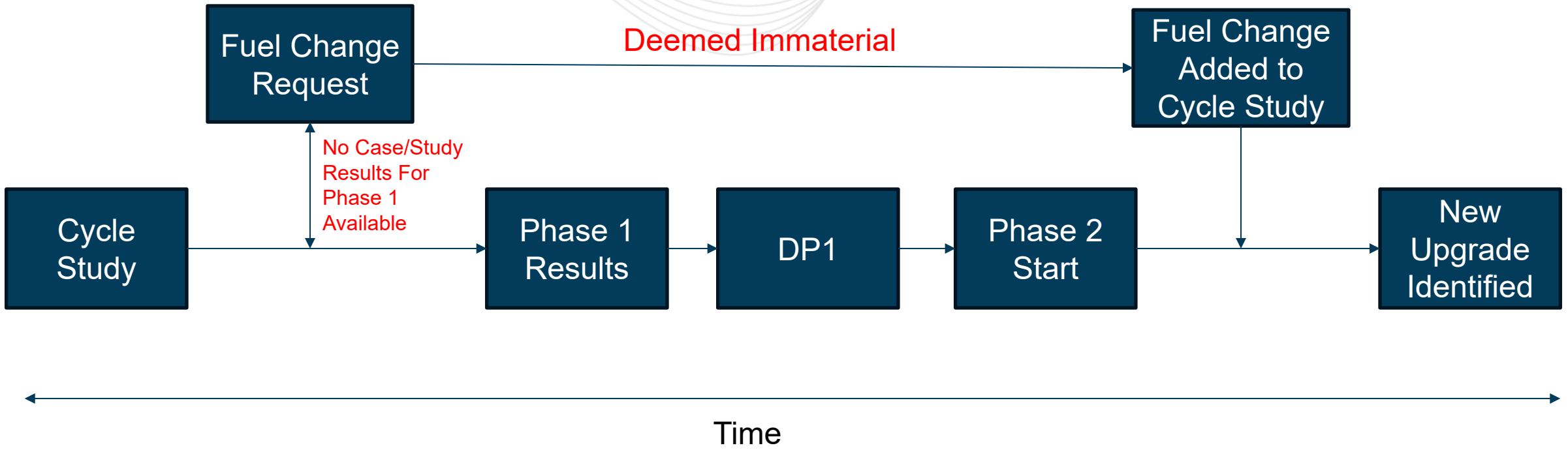
Appendix B – Increased Variability for Active Projects



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Appendix C – Extensive Restudy Example

PJM presently has projects in EP or suspended status as far back as the AB1 Queue. These projects could request a fuel change by the proposal of the Issue Charge. This would require PJM to reopen and study the change for materiality against:

- All Queues between AB1-AG1 (including fast lane) ~ 10 Queues
- TC1 and TC2 ~ 2 Cycles
- Soon, C01 ~ 1 Cycles
- Any RTEP series conducted after agreements for the specific queue position (variable by project/agreement timing)
- Potential Stability and Short Circuit restudies

That's a potential restudy of ~24-36+ model/analysis sets when considering Summer, Winter, and Light Load models. The volume of study required to accommodate a fuel type change post-agreement is extensive and suggests application of a new project in a future cycle.

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