

Regional Transmission Planning Analysis and Competitive Window

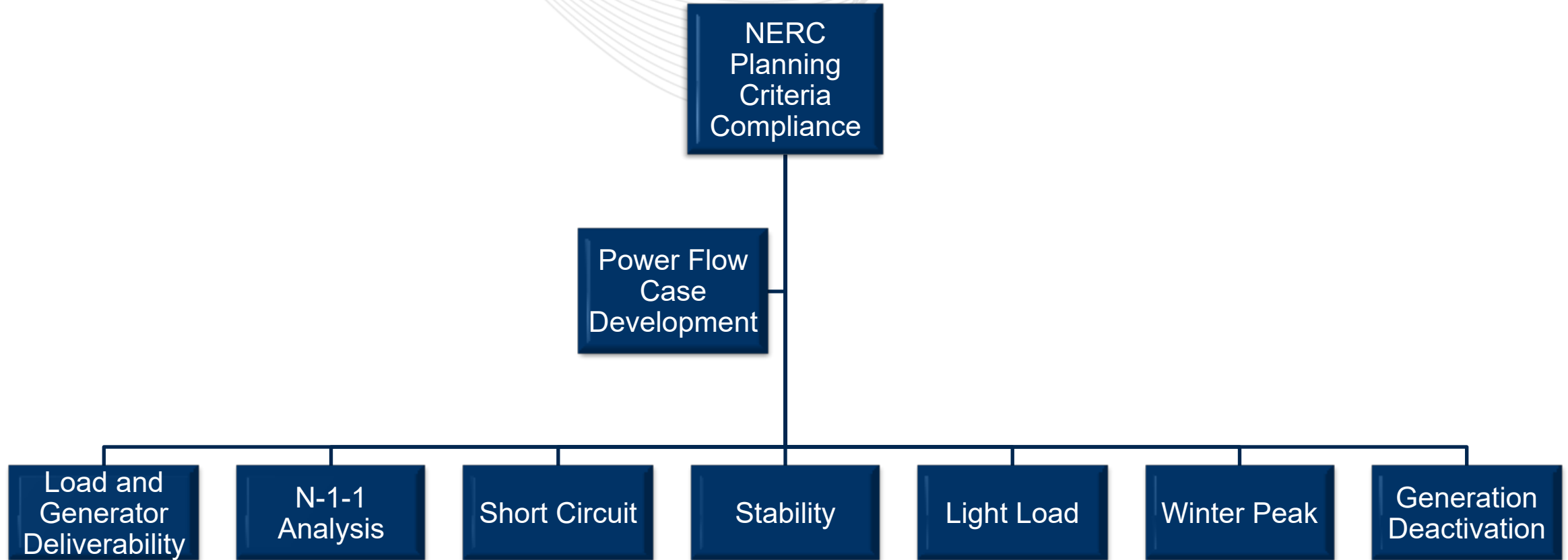
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Disclaimer: While materials are current at the time of publishing, applicable requirements may change. PJM Governing Documents control.

- PJM's Regional Transmission Expansion Plan (RTEP) identifies transmission system additions and improvements needed to keep electricity flowing to the millions of people throughout PJM's region.
- PJM's annual RTEP Report describes transmission study input data, processes and results, as well as PJM Board-approved transmission upgrades and process changes during the previous year.
- Periodically, PJM publishes white papers that present study input parameters and address transmission planning topics of current stakeholder interest.
- PJM conducts Transmission Planning analysis in compliance with NERC Standards and PJM Planning Manuals
- PJM Regional Transmission Expansion Plan (RTEP) webpage:
 - <https://www.pjm.com/library/reports-notices/rtep-documents.aspx>

Transmission System Reliability Analysis



Reliability

- Reliability needs are reviewed once annually, additional as needed

Public Policy

- Reviewed as requested by state (see: NJ SAA Window).
- Has unique cost allocation method

Market Efficiency

- Market Efficiency projects are reviewed bi-annually and are driven by congestion.
- Once projects are approved by PJM Board, they are reviewed on a rolling basis to ensure the needs are still present

Operational Performance

- Assessed as requested by PJM or TO System Operators

Baseline Upgrades can also be driven by multiple drivers (combination of any of the above)

FERC Order 1000

- Implemented in PJM for solicitation of competitive Transmission Proposal to address identified PJM Transmission Expansion needs as part of PJM RTEP
- Allows greater opportunities for non-incumbent proposing entities to offer their unique transmission development proposals and own the construction, maintenance and operation aspects of the proposal

All baselines are subject to competition, regardless of driver, unless excluded from competition for the following reasons

Below 200KV

Immediate Need

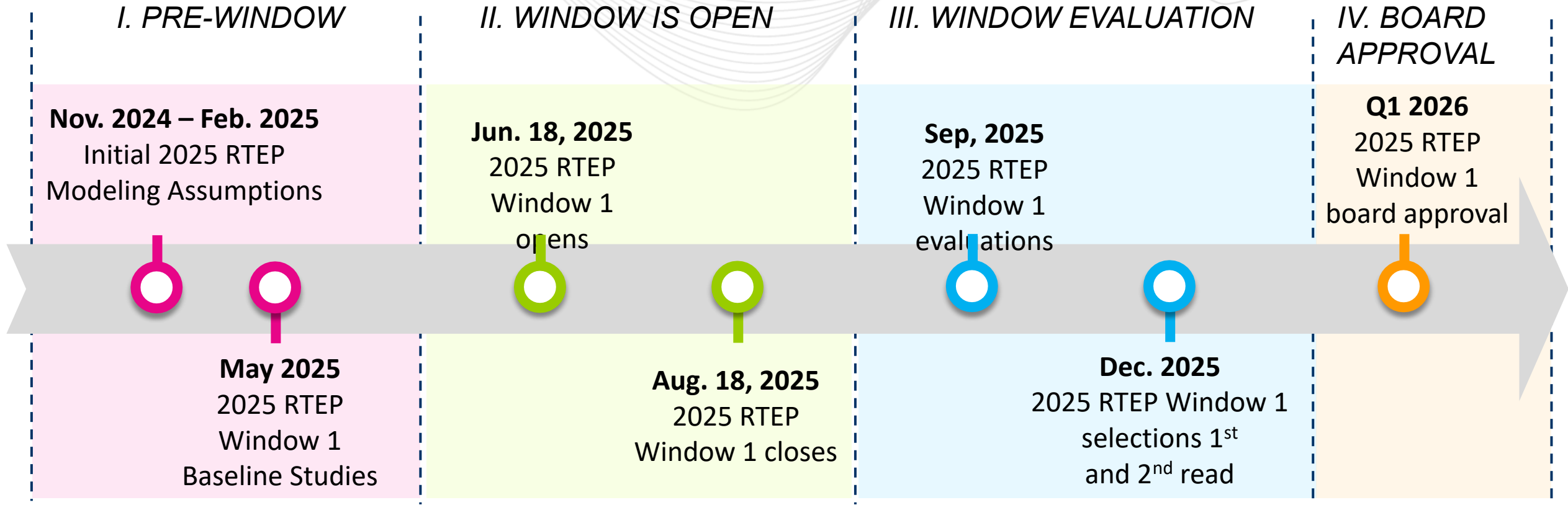
Substation Equipment

Non-Competitive Needs are assigned directly to the incumbent TO, and they are required to submit a solution to mitigate the reliability issue

The Competitive Planning Process is detailed in [Manual 14F](#)

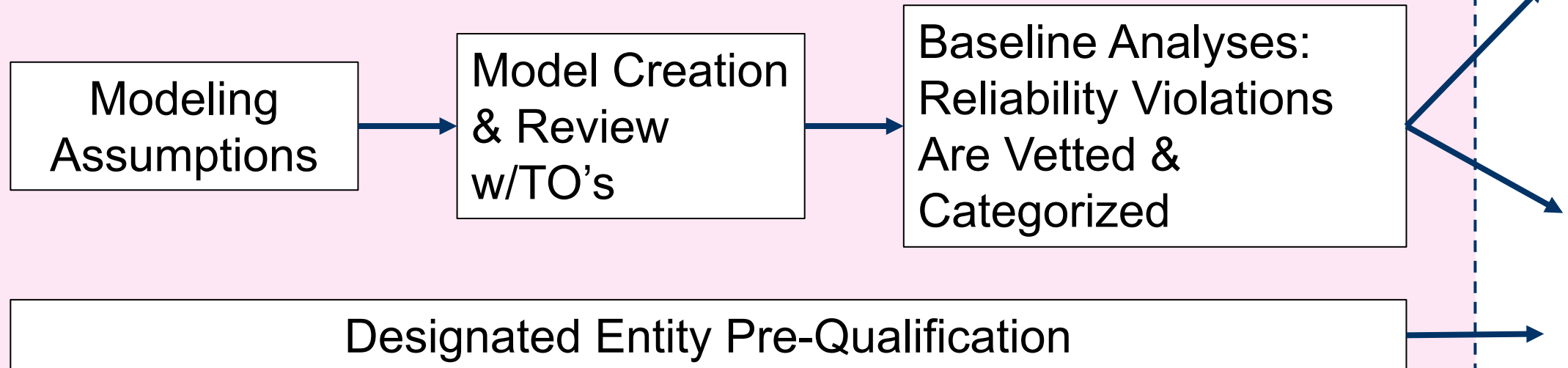


Overview of PJM Baseline RTEP Process



PJM provides schedule updates on RTEP process nearly every month at each TEAC meeting

I. PRE-WINDOW

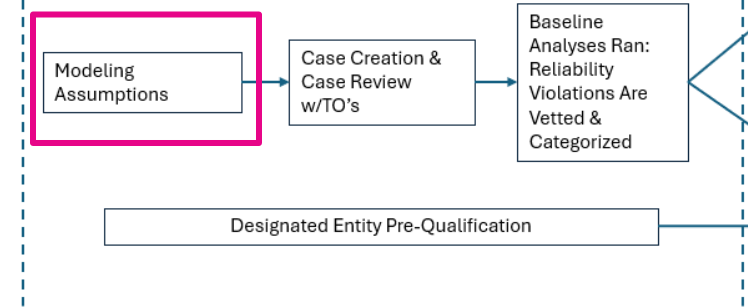


PJM determines modeling assumptions

Standard assumptions:

- PJM develops models for RTEP reliability assessments (Summer Peak, Winter Peak and Light Load).
- When needed, PJM develops multiple scenarios to cover possible variances in assumptions
- Models represent anticipated system conditions for the time horizon, including earlier approved transmission projects (Baselines, Supplemental and Network Upgrades) as well as Generation Interconnections already signed Agreements (ISAs & GIAs).
- Utilize latest PJM Load Forecast (published in December of preceding year).

I. PRE-WINDOW



Communications Pre-Window

- PJM presents modeling assumptions at TEAC meetings. Example [here](#)
- Preliminary case files are posted to website [here](#)
- Email notifications sent via Pardot

RTEP Analysis

Analysis (Non-Market-Efficiency Drivers)

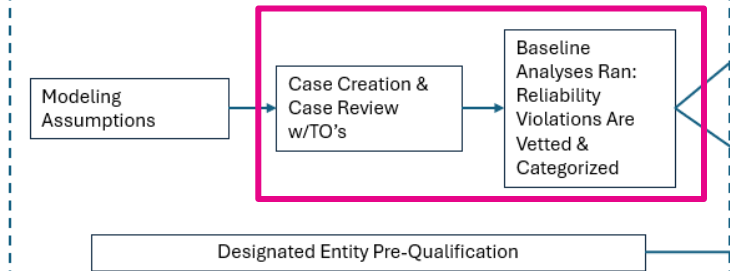
- PJM runs full Reliability Analysis per requirements of [PJM Manual 14B](#) to determine if there are reliability violations present.
- Violations are validated by PJM & TO's
- Violations are categorized to be competitive/non-competitive per the exclusion criteria listed on previous slide 5

Analysis (Market-Efficiency Drivers)

PJM uses PROMOD to run production cost analysis. Use congestion driver criteria described in Market Efficiency Process Overview to identify eligible congestion drivers.

Note: Most model corrections come during this Pre-Window stage. Other model updates caught after window posting are posted as Addendums on Competitive Planning page.

I. PRE-WINDOW



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Pre-Qualification application window open during the month of September each year

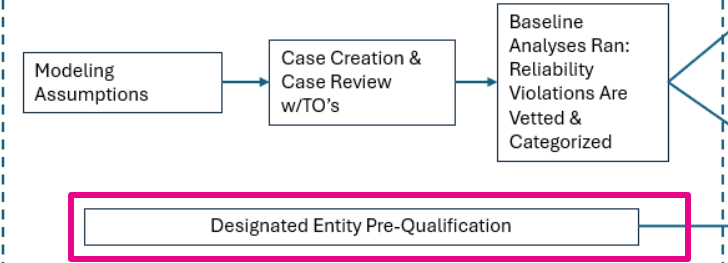
For a company to be eligible to be designated to construct an approved project, PJM considers if the company can build and own a generic transmission project.

Conceptual Criteria:

- | | |
|--|--|
| <ul style="list-style-type: none"> • Previous Record, Experience, Plans to Gain Necessary Expertise • Standardized Practices | <ul style="list-style-type: none"> • Financial Statements • Equipment History: Failures, Remedies, Spares • Right-of-Way Experience |
|--|--|

Pre-qualification transparency via [PJM web site](https://www.pjm.com)

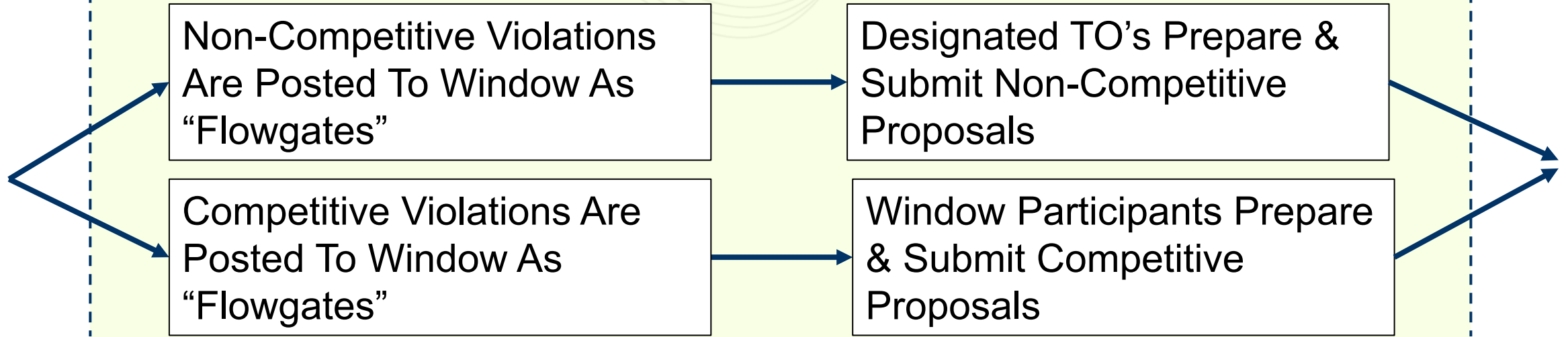
I. PRE-WINDOW



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II. WINDOW IS OPEN



Competitive solicitation window-based process project classes:

Long-lead and economic-based projects: all market efficiency- or any reliability-driven system enhancements needed to be in-service in five years or beyond - 120 days window (currently covered under 60-day window as scenario(s))

Short-term projects: reliability-driven system enhancements needed in year four or five – 60-day window (Typical RTEP Window duration)

Immediate-need projects: Reliability-driven system enhancements needed in three years or less; window if possible, likely less than 30 days nominally

II. Window Is Open: Initial Postings

Window Package is posted for the Stakeholders on the [PJM Competitive Planning Process Page](#). Package includes the following for reliability windows:

Modeling/Study Files

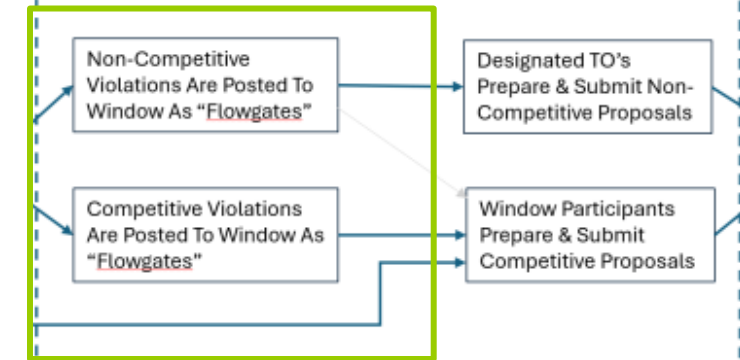
Detailed violations from Part I are posted with corresponding “Flowgate” numbers.

Problem Statement

Non-Competitive “Flowgates” are posted to ***TO Planner (Web Tool)***

Competitive “Flowgates” are posted to ***Competitive Planner (Web Tool)***

II. WINDOW IS OPEN



Communications During Open Window

- Official window packages are posted to the website [here](#)
- Email notifications sent via Pardot
- During this open window time (30-120 days), PJM presents summaries of identified violations at monthly TEAC meetings

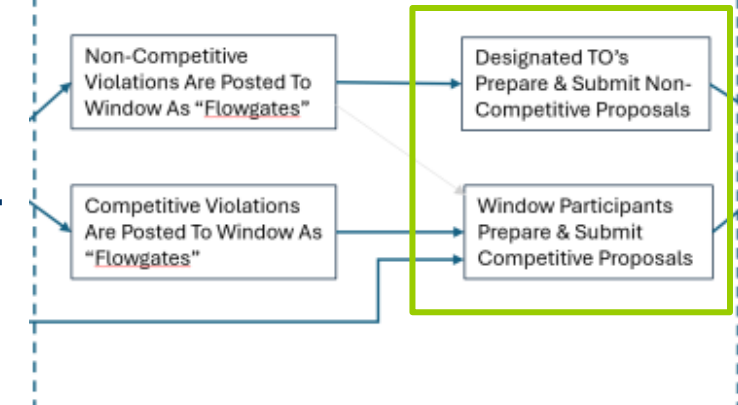
PJM Competitive Sponsorship Framework

Proposing entities are able to select which posted flowgates their proposals seek to mitigate within the ***TO Planner/Competitive Planner***

- Allows PJM to mix and match proposals & proposals' components to find the most efficient or cost-effective solutions
- When multiple, separately prepared proposals offer similar solutions, it indicates efficiency/ merit of such concepts.
- This framework does not preclude proposers from proposing whole-window packages or portfolios.

If needed, proposing entities can also “create new flowgates”

II. WINDOW IS OPEN



Communications During Open Window

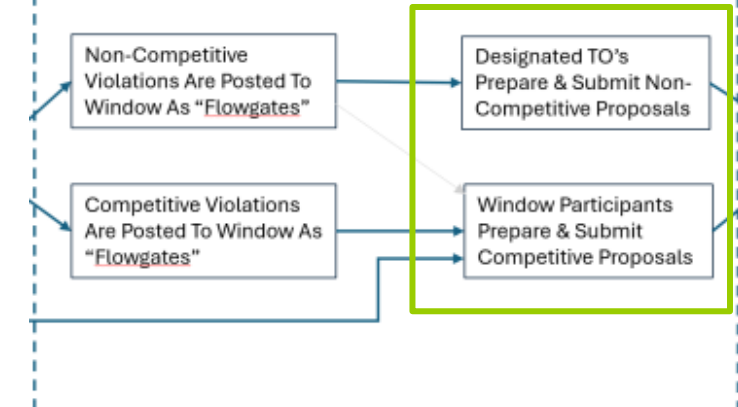
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Submission Data Requirements

- Modeling information (IDVs, Contingencies, Short Circuit, etc)
- Company Qualifications (primarily for constructability/cost analysis)
 - Whether or not they are Pre-Qualified Designated Entity
 - Experience with the following: securing financing, engineering & design, development & ROW acquisition, construction, operations, maintenance
- Project plan, operational plan, project schedule, outage plan, maintenance plan, compliance with standards organizations (primarily for constructability/cost analysis)
- Mapping files (KML/KMZ)
- One-line diagrams

Right after window closes, PJM posts all redacted competitive proposals to the website. An example of a Redacted Proposal can be found on the [Redacted Proposal Page](#)

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RTEP Process Education

Topic

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A green speech bubble containing a white question mark, positioned above a blue speech bubble with three horizontal lines, indicating a question or inquiry.

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Member Hotline

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