



Large Load Addition Resource Study (LARS)

Large Load Working Group (LLWG)

August 27, 2026

Purpose & Key Takeaway

Purpose

Propose a new process, Large Load Addition Resource Study (LARS), for concurrently studying large loads and associated generation

Key Takeaways

- The proposed new process for studying 250+ MW loads allows MISO to align studies for planned large loads and associated generation to increase speed to approval and optimize network upgrades within 120 days
- This solution harmonizes with the spirit of FERC's show-cause order for interconnection process arrangements to address the speed of adding generation to serve large load
- MISO requests feedback on the proposed Tariff changes and any additional clarification needed on the detailed process

MISO’s framework will enable members to integrate large loads quickly and reliably while delivering value for the entire region

Objectives	1	Connect Quickly Get MISO approval within 120 days with all studies completed and GIAs signed	2	Transition and Scale with Flexibility & Transparency Transition and scale with flexible options consistent with timing of network upgrade buildouts and without cost shifting	3	Ensure Long-Term Reliability Sustain reliable operations with ability to withdraw or inject energy based on conditions and signals
	Needs	Certainty on transmission needs and associated costs: Generation only, load only, generation-load combination	Needs	Curtailment capability, resource adequacy coordination, efficient use of existing transmission capacity	Needs	Real-time telemetry and coordination, curtailment capability, ride-through, stability control, resilience, security
	Solutions	• Co-located resources • Expedited generation • Fast load studies • Aligned load / generation studies	Solutions	• Transparent alignment of costs with large load drivers • Co-located resources • Non-firm service option • Firm service step-up option	Solutions	• Clear requirements • Operations system enhancements • Market pricing signals • Demand response and new reserve market products

The proposed alignment of large load and generation studies offers customers certainty for their generation and transmission needs within 120 days

Proposed Process

- The LARS Associated Transmission Customer initiates a submission for the proposed load and associated generation.
 - Interconnection Customer supports the generation
 - Transmission Owner supports the load
- MISO studies the generation and load in parallel using the same assumptions and rigorous methodology applied in generation interconnection and MTEP processes
- The generation and load studies conclude at approximately the same time—within 120 days
- **Outcomes:**
 - Allocation of generation Interconnection Service
 - Transmission service for reliable load withdrawal
 - A more optimized set of network upgrades

CURRENT PROCESS	LARS
1. Transmission Study 2. Generation Study	Transmission and generation studies remain separate but run in parallel and conclude at approximately the same time
180+ days	120 days

Proposed Requirements

- Cycle size: 10 load-generation pairs
- Load size: 250+ MW
- \$250,000 nonrefundable application fee (D1)
- Generation is verified to directly support the large load with firm offtake agreement between generation and load
- Generation is geographically aligned to the need (same local resource zone/LRZ)
- Generation Interconnection Service is max 150% of identified load need
- Full site control through Point of Interconnection and all other associated land requirements with transmission owner sign-off of valid point of interconnection/POI at submission
- At submission, electromagnetic transient modeling requirements are met for load and for generation (if inverter-based resource/IBR)

OUTCOMES

- MTEP-approved transmission for reliable load withdrawal
- Allocation of generation Interconnection Service (GIA)
- Optimized set of network upgrades

Requirements Overview

Load

- Enhanced submission forms requiring information similar to information required today
- Similar to today, the Transmission Owner’s initial set of transmission solutions identified and submitted to MTEP
- MISO process will focus on accounting for cumulative impacts of new loads and coordination with affected systems
- If the generation goes away, the load must move through normal process to secure withdrawal rights

Generation

- Complete and deficient-free generator application
- Must be able to reach commercial operation within 3 years
- \$250,000 nonrefundable application fee (D1)
- ~15% increase in Study Deposit (D2) for each of the levels on the sliding scale
- \$30,000/MW milestone payment (M2)
- If the load goes away, the generation must move through normal interconnection queue to secure Interconnection Service

Study Process + GIA = 120 calendar days

Aligns with *Large Load Application & Study Process* (LLWG-2026-7) including steady state and stability with the inclusion of new large load interconnection reliability requirements

Aligns with generator interconnection steady state, stability, and short circuit

MTEP Project Type

Determined by outcome of *Cost Shifting Risk Among Transmission Customers* (LLWG-2026-8)

Generator Interconnection Project

Stakeholder feedback themes and MISO response

Theme	Feedback	MISO response
Limits & Design Criteria	- Several comments were received indicating that the 150% of identified load need equated to a 150% generator resource capacity limit. Members suggested moving to a 150% injection right value instead - Questions on why 250 MW is the chosen threshold and request for clear justification	MISO clarifies that Generation Interconnection Service is max 150% of identified load need. The max 150% of load identified load need applies to the Interconnection Service request of the Interconnection Customer and not the nameplate value of the generating resources. Interconnection studies are based on the amount and type of Interconnection Service requested and they do not assess a generator’s potential accreditation, which can change annually based on operating conditions. MISO seeks to establish a closer connection between what is needed and what is being proposed by the LARS Interconnection Customer. The limitation of 150% of identified MW need will strike the proper balance between having a sufficient amount of Interconnection Service advancing through the study process to support the identified Large Loads. The 250 MW minimum was selected based on the experiences with the EPR process to date noting that we have seen generation needed for load for projects more than 300 MW and generally 1200 MW drives more significant system upgrades

Stakeholder feedback themes and MISO response

Theme	Feedback	MISO response
Limits & Design Criteria	• Questions on how fees are treated if a load or generation ultimately does not materialize • Questions on many to many generator and load pairs	If an application is withdrawn all non-refundable fees will be forfeited similar to MISO's other generator interconnection study processes. Any difference between study deposit and actual cost of the applicable study will be refunded as applicable. The Large Load Addition Resource Study (LARS) will study 250+ MW loads and associated generation in parallel rather than consecutively to accelerate approval and optimize network upgrades. The Large Load must be located behind one Point Of Withdraw. Multiple generators could be assigned to serve the single Large Load provided they interconnect to the same Point Of Interconnection.
Zonal, Geographic & Boundary Constraints	• Questions and disagreement over LRZ serving as the limiting factor for load service • Some stakeholders want proximate load-gen pairing; others want flexibility to cross LRZs or rely on alternative boundaries (state, LBA)	The intent of this process is to demonstrate an optimized network upgrade solution for the load and generation, there are many boundaries that could be considered and MISO retains the flexibility in the LRZ because that aligns with our Resource Adequacy construct

Stakeholder feedback themes and MISO response

Theme	Feedback	MISO response
Process Structure, Sequencing & Readiness	• Strong support for readiness requirements but differing views on what those requirements should entail. • Questions about how MISO will accept applications—first-in, readiness-based, or another prioritization method • Desire for improved DPP process • Interest in a seamless process allowing generators to shift into DPP if the paired load falls through.	MISO appreciates the inputs on readiness requirements, no significant changes have been made MISO will accept valid application on first-in (timestamp-based) and must meet all requirements MISO continues to work through improvements to the DPP process with agenda items at the upcoming IPWG Interconnection Customer takes on responsibility to submit project into the DPP process if the load does not materialize
Operational Requirements & System Interactions	• Need clarification on whether generator dispatch must match load, whether loads must be energized when generators run, and whether loads can receive system service when paired generators are offline.	Since the load and generation are both studied with the other out of service under different scenarios in the study process both the load and generation can continue to participate with the grid while the other is out of service and are not required to follow dispatch.
Cost Allocation & Transparency	• Requests to establish a distinct project type with clear cost allocation for tracking going forward.	Cost impacts of study outcomes is impacted by Cost Shifting Risk Among Transmission Customers (LLWG-2026-8). Project type for the Generation Interconnection remains GIP.

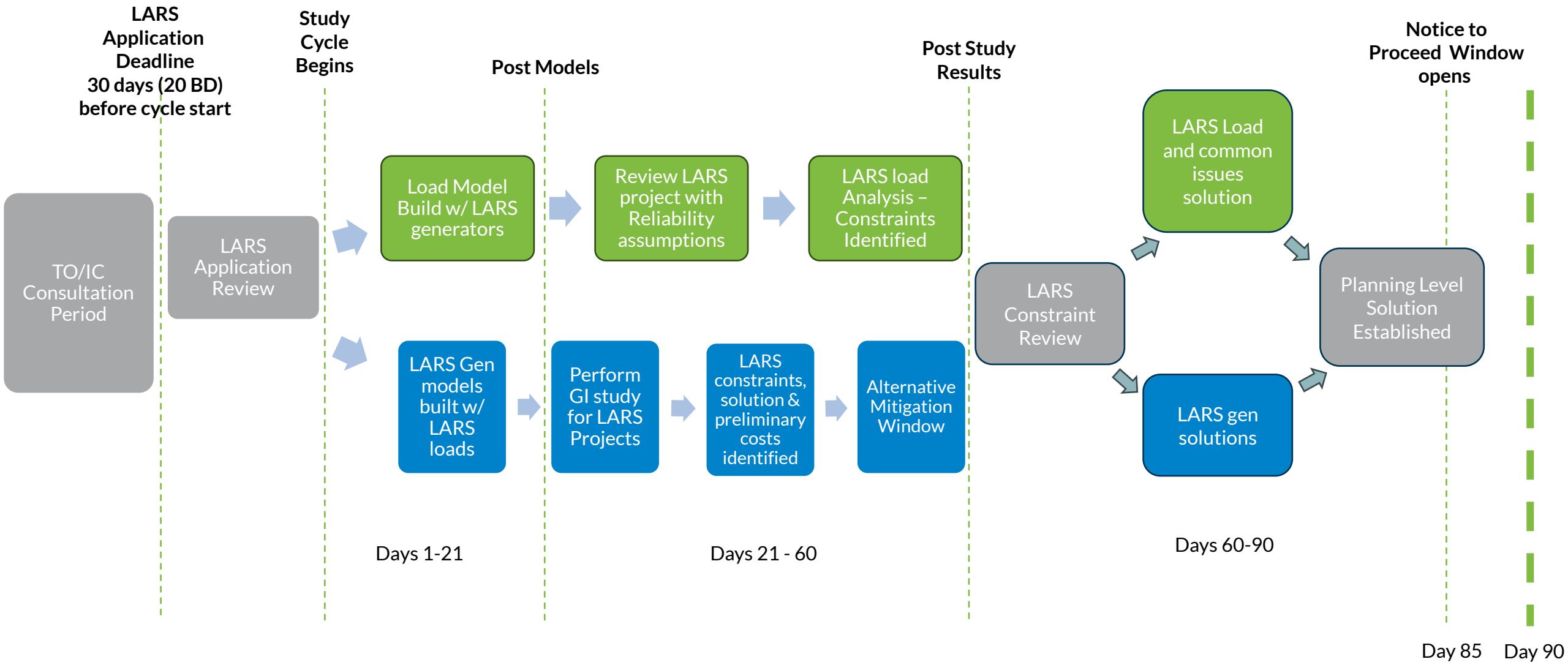
Stakeholder feedback themes and MISO response

Theme	Feedback	MISO response
Modeling	Need clarity on modeling assumptions across all parts of the process and how they align or diverge	MISO LARS will incorporate two study perspectives into the gen/load/transmission combination. Both processes will begin using the latest MTEP set. The reliability perspective will draw upon the fundamentals of the load process and the generator interconnection perspective will draw upon the fundamentals of the ERAS process for study. The entire gen/load/transmission combination will be fully represented in both studies with MTEP and GIA approvals utilized as the base.

LARS Parallel Studies Overview

Pair Up	Engagement	Project Submission to MISO	Study	Violation Mitigation	Continuous Coordination	Outcome
Load customer identifies a generator to pair with Contract signed	Defined time period where Load customer engages appropriate TO(s) and both agree on a POI and POW The parties determine preliminary transmission upgrades to interconnect load	Transmission Owner/ Generation Owner/ Load Serving Entity submit application to MISO	Project gets incorporated into next available LARS model building cycle including transmission, load, and generation	If new or worsened reliability violations are found, MISO works with TO(s) to identify solutions	Results and solutions are repeatedly shared between studies to ensure the most efficient buildout	MTEP approval
Generator customer identifies a load to pair with Contract signed	Defined time period where IC meets with appropriate TO(s) to determine POI	Transmission Owner/ Generation Owner/ Load Serving Entity submit application to MISO	Project gets incorporated into next available LARS model building cycle including transmission, load, and generation	Generation interconnection study using SUGAR identifies constraints and proposed mitigations	Results and solutions are repeatedly shared between studies to ensure the most efficient buildout	GIA

High Level Timeline

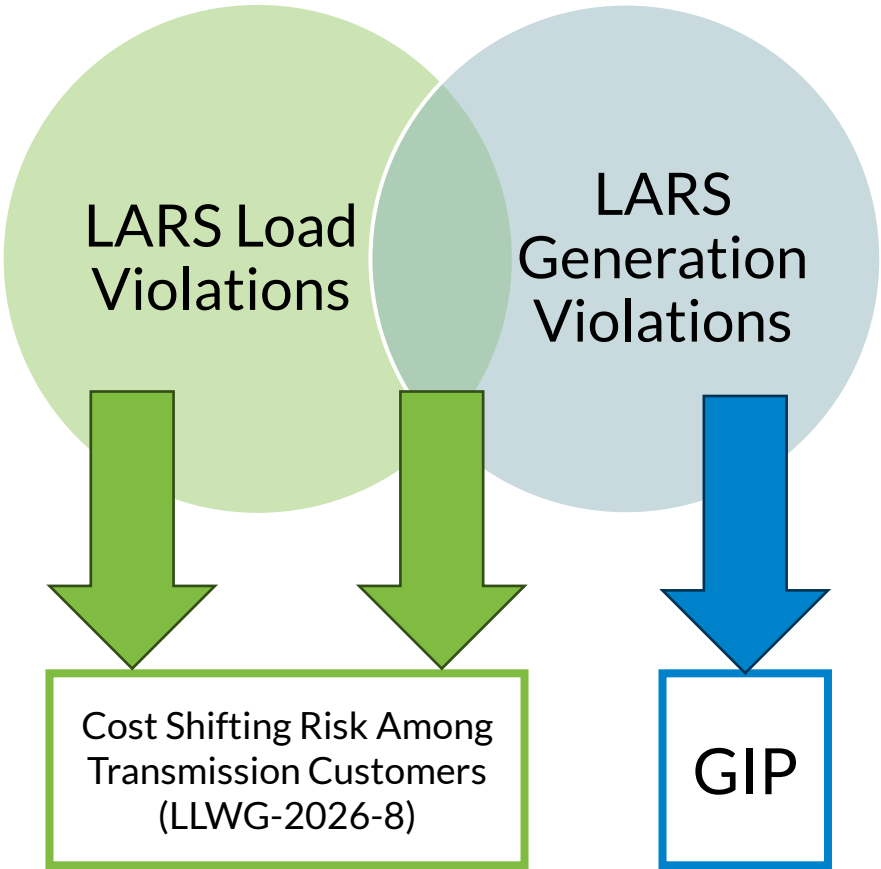


MTEP Project Type

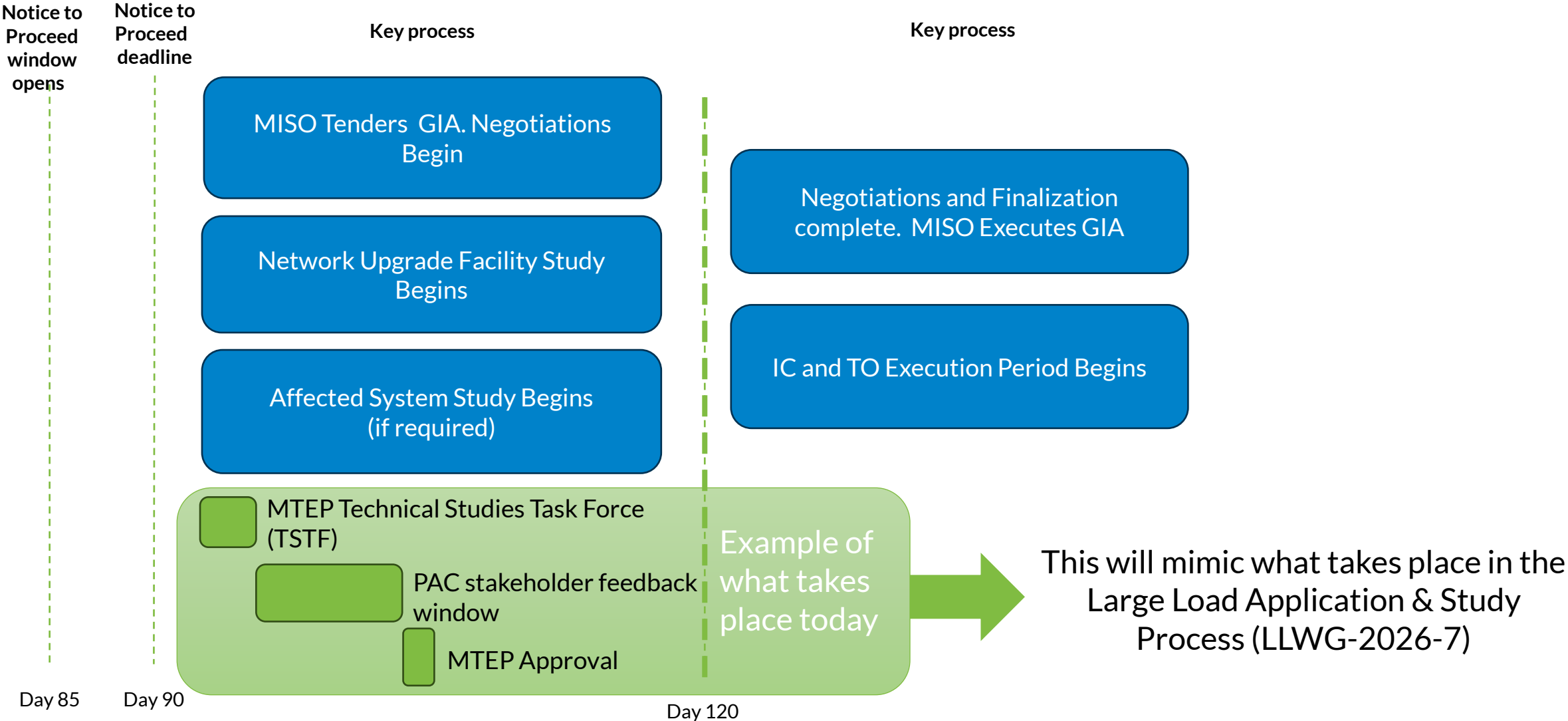
Contingencies

Load Study Evaluates NERC TPL planning events (P0–P7) and extreme events • Includes single and multiple element outages, breaker failures, relay failures, and common structure outages • Selection focuses on contingencies that produce the most severe system impacts • Considers both steady-state and stability extreme events • Contingencies are developed collaboratively with Transmission Owners MTEP reliability studies will always include scenarios where GIA resources are offline	Generator Study Evaluates NERC TPL planning events (P0, P1, P2, P4, P5, P7) • Includes single and multiple element outages, breaker failures, relay failures, and common structure outages • Considers both steady-state and stability contingencies • Contingencies are developed collaboratively with Transmission Owners GIP reliability studies will always include scenarios where Load is offline
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Resulting MTEP Project Types



After Election to Proceed High Level Timeline



DRAFT Tariff Language for LARS process

LARS Associated Load

- Attachment FF section D.1.b incorporates requirements for generation to be included in MTEP process
- Full Large Load Application and Study Process Tariff language is being developed under Large Load Application & Study Process (LLWG-2026-7)
- Cost impacts of study outcomes is impacted by Cost Shifting Risk Among Transmission Customers (LLWG-2026-8)

LARS Generation Interconnection Customer

- Attachment X (GIP), Appendix 6 (GIA), and Appendix 1 (Interconnection Request) tariff language for the LARS generation study is available for review, largely based on the existing expedited resource additions language
- Items addressed definition, application requirements, evaluation procedures, study scope and process, site control, deposits and milestones requirements, refunds and withdrawal, transferability and modification

Stakeholder Feedback Request

MISO requests feedback on the **Large Load and Generation Alignment (LLWG-2026-6)** by Thursday, September 10, 2026

- Provide feedback on the attached Tariff red-lines.
- What additional clarification are needed on the detailed process?

Feedback requests and responses are managed through the Feedback Tool at:

<https://www.misoenergy.org/engage/stakeholder-feedback/>

Next Steps



Provide feedback

Due: September 10,
2026
(LLWG)



Finalize Tariff
Language

September, 2026
(LLWG)

Development of
Large Load
Application & Study
Process
&
Cost Shifting Risk
Among Transmission
Customers

September 2026
(LLWG)



File Tariff

Q3 2026