PJM Manual 14F:

Competitive Planning Process

Revision: ~~5~~6

Effective Date: ~~February 20, 2020~~February 26, 2021

Prepared by
PJM

Table of Contents

Table of Exhibits

Approval

Approval Date: 02/21/2020 04/07/2020
Effective Date: 02/26/2021

Mark Sims

Manager, Infrastructure Coordination

Current Revision

Revision 6 (02/26/2021):

- Add Resilience bullet to section 4.1.1
- Add Resilience to bullet in section 8.1.2
- Add Resilience sentence to section 8.2.1

~~**Revision 5 (04/10/2020):**~~

~~Periodic Review~~

~~Section 6.1.2 – Replaced "cost cap on project construction~~

~~Section Added 8.4 – Cost Comparative Evaluation Framework~~

Introduction

Welcome to the ***PJM Manual for the Competitive Planning Process***. In this Introduction, you will find the following information:

- What you can expect from the PJM Manuals in general (see "About PJM Manuals").
- What you can expect from this PJM Manual (see "About This Manual").
- How to use this manual (see "Using This Manual").

About PJM Manuals

The PJM Manuals are the instructions, rules, procedures and guidelines established by PJM for the operation, planning and accounting requirements of the PJM RTO and the PJM Energy Market. The manuals are grouped under the following categories:

- Transmission
- PJM Energy Market
- Generation and transmission interconnection
- Reserve
- Accounting and Billing
- PJM administrative services
- Accounting and billing
- PJM administrative services
- Miscellaneous

For a complete list of all PJM Manuals, go to the "Library" section at PJM.com.

About This Manual

The PJM Manual for the Competitive Planning Process is part of the PJM Manual 14 series that encompass the PJM transmission planning protocol. This manual focuses on the process to conduct competitive proposal windows consistent with Order No. 1000.

The Competitive Planning Process Manual consists of nine sections. The sections are listed in the table of contents beginning on page 2.

Note:
While the PJM manuals provide instructions and summaries of the various rules, procedures and guidelines for all phases of

Intended Audience

The intended audiences for this PJM Competitive Planning Process Manual include:

- Generation and Transmission Interconnection Customers and their engineering staff

- Transmission Owners (TOs) and their engineering staff.

Note:
The term “Transmission Interconnection Customer”, as defined in the PJM Open Access Transmission Tariff, refers to those separate and independent entities proposing to install new or upgrade existing transmission facilities rather than an existing

- Transmission Developers
- Federal and State regulatory bodies
- PJM members
- PJM staff

References

There are other PJM documents that provide both background and detail on specific topics that may be related to topics in this manual. References with related information include:

- PJM Manual 1: Control Center and Data Exchange Requirements
- PJM Manual 2: Transmission Service Request
- PJM Manual 3: Transmission Operations
- PJM Manual 14A: Generation and Transmission Interconnection Process
- PJM Manual 14B: PJM Region Transmission Planning Process
- PJM Manual 14C: Generation and Transmission Interconnection Facility Construction
- PJM Manual 14D: Generator Operational Requirements
- PJM Manual 14E: Merchant Transmission Specific Requirements
- PJM Manual 21: Rules and Procedures for Determination of Generating Capability

Using This Manual

We believe that explaining concepts is just as important as presenting procedures. This philosophy is reflected in the way we organize the material in this manual. We start each section with an overview. Then we present details, procedures or references to procedures found in other PJM manuals. The following provides an orientation to the manuals’ structure.

What You Will Find In This Manual

- A table of contents
- An approval page that lists the required approvals and a brief outline of the current revision
- This Introduction and sections containing the specific transmission planning process details including assumptions, criteria, procedures and stakeholder interactions

- Attachments that include additional supporting documents, forms or tables
- A section at the end detailing all previous revisions of this PJM manual

Section 1: Proposal Window Overview

The Federal Energy Regulatory Commission (FERC) issued Order No. 1000 on July 21, 2011. Order No. 1000 requires that PJM (i) provide opportunity through a competitive solicitation process for both incumbent transmission owners and non-incumbent transmission developers to propose transmission proposals, (ii) consider transmission alternatives in its regional transmission planning process; (iii) produce a regional transmission expansion plan and implement a fair cost allocation methodology. FERC required that the process accomplish the following main objectives:

- Ensure that transmission planning processes at the regional level consider and evaluate, on a non-discriminatory basis, possible transmission alternatives and produce a transmission plan that can meet transmission needs more efficiently or cost-effectively;
- Ensure that the costs of transmission solutions chosen to meet regional transmission needs are allocated fairly to those who benefit from them.

This manual describes PJM's competitive planning process. PJM's competitive planning process encompasses all aspects of analysis and evaluation pertaining to RTEP proposal windows.

1.1 Proposal Window Type and Duration

The expected type of system enhancement and required in-service date dictates the duration of the proposal window, as described in Schedule 6 of the PJM Operating Agreement.

- *Long-Lead and Economic-based Projects*: PJM will open a 120-day proposal window for projects with required in-service dates greater than five years out that address identified reliability criteria violations, economic constraints or Reliability Pricing Model (RPM) limits, operational performance and public policy requirements. PJM, as the Office of Interconnection, may shorten or extend the window as needed.
- *Short-Term Projects*: PJM will open a 60-day proposal window for projects to address reliability driven upgrades with required in-service dates between 3 and 5 years out. PJM, as the Office of Interconnection, may shorten or extend the window as needed.
- *Immediate-Need Reliability Projects*: If PJM determines that insufficient time remains for a proposal window to be implemented, PJM may post reliability violations that could be addressed by a project required to be in service within three years or less. If PJM determines that there is sufficient time for a proposal window for Immediate-need Reliability project proposals, PJM will open a shortened proposal window specified by PJM.
- *Interregional Proposals:* Transmission projects on an interface, that address issues in PJM, must be submitted to PJM through Schedule 6 of the PJM Operating Agreement. Such project proposals must also engage the adjacent region's respective planning process. Submitting project proposals in both regions will trigger joint evaluation to determine the more efficient, cost effective solution to address the identified issues.

During each proposal window, developers may submit project proposals to solve posted violations, constraints, system conditions and public policy requirements. If PJM requests

additional reports or information to evaluate the submitted proposal or determines any information submitted in a proposal is deficient, the proposing entity must provide the requested information within 10 business days of receipt of the notification from PJM. PJM may also (i) shorten proposal windows should it be required to meet the needed in-service date of the proposed enhancements or expansions, or (ii) extend the proposal window as needed to accommodate updated information regarding system conditions as described in Schedule 6 of the PJM Operating Agreement.

Frequency of Proposal Windows

- PJM conducts proposal windows on both overlapping 18- and 24-month cycles, as shown in Exhibit 1. Windows included in the overlapping 18-month cycle address NERC and regional reliability criteria violations, as well as violations of Transmission Owner local planning criteria that occur over a 5 to 15 year forward-looking horizon. The scope of overlapping 18-month RTEP analyses will yield one 60-day window. However, PJM retains the right to open proposal windows on an as-needed basis.
- PJM also conducts 24 month long-term proposal windows that address Market Efficiency criteria and long-term reliability criteria violations. Each long-term proposal window opens in January of odd-numbered years and closes after 120 days.

1.

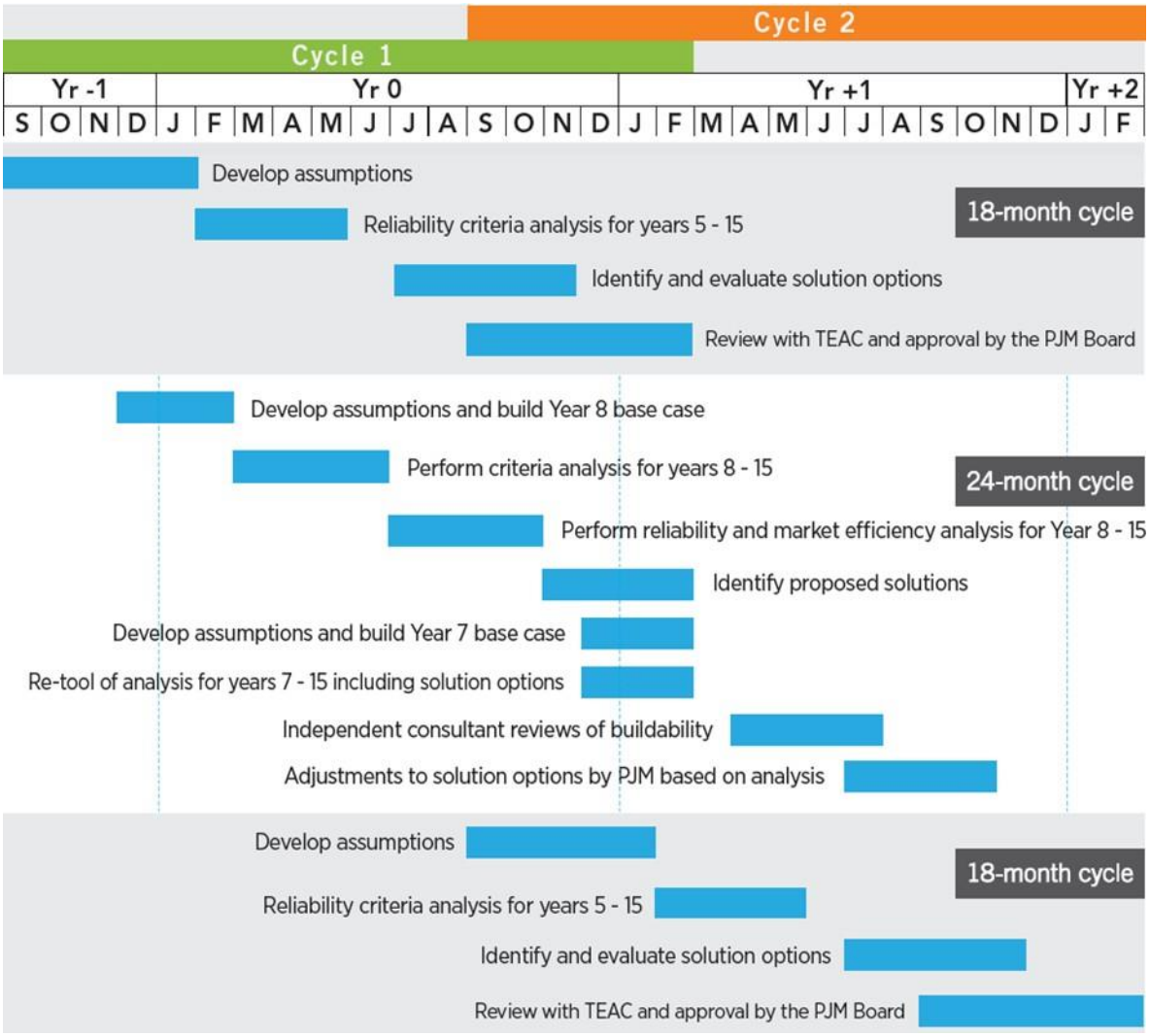


Exhibit 1: 24-Month Reliability Planning Cycle

Window Scope

PJM conducts RTEP analysis on an annual basis, including all reliability testing and market efficiency analysis as described in PJM Manual 14B.

Section 2: Pre-Qualification

2.1 Pre-Qualification Process

Entities that want to participate in the competitive planning process and become the Designated Entity for a transmission project that they propose, must be pre-qualified as required under Schedule 6 of the PJM Operating Agreement. An entity's eligibility is evaluated based on its technical and engineering qualifications, including its ability to develop, construct, operate and maintain transmission within the PJM region. If the entity does not have experience in a specific area, PJM requires that it provide a detailed plan for leveraging the experience of affiliates and/ or contractors. PJM reserves the right to request any additional information deemed necessary to determine the entity's pre-qualification application.

To be granted pre-qualification for Designated Entity status, a pre-qualification package must be submitted to PJM during the annual 30 day pre-qualification window that opens on September 1 of each year. An entity may submit a pre-qualification package outside of the annual pre-qualification window for good cause shown as determined by PJM. PJM will employ reasonable efforts in its evaluation and notify the entity as soon as practicable whether they qualify as eligible to be a Designated Entity.

To remain pre-qualified for Designated Entity status, an entity is required to confirm their pre-qualification information with PJM no later than three years following its last submission. Pre-qualification confirmation packages should be submitted to the September window prior to the three year expiration.

2.2 Pre-Qualification Application

Schedule 6 of the PJM Operating Agreement details the requirements for an application to pre-qualify as eligible to be a Designated Entity. The list below summarizes the required items:

1. Name and address of the entity, including a point of contact;
2. Technical and engineering qualifications of the entity or its affiliate, partner or parent company;
3. Demonstrated experience of the entity or its affiliate, partner or parent company to develop, construct, maintain and operate transmission facilities, including a list or other evidence of transmission facilities previously developed regarding construction, maintenance or operation of transmission facilities both inside and outside the PJM region;
4. Previous record of the entity or its affiliate, partner or parent company to adhere to construction, maintenance and operating standards;
5. Capability of the entity or its affiliate, partner or parent company to adhere to standardized construction, maintenance and operating practices;
6. Financial statements of the entity or its affiliate, partner or parent company for the most recent fiscal quarter, as well as the most recent three fiscal years, or the period of the entity's existence, if shorter, or such other evidence demonstrating an entity's

or its affiliates, partner's or parent company's current and expected financial capability acceptable to PJM;

7. Commitment by the entity to execute the Consolidated Transmission Owners Agreement, if the entity becomes a Designated Entity;
8. Evidence demonstrating the ability of the entity or its affiliate, partner or parent company to address and timely remedy failure of facilities;
9. Description of the experience of the entity or its affiliate, partner or parent company in acquiring rights of way; and
10. Any other supporting information the PJM requires to determine the entity's pre-qualification status including but not limited to the execution of a Non-Disclosure Agreement to protect sensitive discussions as may occur between proposing entities and PJM.

Entities must submit pre-qualification applications and any updated information to PJM at the following email address: ProposalWindow-Prequal@pjm.com

2.3 Processing Pre-Qualification Application

Upon receiving a new pre-qualification application, PJM assigns a unique identifier to each application and acknowledges receipt to the submitting entity. PJM will evaluate the application or updated information and notify the entity no later than October 31 of its findings. If PJM finds that any information submitted is deficient to determine pre-qualification, PJM will inform the entity it is not pre-qualified and include in the notification the basis for its determination.

The submitting entity may then respond by supplying additional or updated information to PJM. If such information is submitted by November 30, PJM will re-evaluate the application and notify the entity no later than December 15 whether the entity is pre-qualified as eligible to be a Designated Entity. PJM will use reasonable efforts to re-evaluate any additional or updated information submitted after November 30 and notify the entity via email of its determination as soon as practicable.

If PJM determines that the entity is not now or no longer will continue to be, pre-qualified as eligible to be a Designated Entity, the entity may continue to supply additional or updated information. PJM will use reasonable efforts in its re-evaluation and notify the entity of its determination as soon as practicable.

2.4 Changes to Pre-Qualification Information

Once an entity is pre-qualified as eligible to be a Designated Entity, it is required to submit any subsequent changes to the information on which its pre-qualification was based. If the change is with respect to the upcoming year, the entity should submit the updated information to PJM during the annual pre-qualification window. If the change is with respect to the current year, the entity must provide the updated information to PJM when the change occurs, and PJM will use reasonable efforts in its re-evaluation and notify the entity of PJM's determination as soon as practicable. Entities submitting updated information to PJM are required to provide their original pre-qualification identification number.

Parties should submit all pre-qualification applications to PJM at the following email address:ProposalWindow-Prequal@pjm.com

Section 3: Registration Requirements

3.1 General Registration

PJM's competitive planning process requires registration for short-term and long-term proposal windows. For short-term proposal windows, individuals are instructed to submit registration annually, including a CEII request, as described in section 4.2 of this manual. Registration for long-term proposal windows, also includes the additional requirements described in section 3.4 of this manual.

3.2 Critical Energy Infrastructure Information (CEII) Registration

Attachment A below describes PJM CEII registration process and how the CEII request and approval process is incorporated into PJM's competitive planning process. Receipt of PJM CEII is a two-step process that requires an entity to: (i) complete and submit a CEII Request Form for the specific CEII requested; and (ii) sign a CEII Non-Disclosure Agreement (NDA). A signed CEII NDA applies to all requests for CEII, as long as a signer's circumstances remain unchanged; however, a separate CEII Request Form must be submitted for each window. Market Efficiency window registration is discussed separately in section 3.4 of this manual.

PJM Members – Each member must sign and electronically submit the PJM CEII NDA or verify that it has a signed, valid CEII NDA on file with PJM. Information that enables PJM to verify the valid CEII NDA on file, must be provided by completing and submitting a CEII Request Form. This CEII Request Form must also include the following wording: ***20XX RTEP Proposal Windows*** (20XX is the year in which the applicable window opens).

- http://www.pjm.com/library/request-access.aspx; and
- http://www.pjm.com/library/request-access/form-ceii-nda.aspx
- Setup a My PJM login account at the following hyperlink, which will be used to identify and authorize users: http://www.pjm.com/Login.aspx
- **NERC registered Planning Coordinator or Transmission Planner employees:** PJM is a signatory to the *Planning Coordinator and Transmission Planners Critical Energy Infrastructure Information Sharing and Non-Disclosure Agreement.* This NDA (PCTP NDA) is an option available for all NERC registered Planning Coordinators and Transmission Planners to facilitate compliance with the FERC Order No. 1000 and the NERC MOD-32 requirements. A requestor who is an employee of a NERC registered Planning Coordinator or Transmission Planner who desires PJM CEII specifically for use in NERC MOD 32 or FERC Order No. 1000 activities (PJM's window process is an Order No. 1000 process) may gain access to PJM CEII by completing the requirements related to this PCTP NDA found at https://eipconline.com/. In addition, PJM's Request Form discussed for PJM members is also required.

PJM Non-Members – Each non-member must also sign an appropriate PJM CEII NDA and CEII Request Form and be subject to additional verification by PJM as outlined in Manual 14B. For more information, including specific CEII categories, please see the following hyperlinks:

- http://www.ferc.gov/legal/ceii-foia/ceii.asp; and

- http://www.pjm.com/library/request-access/form-ceii-nda.aspx

3.3 Secure File Transfer

Each entity must submit its proposals and related files via PJM's Secure File Transfer Tool. To do so, PJM requires a one-time registration but limits accounts to one primary user and one alternate user per entity. To set up a new account, please email ProposalWindow-Admin@pjm.com with the subject "Secure File Transfer Registration". If you have an account, but cannot login, please email axwayadmin@pjm.com

3.4 Market Efficiency Requirements

In addition to the general registration proposal window requirements detailed above, market efficiency windows also require the following:

- **PJM Window Access**: Entities will also need to request 20XX/20YY Market Efficiency Access to obtain related window information and data. Additional information can be found at the following hyperlink:

http://www.pjm.com/planning/rtep-development/market-efficiency.aspx

- **Production Cost Software License**: Some files that PJM provides for analytical evaluation of Market Efficiency windows may contain production cost and nodal simulation data subject to software license requirements. In this event, the requestor must be listed by the appropriate software vendor as eligible to receive any data for which a software license is required.

Section 4: PJM Problem Statement and Requirements

4.1 Public Information

4.1.1 Purpose of a Proposal Window

PJM uses RTEP windows to seek technical solution proposals to solve identified (i) reliability criteria violations in accordance with all applicable planning criteria mandated by PJM, NERC, SERC, RFC and Local Transmission Owners, (ii) economic constraints or RPM limits and (iii) Public Policy Requirements.

PJM reliability criteria tests include, but are not limited to:

- Baseline Thermal and Voltage N-1 Contingency Analysis
- Generator Deliverability and Common Mode Thermal Analysis
- Load Deliverability Thermal and Voltage Analysis
- N-1-1 Thermal and Voltage Analysis
- Transmission Owner Criteria
- Congestion Analysis
- RPM Analysis

4.1.2 Terminology

PJM will post on the planning page of the PJM website a spreadsheet of potential violations. The following column headings are representative of the data fields that will be used to identify the specific facility. (Not all column headings will appear in every sheet within the spreadsheet.) Additional information deemed necessary by PJM will be provided on a separate attachment together with a results file.

A typical thermal analysis spreadsheet could include the following content:

Column Headings	Title	Description
FG #	Flowgate Number	A sequential numbering of the identified potential violations
Fr Bus	From Bus Number	PSSE model Bus number corresponding to one end of line identified as a potential violation
Fr Name	From Bus Name	PSSE model Bus name corresponding to one end of line identified as a potential violation
To Bus	To Bus Number	PSSE model Bus number corresponding to other end of line identified as a potential violation
To Name	To Bus Name	PSSE model Bus name corresponding to other end of line identified as a potential violation

Column Headings	Title	Description
Monitored Facility	Monitored Facility	The circuit on which a potential violation is occurring
Base Rate (MVA)	Base Rate (MVA)	Normal Facility Rating (Rate A)
% Overload	Percentage Overload	Percentage above base rate
CKT	Circuit	Circuit number of identified potential violation
KVs	Kilovolt level (A/B)	Kilovolt level of both sides of potential violation, if A does not equal B, potential violation is a transformer
Areas	Area Numbers (A/B)	Area numbers of both ends of potential violation (A=From Bus Area Number, B=To Bus Area Number) If A does not equal B, potential violation is a tie line
Rating	Line Rating	Applicable Thermal rating (MVA) of line
DC Ld(%)	Direct Current Loading percentage	Percentage above 'Line Rating' determined from DC testing
AC Ld(%)	Alternating Current Loading percentage	Percentage above 'Line Rating' determined from AC testing
Cont Type	Contingency Type	Contingency Categorization (potential options include: Single, Bus, Line_FB, Tower)
Cont Name	Contingency Name	Contingency Name as identified in associated contingency file or embedded in the spreadsheet
Contingency	Contingency	Contingency Description
Violation Date	Violation Date	Date on which violation is expected to occur
Analysis Case	Analysis Case	Case title to use in replicating analysis

A typical voltage analysis spreadsheet could include the following content:

Column Headings	Title	Description
FG #	Flowgate Number	A sequential numbering of the identified potential violations

Column Headings	Title	Description
Bus #	Bus Number	PSSE model Bus number corresponding to bus identified as a potential violation
Name	Bus Name	PSSE model Bus name corresponding to bus identified as a potential violation
KV	Kilovolt level	Kilovolt level of bus identified as potential violation
Area	Area Number	Area number of bus identified as potential violation
ContVolt	Contingency Voltage (P.U.)	Per Unit Voltage at identified bus after contingency is applied
BaseVolt	Basecase Voltage (P.U.)	Per Unit Voltage at identified bus before contingency is applied
Low Limit	Low Voltage Limit(P.U.)	Threshold of Per Unit Low voltage, if ContVolt is under this limit, a potential violation is identified
Upper Limit	High Voltage Limit(P.U.)	Threshold of Per Unit High voltage, if ContVolt is over this limit, a potential violation is identified
Cont Type	Contingency Type	Contingency Categorization (potential options include: Single, Bus, Line_FB, Tower)
Vdrop(%)	Voltage drop	The Percentage that the voltage has dropped as a result of the contingency
Contingency	Contingency Name	Contingency Name as identified in associated contingency file
Contingency 1	First Contingency	N-1 (First) Contingency identified
Contingency 2	Second Contingency	N-1-1 (Second) contingency identified in N-1-1 analysis
Violation Date	Violation Date	Date on which violation is expected to occur
Analysis Case	Analysis Case	Case title to use in replicating analysis

A typical market efficiency spreadsheet file could include the following content:

Column Headings	Title	Description
Facility Name	Facility Name	The circuit on which market congestion is occurring

Column Headings	Title	Description
Area	Area	The Transmission zone in which the congestion occurs
Type	Type	The Type of Facility (i.e. Interface, Line)
Frequency	Frequency	The number of hours the Facility was constrained for the year.
Market Congestion	Market Congestion	The total Market Congestion for the facility for the year.
Notes	Notes	Information, if applicable, about the facility and congestion. (i.e. potential RTEP upgrades, Reason for congestion)

4.1.3 Proposal Development by Submitting Entities.

Proposal submittals must include the analyses completed by the proposing entity to identify its proposed solution(s), consistent with the RTEP procedures PJM uses, as detailed in Manual 14B:

http://pjm.com/~/media/documents/manuals/m14b.ashx

Additionally, all proposed solutions must meet the performance requirements outlined in the applicable PJM Transmission Owner criteria:

http://www.pjm.com/planning/planning-criteria/to-planning-criteria.aspx

4.1.4 Data and Information Provided by PJM

PJM provides the following data and related information. Please note these files are Critical Energy Infrastructure Information (CEII) and should be handled in accordance with the steps described in section 3.2:

1. Base Power Flow Case: The data in the spreadsheet notes which case(s) correspond to each identified reliability criteria violation;
2. Contingency List: All contingency types, including for example: Single, Bus, Tower, Line w/ stuck breaker);
3. Subsystem File: Identifies all subsystem zones to be considered in the analysis;
4. Monitor File: Identifies specific ranges of facilities by area and kV level to be considered in the analysis;
5. Applicable Ratings (if different from than the ratings in the power flow cases);
6. Spreadsheet containing detailed power flow results and any additional technical comments; and
7. Market Efficiency production cost supporting files.

4.2 Secure Information

PJM posts an on-line a public version of the “Problem Statement and Requirements” documentation and associated analytical files, some of which require CEII authorization as discussed in Attachment A of this manual. These files include:

- Flowgates identified in RTEP analyses;
- Detailed flowgate tabs for generator deliverability results;
- Power flow cases;
- Associated contingency, subsystem and monitor files;
- Production cost cases; and
- Associated production cost event, outage library and load forecast files.

Section 5: Violations Included in a Proposal Window

5.1 Criteria Driver Classification

Criteria driver classification type is based on the nature of the project driver. Baseline criteria drivers include Reliability, Market Efficiency and Public Policy. The project evaluation process focuses on project submisions that result from the competitive planning process for either Reliability Criteria and/or Market Efficiency Criteria. Transmission projects required to meet public policy goals are coordinated through the competitive planning process. Projects are initially evaluated according to the window type for which they were originally received.

Supplemental projects, while not included as a criteria driver, are considered in the development and evaluation of baseline upgrades, including competitive proposals. Supplemental projects identified in previous RTEP cycles are included as an input assumption in RTEP cases, and as a base assumption are included in analysis performed in the evaluation of proposals.

PJM will consider Multi-Driver projects, as described in Schedule 6 of the PJM Operating Agreement, as submitted via an RTEP Proposal Window.

5.2 Quality Control Check and Posting of Violations

In coordination with PJM transmission owners, generation owners, neighboring regions and any other affected parties, PJM will perform a quality control check of the identified potential violations and needs. The quality control check may reveal that identified potential violations can be removed from the potential violation list if they are found to be not valid. The quality control check may also reveal that other potential violations not on the original violation list may be added as deemed necessary by PJM.

PJM will post the preliminary findings of the analysis in advance of opening the proposal window, in order to give all stakeholders an opportunity to review the identified potential violations and needs.

5.3 Proposal Window Violation Inclusion Review Process

5.3.1 Identify Violations and Needs

After PJM identifies potential violations and needs based on the analyses performed under the criteria tests described in PJM Manual 14B, PJM initiates a review process to determine if each flowgate is appropriate for inclusion in a RTEP proposal window. PJM will apply best efforts to allow a reasonable amount of time between the posting of its results and the opening of a proposal window. By default, all identified PJM market monitored reliability criteria violations are assumed to be included in an RTEP Proposal window unless they fall into one of the following exemption categories, as described in more detail below:

- Immediate-need Reliability Projects;
- Lower Voltage (<200 kV) Facilities; and
- Transmission Substation Equipment.

The above stated exemptions will be posted to give stakeholders a reasonable opportunity to review and provide comments for consideration on the violations expected to be included or

excluded from the competitive planning process via the TEAC, as described in Schedule 6 of the PJM Operating Agreement. Stakeholders must provide written comments to PJM regarding PJM's determination to exempt a potential violation from a proposal window no later than 30 days after the opening of the window. All written comments will be publicly available on the PJM website for a review period of at least 10 days.

If PJM determines that a previously exempted violation should be included in a proposal window, a minimum of a 30 day open proposal window for the violation will be provided. This could fall within a currently open window, the extension of a currently open window or the use of an addendum window.

5.3.2 Immediate Need Reliability Projects

Immediate-need Reliability Projects are those that are required to be in service in 3 years or less. As defined in Schedule 6 of the Operating Agreement, if PJM determines that insufficient time remains for PJM to conduct a short-term project proposal window for a potential reliability violation needed in three years or less, PJM may exclude the immediate-need reliability violation(s) from the proposal window process. If, however, PJM determines that sufficient time exists to include an immediate-need reliability violation in an RTEP Proposal Window, PJM will open a proposal window, as described in Schedule 6, of the PJM Operating agreement.

5.3.3 Lower Voltage Facilities

Potential reliability violations on facilities below 200 kV are excluded from the competitive planning process unless the identified violation(s) satisfies one of the following two exceptions to the lower voltage facility exemption:

1. The reliability violations are thermal overload violations identified on multiple facilities rated below 200 kV that are impacted by a common contingent element such that the multiple reliability violations could be addresses by one or more solutions, including but not limited to a higher voltage solution; or
2. The reliability violation are thermal overload violations on multiple facilities rated below 200 kV that given the location and electrical features of the violations, one or more solutions could potentially addresses or reduce the flow on multiple lower voltage facilities, thereby eliminating the multiple reliability violations.

If the identified reliability violation does not satisfy either of the two exceptions, PJM will develop a solution to address the violation that will not be included in a proposal window. PJM will post the proposed solution on the PJM website for review and comment by the TEAC and other stakeholders.

5.3.4 Transmission Substation Equipment

Thermal reliability violations on transmission substation equipment that can be solved by an upgrade to an existing transmission facility in a substation (with the exception of power transformers) shall be excluded from the Competitive Planning Process.

Section 6: Proposal Requirements

6.1 Proposal Requirements

Project proposal packages must be submitted no later than the date on which the window closes. There are three categories of information required for a complete package and one item only required if necessary.

- Technical analysis files and documentation
- Completed proposal submittal template
- Project diagrams
- Company evaluation and operations and maintenance information (if required)

Note:
All projects requiring the signing of a Designated Entity Agreement must meet or exceed the minimum design standards as developed by the Designated Entity Design Standards Task Force

6.1.1 Technical Analysis Files and Documentation

PJM requires the following technical information be provided for a complete project proposal package:

1. Detailed analysis spreadsheet showing the planning analysis results for the project
2. Complete set of power flow and dynamic cases modeling the proposed solution. Each case must be solvable with no convergence issues and must conform to industry standards. A single PSS/E IDEV file must be provided so that the proposal may be modeled and easily applied in other analyses. Any new busses created must not be labeled with previously used bus numbers. Critical contingency files to reproduce results driving proposed solution must also be provided and include all additions/edits/removals of single/line/tower/breaker contingencies driven by the proposal. All cases and data files for dynamic simulations must be in the current PSS/E version format
3. Equipment parameters and assumptions
    a. All parameters (ratings, impedances, mileage, etc.)
    b. For reactive devices, settings and outputs
    c. For synchronous machines, MW and MVAR output assumptions
4. All necessary PSS/E idev files or appropriate data to model upgrade
5. Market Efficiency project proposal packages require the following additional items:
    a. All production cost modeling files to accurately model the project topology

b. In addition to all other requirements, if the project requires updates to the flowgate file, the Market Efficiency proposals should also include:

i Description of changes/updates that were applied to the transmission flowgate file (if any):

1) List of flowgates that were modified

2) Brief description of the update: change type (interface changes, changes to the monitored lines or to the contingencies)

ii The event file (updated on top of PJM's published event file) should contain:

1) New ratings of flowgates

2) Updates to the contingency section based on your proposal

3) New flowgate definitions and removal of existing flowgates that are no longer accurate based on the proposal

iii Expected increase/decrease for all impacted reactive interface ratings from proposed projects

6. Additionally, PJM **requests** but does not require the following analysis for Market Efficiency proposals:

a. Detailed benefit/cost evaluation showing savings from project in production costs, gross load payments, net load payments, and congestion costs for all study years

b. Estimation of the benefit-to-cost (B/C) ratio for the proposed solution

c. PV analysis for projects that impact reactive interfaces

d. PROMOD change cases to implement project

e. CETL analysis for all RPM proposed projects

6.1.2 PJM Proposal Submittal Template

The PJM proposal submittal template captures the project details, such as the criteria violations or system constraints that are being targeted by the project, the overall and specific project descriptions and the details of any cost commitment being proposed. The blank proposal submittal template will be published with the window information prior to the opening of a window.

If a cost commitment proposal is proposed, a detailed explanation of the proposed cost cap mechanism, including a detailed explanation with illustrative examples of those components of the total cost of bringing the project into service that are intended to be covered by the cost cap and those cost components which are not covered by the cost cap.

The proposal submittal must include the proposed contractual cost commitment language to be included in the Designated Entity Agreement detailing the terms of the cost commitment including language which allows parties to be able to identify the type of costs covered by the cost commitment and those excluded;

Entities submitting a cost commitment must submit supporting rationale for any exclusions, including, but not limited to detailed information such as past experiences relevant to the construction of such projects, past experience with the events giving rise to the proposed

exclusion and discussion of why the developer has chosen to exclude the particular risk from the cost commitment so that PJM can assess the likelihood of the triggering of exclusions relative to the overall cost commitment proposal. Commercially sensitive information must be marked as confidential by the proposer if disclosure of such information could adversely impact a proposer's ability to negotiate with vendors;

A redacted proposal submittal template is required to be provided as well and should be created following the instructions found in the template and in accordance with the redaction guidelines described in Section 6.2. Redacted proposal submittal templates will be posted as soon as practicable after the close of each proposal window. PJM will post all PJM project submittal templates.

6.1.3 Project Diagrams

PJM requires project diagrams to understand the proposal details such as modifications to existing infrastructure, new substation layouts and configurations and project routes. Project diagrams include, but are not limited to the following:

- Single line diagrams
- Substation general arrangement/station layout
  - If expansion of the substation is necessary, identify the following:
    - Area to be modified
    - Land ownership or acquisition plan
- Line routing diagram(s) identifying areas of new right-of-way acquisition
- Detailed project schedule
  - At a minimum the schedule shall include the following major work activities:
    - Engineering and Design
    - Siting and Permitting
    - ROW and Land acquisition
    - Material procurement
    - Construction
    - Testing/Commissioning

6.1.4 Company Evaluation and Operations and Maintenance Information

A proposing entity seeking Designated Entity status for the project being proposed is required to also include in their project proposal package any information in addition to that provided in the entity's pre-qualification package necessary for PJM to understand how that project will be developed, constructed, operated and maintained. This information should be supplied with the proposal package in a separate document.

6.1.5 Additional Proposal Package Requirements and Submittal Information

PJM will not accept a project proposal with multiple options. Each project proposal with a unique set of electrical characteristics and/or routing characteristics must be submitted separately.

Any proposals received after close of the proposal window will not be accepted.

Interregional solution proposals must follow the documentation procedures discussed in section 7.1.

PJM may also specify additional information in the Problem Statement and Requirements document that is posted with the project proposal window information.

PJM provides the following options for the submittal of deliverables:

1. Preferred – Via secure file transfer tool portal – See section 4.3 for transfer tool portal registration;
2. Alternative - Via electronic mail to ProposalWindow-Admin@pjm.com;
3. Alternative (e.g.: DVD or flash/thumb drive) - Via FedEx to Manager, Transmission Planning, PJM Interconnection, L.L.C. 2750 Monroe Boulevard, Audubon, PA 19403.

6.2 Redaction Requirements

Each proposal must include a redacted version of the project's completed PJM proposal submittal template for public posting. The purpose of submitting redacted and un-redacted versions is to enable the protection of Critical Electrical Infrastructure Information (CEII) and/or proprietary information from disclosure as defined in Attachment A.

The PJM proposal submittal template directions for redaction should be followed. PJM reserves the right to review the proposing entity's proposed redactions to ensure the appropriate level of transparency while protecting CEII, confidential and proprietary information.

Items that should not be redacted:

- Description and scope of project including substation and line detail, and general breaker configuration, e.g. ring bus, breaker-and-a-half etc.
- Violations/issues solved by the proposal
- General route of project
- Cost and schedule details
- Technical specifications and parameters (ratings, impedances etc.)
- Cost commitment information
- General assumptions needed to evaluate projects
- General plans for operations and maintenance
- Environmental, land, and permitting information (except specific routes and landmarks)
- Construction responsibilities by other entities

Items that can be redacted from proposals:

- Detailed breaker descriptions (i.e.: failure of this breaker will result of loss of)
- Single-line diagrams that include breakers
- Geographic maps that identify specific location of project
- Descriptions of specific landmarks in the area (names of rivers, trails, highways, etc.)

- Proprietary information (such as detailed estimates, commercially sensitive practices, agreements with vendors/suppliers and intellectual property)

The above are suggested guidelines for proposing entities to use as they submit their proposals. PJM may require additional redactions to protect CEII or require the disclosure of redacted information as necessary.

The Terms and Conditions relative to a cost commitment will be treated as public information and will be included with the proposal on PJM's website. To aid in transparency, to the maximum extent possible, supporting information provided by the project proposer concerning the cost commitment will be treated as public information and posted on the PJM website. Specific supporting information that could adversely impact the project proposer's ability to negotiate with vendors may be eligible for confidential treatment based on the particular stage of project consideration and construction.

Any documents, data or other information submitted with a project proposal for which confidential treatment is requested must be submitted in writing and designated as confidential pursuant to the procedures adopted by PJM and include supporting justification. PJM shall consult with the entity concerning such designation. After consultation with the project proposer, information that PJM considers inappropriately labeled as confidential will not be given consideration in the evaluation of the proposed cost commitment.

6.3 Using Proposal Submittal Tool

See Attachment B below for instructions and a link to a demonstration video on how to use PJM's secure online file transfer tool

6.4 Proposal Fee Structure

See Attachment C below for a detailed breakdown on PJM's proposal fee structure including fees, due dates and general wire transfer details.

6.5 Proposal Window Communications

RTEP proposal window announcements will be communicated through the Transmission Expansion Advisory Committee (TEAC) (http://pjm.com/committees-and-groups/committees/teac.aspx). Interested parties should register for the TEAC email list to receive the most up-to-date information.

PJM also employs user email lists for each calendar year to announce the posting of files and provide the password to access these files. See 'Window Registration Process' in section 3 for additional details.

Contacting PJM with Questions Regarding RTEP Proposal Windows

PJM utilizes the Planning Community for all questions related to the competitive planning process.

The Planning Community can be accessed via the TEAC webpage (linked above) or directly via: https://pjm.force.com/planning/s/

Registration for the Planning Community requires a myPJM login, and can be requested via:

http://www.pjm.com/committees-and-groups/committees/community-registration.aspx?id=planning

Within the Planning Community, members can post questions to several different topics including the competitive planning process, economic planning process and stakeholder meetings. Additionally, members can submit confidential questions directly to PJM.

6.6 Interregional Proposal Requirements

Interregional proposals must be entered into both the PJM RTEP window process -- in accordance with this manual -- as well as the process of the applicable planning region adjacent to PJM. Interregional agreements may also provide for relatively small, lower cost but highly beneficial projects that may be identified and approved through a single joint planning process and avoid the normally required separate process for both PJM and the adjacent region. Any availability of these new project types will be described in the applicable Tariff, Operating Agreement and joint agreement provisions referenced in this manual.

Section 7: Interregional Process

7.1 PJM's Interregional Planning Process

PJM conducts Interregional Planning activities with each adjacent planning region pursuant to PJM's Tariff, Operating Agreement and joint agreement provisions applicable to each interface. This section of Manual 14F provides an overview of the PJM Interregional Planning process. The provisions of the applicable Tariff or Agreements control in the event of any discrepancy with the material presented in this manual.

PJM's ties to its directly connected neighbors are grouped into three interfaces that can accommodate transmission proposals that address issues and provide benefits to PJM and adjacent regions. The interfaces are to the west (Midcontinent Independent System Operator ("MISO")), the northeast (New York Independent System Operator ("NYISO") and Independent System Operator - New England ("ISO-NE")) and the southeast (Southeastern Regional Transmission Planning ("SERTP")). Proposals for Interregional Transmission projects on all interfaces should address issues identified in both regions and be entered into PJM's regional proposal windows process as an Interregional Project Proposal. Such projects must also engage the adjacent region's process for transmission proposals. Entering proposals in both regions will trigger the process of joint evaluation of an Interregional Project Proposal, along with competitive PJM regional project proposals to determine the more efficient or cost effective solution to address identified issues. Stakeholders who are interested in providing interregional transmission project proposals should actively engage the adjacent region's transmission planning process, the PJM transmission regional planning process as well as available joint planning processes.

7.2 References for Interregional Process and Requirements

- Joint Operating Agreement Between the Midcontinent Independent System Operator, Inc. and PJM Interconnection, L.L.C.
- Northeastern ISO/RTO Planning Coordination Protocol
- Joint Operating Agreement Among and Between New York Independent System Operator, Inc. and PJM Interconnection, L.L.C
- Schedule 6-A of the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. Interregional Transmission Coordination Between the SERTP and PJM Regions
- Schedule 6-B of the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. Interregional Transmission Coordination Between PJM New York Independent System Operator, Inc. and ISO New England Inc.
- PJM Tariff, Schedule 12-B (SERTP cost allocation provisions)
- PJM regional process related to interregional activities can be followed at the Transmission Expansion Advisory Committee (TEAC)

The following sections provide more information about the typical processes followed on each PJM interface. The provisions of the various agreements governing the Order No. 1000

interregional processes implement, and in some cases go beyond, the minimum requirements to:

- Exchange regional transmission planning data, issues
- Review regional transmission plans and solutions
- Determine the need for coordinated analysis of potential interregional transmission that is more efficient or cost effective than regional plans
- Provide opportunities for stakeholder reviews and input
- Provide cost allocation provisions for dividing the costs of an interregional transmission project between directly connected regions

7.3 Midcontinent Independent System Operator (MISO)

Unique to the PJM-MISO interface, an interregional transmission project may be located in both regions or wholly located in one region. There are four types of interregional projects that may be proposed on the MISO interface, each governed by the provisions of the applicable documents cited above. Reliability projects (Cross-Border Reliability Projects and Interregional Reliability Projects), Public Policy projects, Market Efficiency projects, and Targeted Market Efficiency projects. PJM and MISO will split costs between regions according to the benefit split between regions determined according to agreement and tariff provisions.

Interregional Reliability project or Public Policy project costs are split between regions based on each region's proportion of avoided alternative regional project costs. In the case that a reliability project beneficial to both regions does not qualify as an Interregional Reliability project, it may qualify for shared costs under the Distribution Factor method for Cross Border Baseline Reliability projects. Market Efficiency project costs are split between regions based on the PJM and MISO studies indicating the proportion of the economic benefit to each region. Targeted Market Efficiency project costs are split between regions based on each region's avoidance of future Reciprocal Coordinated Flowgate congestion as calculated by PJM and MISO.

Stakeholders can follow the timeline of analyses on the MISO interface through participation in the PJM-MISO Interregional Planning Stakeholder Advisory Committee (IPSAC). Information on the PJM-MISO IPSAC can be found on the PJM Planning Interregional pages of the PJM website (http://www.pjm.com/committees-and-groups/stakeholder-meetings/ipsac-midwest.aspx).

Interregional planning with MISO proceeds on annual and biennial cycles. In the 4th quarter of each year, PJM and MISO review regional issues and solutions with stakeholders at an IPSAC meeting. At this meeting, the anticipated plan for any targeted studies and opportunities for stakeholder input on targeted upgrades will be outlined.

The biennial cycle process typically follows 2 consecutive calendar years. The biennial study cycle plan will be discussed in the 4th quarter IPSAC meeting prior to commencement of a biennial cycle, typically at the end of odd-numbered years. This meeting will provide the anticipated plan for consideration of the more complex interregional issues including, identification of regional and interregional issues, regional model review, regional and interregional proposal opportunities, any needed interregional model reviews, and regional and interregional proposal evaluations. The biennial cycle may address reliability, market efficiency

and public policy as applicable in a given cycle. Project proposals can be entered in PJM's long-term window, November of the first year of the cycle through February of the second year of the cycle (In section 1.1, the provisions regarding the RTEP process, the biennial cycle years are sometimes referred to as year zero and year one).

Updates and summaries of PJM's regional transmission planning related to interregional activities with MISO are available in meeting materials of the TEAC at the link shown in section 6.2.

Regional as well as Interregional Public Policy planning in PJM originates with the PJM Independent State Agencies Committee (ISAC) and can also be followed through participation in PJM TEAC meetings. When PJM public policy issues are identified, the TEAC process will provide any necessary information regarding stakeholder participation and input.

7.4 Northeast Protocol

Coordinated planning among PJM, NYISO and ISO-NE regions (parties) is conducted pursuant to the Northeast Protocol agreement ("Protocol"). Interregional transmission projects may be proposed on this interface that meet the requirements of this Protocol. In generalan interregional transmission proposal must be located in the region of two or more of the parties to the Protocol and displace regional transmission plans of two or more of the parties. Any combination of reliability, economic or public policy project potentially may be displaced.

Fulfillment of the minimum Order No. 1000 requirements is achieved under the Northeast Protocol. The exchange of transmission data and plans and review of the plans occurs annually under the provisions of the Protocol. This process, including the opportunity for stakeholder review and input, can be followed through the Interregional Planning Stakeholder Advisory Committee for the Northeast Protocol at http://www.pjm.com/committees-and-groups/stakeholder-meetings/ipsac-ny-ne.aspx. ,Updates and summaries of these planning activities are also included in the meeting materials of the TEAC, provided in section 6.2.

In addition, periodically, the parties develop a Northeast Coordinated System Plan document. This document describes the ongoing coordination efforts and includes any Interregional Transmission Projects or other transmission coordination accomplished by the parties.

7.5 Southeastern Regional Transmission Planning (SERTP)

The SERTP consists of the entities in the planning region connected to PJM's southern border. SERTP includes entities subject to FERC's Order No. 1000 requirements and additional sponsoring entities who voluntarily participate in the SERTP's regional planning efforts. The FERC-jurisdictional entities are Duke Energy, Southern Company, Louisville Gas & Electric and Kentucky Utilities and Ohio Valley Electric Corporation (including Indiana-Kentucky Electric Corporation). In addition, participating entities include the Associated Electric Cooperative, Dalton Utilities, Georgia Transmission Corporation, Municipal Energy Authority of Georgia, PowerSouth and The Tennessee Valley Authority.

As with the MISO, NYISO and ISO-NE interfaces, the minimum Order No. 1000 requirements are fulfilled with SERTP. Coordination of planning with SERTP includes the annual data and plans exchange process as well as a more in depth biennial review and assessment of the transmission plans and potential for interregional transmission.

This interregional process is embodied in the Open Access Transmission Tariff provisions of each of the jurisdictional entities. Stakeholders interested in participating in coordinated planning among PJM and the SERTP entities are encouraged to follow the regional transmission planning processes of each region, where updates and analyses will be discussed. PJM's process is addressed in the meeting materials that can be found at the TEAC link provided in section 6.2. The SERTP process can be followed at: http://southeasternrtp.com/home.cshtml.

Section 8: Project Evaluation

8.1 Reliability Criteria Project Evaluation

8.1.1 Initial Review and Screening

Following submittal of project proposals through an open proposal solicitation process, PJM performs a preliminary analytical quality assessment of the project proposals received.

The following factors will be used to perform the initial review and screening of reliability project submissions. The initial review will utilize data and information that is provided by the project sponsors as part of their project proposal:

- Initial Performance Review – PJM will evaluate whether or not the project proposal solves the required reliability criteria drivers that were posted as part of the open solicitation process. Competing projects may be organized into logical groups that share comparable scope and cost. Generally, project proposals will pass the initial reliability performance review if they demonstrate acceptable system performance and do not exhibit or trigger any additional problems for the initial power flow, short circuit or dynamic stability tests, as applicable. If a proposal does not pass the initial performance review, it will not be recommended based on the current submission.
- Initial Planning Level Cost Review – PJM will review the submitted project cost by the project sponsor as well as any cost containment mechanisms that are relevant to the project proposal. For the purpose of evaluation, competing projects may be organized into logical groups that address similar criteria violations. Project cost estimates and scope will be evaluated for reasonableness based on projects of similar scope and magnitude.
- Initial Feasibility Review – PJM will review the overall proposed implementation plan and determine if the project, as proposed, can feasibly be constructed. The initial feasibility review may consider physical aspects, permitting, required approvals and overall timing.

Using the information obtained through the initial review, PJM will select project proposals to perform a detailed review.

PJM will regularly retool its analysis based on updated system information to ensure that solutions address the identified violations, do not cause any new violations (such as thermal, reactive, short circuit or stability) and are still needed to address reliability criteria and/or market efficiency criteria. PJM retains the right to select the more efficient or cost effective project to address the violation/constraint/issue.

If a proposed project fails the ~~C~~critical ~~S~~substation pPlanning aAnalysis, PJM may modify the technical specifications of a proposal so that is avoids a failure of ~~CSPA~~cspa, as defined in PJM Manual 14B Section 2.9. This may result in the modified proposal being determined to be the more efficient or cost-effective proposal for recommendation to the PJM Board.

8.1.2 Detailed Proposal Review

As part of the detailed proposal review, PJM will perform a review of primary considerations focusing on violation mitigation. These primary considerations will include:

- Conformance to Reliability Standards - NERC, RFC, SERC - thermal, voltage and stability

- PJM Reliability Requirements, from the PJM Reliability and Adequacy Agreements – Load Deliverability, Generator Deliverability, Light Load Reliability Criteria, 15 Year Analysis, Short Circuit analysis, Transmission Owner Criteria and ~~C~~critical ~~s~~Substation ~~P~~planning ~~a~~Analysis.
- Industry practices and generally acceptable methods

In performing this review, PJM will utilize both the system models that the project sponsors provided and PJM models developed independently. If PJM analysis determines that a proposal does not meet the primary considerations, the proposal will not be recommended based on the current submission.

- Detailed Performance Review – PJM will examine the selected proposals for performance with respect to all performance criteria that proposals are anticipated to impact. PJM will potentially evaluate any applicable criteria that may impact the performance measurement of the project even if it was not explicitly stated as part of the original problem statement. This is in contrast to the initial screening review that only examined the analysis that was performed by the project sponsors.
- Detailed Planning Level Cost Review – PJM will perform a review of the total project cost, including review of cost estimates submitted by the project sponsor and review of cost estimates that may be provided for upgrade work related to the proposed project which would be performed by the affected incumbent Transmission Owner(s). For this review, PJM may validate the total project costs through the use of an independent consultant, internal resources or combination of both as necessary. PJM will also evaluate the benefit of any cost containment mechanisms and may engage an independent consultant to assess the potential benefit of any cost containment/ commitment.

- Detailed Feasibility Review – PJM may perform an in-depth review of the constructability of the project. This review will typically include an evaluation of project scope, complexity and constructability factors that impact the project cost and/or schedule including but not limited to right-of-way acquisition, land acquisition, siting and permitting requirements, project complexity, project coordination complexity, outage coordination and project schedule.

8.1.3 Decisional Process

When multiple proposals pass the primary considerations PJM will determine the relevancy of a set of additional considerations that inform the decision to identify the more efficient or cost effective project to address the issue. After determining which considerations are relevant to a given evaluation, PJM will identify the differentiating factors among the proposals under evaluation.

Considerations that inform decisions:

- Cost or Cost Containment Mechanism
  - Cost commitment proposals are voluntary. Although the submission of cost commitment proposals could, in certain circumstances, prove beneficial, cost commitment proposals do not substitute for the need for a given proposal to meet PJM's technical specifications concerning the proposal and its ability to address the need which gave rise to the competitive solicitation.
  - In analyzing any proposed cost commitment and exclusions to a cost cap, PJM will assess the likelihood and consequence of project execution risk factors listed below and impact of the cost commitment.
- Cost Estimate Review
- Grid Resilience/Performance
  - Transfer Capability – to what degree are the transfer capabilities to/from and within PJM increased or decreased?
  - Coordination with other entities – does the proposal enhance or diminish reliability in another neighboring system?
  - Operational Performance – are there other impacts or benefits to operations performance?
  - Grid Resilience – does the proposal enhance grid resilience through increased redundancy or operational flexibility?
  - Industry practices and generally acceptable methods
  - Route Diversity – does the proposal include an additional diverse route that provides enhanced flexibility?
- Reliability Margin
  - Consideration of the margin the proposal allows before the facility will hit the next limit
  - Project Longevity - How many years into the future is a solution alternative expected to be effective?

  - What are the future risk factors? - Additional load, generation deactivation, additional transmission, future NERC standards, generation or merchant interconnection, impacts to the existing projects?
- Project Execution Risk/Schedule/Timing
  - Environmental impact risks
  - Project Complexity
  - Impact to existing facilities
  - Technology Considerations – Is technology proven?
  - Schedule - Time to construct and feasibility of the schedule
  - Siting and Permitting Risks
  - Right-of-Way (ROW) and land acquisition– Is new ROW/land required?
  - Physical constraints
  - Outage Impacts – What outages are needed, how long, and what are impacts to system?
- Sensitivity Analysis

PJM Enhanced Disclosure Templates are approved and included in the BPM. PJM will post Disclosure Templates on the PJM website as soon as practicable after the close of each proposal window. PJM will post all PJM project submittal templates.

A constructability, independent cost and comparative analysis will generally only be performed and posted for proposal window project finalists meeting the technical need (more than one), including Transmission Owner Upgrades. The comparative analysis may be omitted when there is a single clear and obvious, more efficient or cost-effective project proposal.

- Details of such analysis, including assumptions related to preparation of independent cost estimates and allocation of the total estimated cost across categories of costs similar to those outlined on item 10.b.iii of the [5/3/18 proposed] PJM Template labeled “Cost Containment Commitment”, will be posted for stakeholder feedback.
- When evaluating finalist proposals involving Upgrades (in part or in whole), PJM shall use an independent cost estimate of Upgrades when comparing the costs to other competing projects.
- PJM shall determine the reasonableness of developer cost estimates and shall, for project comparison purposes, use a cost PJM determines to be appropriate based on project risks, feasibility, and the terms of any binding cost containment proposal.

In scrutinizing the cost of project proposals, the Office of Interconnection shall complete for each project finalist’s proposal, including Transmission Owner Upgrades, a PJM-completed Comparative Framework demonstrating the comparative risks to be borne by ratepayers as a result of the proposed binding cost commitment or the use of non-binding cost estimates, including, but not limited to, a comparative analysis of item 10.b.iii of the [5/3/18 proposed] PJM Template labeled “Cost Containment Commitment”. Such comparative analysis shall be presented to the TEAC for review and comment.

- Caps on O&M Costs will not be part of the PJM evaluation process for binding cost commitment proposals. Binding cost containment proposals related to construction cost caps, project total return on equity (including incentive adders), and/or capital structure will be part of the PJM evaluation process for binding cost commitment proposals.
- For binding cost containment proposals related to construction cost caps, project total return on equity (including incentive adders), and/or capital structure, the Developer shall be required to agree to language for inclusion as a non-conforming Term and Condition in the Designated Entity Agreement regarding its project to ensure that the appropriate submissions to the Federal Energy Regulatory Commission with respect to the Developer's recovery of its revenue requirement for the project provide certainty of compliance with the binding cost commitments.
- The materials provided to the TEAC shall describe in a clear and transparent manner, the method by which the Office of Interconnection scrutinized the cost aspects of each finalist proposal, including any binding cost commitments.

PJM shall retain the ability to select the project based on all relevant factors, with cost and binding cost containment being one component. PJM's rationale with respect to the evaluation process and the resulting decision will be explained and reviewed at TEAC and stakeholders will be given the opportunity to provide feedback related to each proposal window. Additionally, PJM will provide an end-of-RTEP cycle comparative summary table (including performance, constructability, cost and cost commitment).

8.1.4 Company Evaluation

In parallel to the analytical evaluation, PJM will perform a planning level company evaluation to ensure that the proposing entity possesses the ability to design, construct, own, operate and maintain the proposed solution. Considerations reviewed in this evaluation include, but is not limited to:

- Project Specific Scope
- Company Experience and Capability
- Project Execution Plan
- Project Operations and Maintenance Plan

8.1.5 Project Recommendation

PJM shall retain the ability to select the project based on all relevant factors, with cost and binding cost containment being one component. PJM's rationale with respect to the evaluation process and the resulting decision will be explained and reviewed at TEAC and stakeholders will be given the opportunity to provide feedback related to each proposal window. Additionally, PJM will provide an end-of-RTEP cycle comparative summary table (including performance, constructability, cost and cost commitment). Cost commitments included in project proposals will be noted by PJM in its presentation of the proposals to the TEAC. Nothing in this Manual is intended to interfere with the ability of the Designated Entity to propose rates, through the FERC ratemaking process.

The materials provided to the TEAC shall describe in a clear and transparent manner, the method by which the Office of Interconnection scrutinized the cost aspects of each finalist proposal, including any binding cost commitments

PJM will present to the TEAC the findings from the technical analysis performed and any other constructability or independent evaluations of the proposed alternatives and the recommended solutions. As part of the project recommendation process, PJM will present a preliminary recommendation at a TEAC meeting and then a final recommendation at a subsequent TEAC meeting. Stakeholders will be provided the opportunity to comment and ask questions about all aspects of the proposal review process and recommended projects. Subsequently, PJM will formalize the recommendation of the projects presented to the PJM Board of Managers for ultimate approval.

After PJM Board of Managers approval, there are many follow-up steps to the PJM process. These include, but are not limited to, completing the Designated Entity Agreement and acceptance of construction responsibility. Cost containment language shall be included in the Designated Entity Agreement as a non-standard term and filed with FERC.

Prudency review shall be exclusively through FERC ratemaking process.

Schedule E Non-Standard Terms and Conditions of the DEA shall contain the proposed cost commitment language submitted by the Designated Entity, subject to any language modifications or clarifications that proved necessary as a result of stakeholder input or PJM's analysis during the evaluation process. If the Designated Entity commits to capping project construction costs or any other aspect related to revenue recovery for the Project, the following additional language shall also be included in the Schedule E - Non-Standard Terms and Conditions of the Designated Entity Agreement:

- Inclusion of the cost commitment in the Designated Entity Agreement is not intended to preempt the right of any party to seek modifications to be ordered by the Commission or otherwise challenge the recovery of costs through the FERC ratemaking process.
- The Designated Entity shall notify PJM in writing within a reasonable time after the Designated Entity becomes aware of a condition that would result in (i) the cost commitment being exceeded or (ii) triggering any exclusions to the cost commitment. PJM, in turn, will communicate such information to stakeholders via notice posted on PJM's website and to FERC by written notice.

8.2 Market Efficiency Project Evaluation

Schedule 6 of the PJM Operating Agreement discusses Market Efficiency criteria used in considering the inclusion of Market Efficiency projects in the recommended plan. This document provides primary criteria and secondary factors for consideration that may be utilized as guidelines in order to facilitate the Market Efficiency Project recommendation process.

8.2.1 Primary Considerations

All submitted proposals will be reviewed to determine which of the PJM identified congestion drivers are addressed by the proposal. The initial review will also determine if there are any major deficiencies in the proposal, including reliability violations and failure of the ~~C~~critical s~~S~~ubstation ~~P~~planning ~~resilience~~ ~~A~~analysis. Requirements that are provided in the Problem Statement will be assessed for compliance. If minor deficiencies are identified, the proposer will be contacted and provided an opportunity to submit responses in sufficient detail to ensure the project proposal is complete and responsive to the identified system conditions. If the proposal does not substantially address a PJM identified congestion driver, or is otherwise substantially deficient, it will be rejected and the proposer will be notified.

8.2.1.1 Eligible Congestion Drivers

Coincident with the opening of each market efficiency proposal window PJM will identify eligible congestion drivers for which market efficiency projects are being solicited. Only proposals which address one or more of these PJM identified congestion drivers will be evaluated. Eligible congestion drivers will be selected to focus proposals on significant issues.

In determining eligible congestion drivers PJM will consider all binding flowgates internal to the PJM footprint (including tie lines), current active Market-to-Market flowgates listed in the NERC book of flowgates, and potential future Market-to-Market flowgates between PJM and MISO. Potential future (prospective) Market-to-Market flowgates will be identified using the principles of studies 2 & 4 of the flowgate qualification tests as outlined in the MISO-PJM JOA, Attachment 2, Section 3.2.1. Specifically, the following steps will be followed:

1. Using the same topology used to identify congestion the Market Efficiency process, PJM will define its control areas to align with the CMP processes as described in section 3.2
2. Monitored facilities included in MISOs Market Efficiency process will be combined with the full set of contingencies used in both PJM Market Efficiency process to establish the domain of flowgates that will be tested for eligibility.
3. Each of these flowgates will be studied in a sensitivity analysis that will establish the flowgates as congestion drivers should they meet either study criteria:

    a. GLDF Threshold Study

Under the historical control area representation, if any two PJM generating stations at electrically unique locations have a Generation-to-Load Distribution Factor (GLDF) that is 5% or greater, this flowgate will be eligible to be an identified congestion driver in the Market Efficiency process.

b. TDF Threshold Study

Under the historic control area representation, if any historical control area to historical control area transaction (Generation-to-Generation transfer) has a 5% or greater Transfer Distribution Factor (TDF), this flowgate will be eligible to be an identified congestion driver in the Market Efficiency process

8.2.1.2 Congestion Mitigation

Consistent with Schedule 6 of the PJM Operating Agreement, a Market Efficiency proposal must substantially relieve congestion on one or more PJM identified congestion drivers. Substantial relief will be determined as either: at least 50% of the modeled congestion on the identified flowgate, or an annual average congestion reduction of $1 million on the identified flowgate. PJM identified congestion drivers may be either energy or capacity market congestion.

8.2.1.3 Benefit/Cost (B/C)

Consistent with Schedule 6 of the PJM Operating Agreement, a Market Efficiency proposal addressing one or more identified congestion driver must meet a B/C ratio threshold of at least 1.25:1, calculated over the first 15 years of the life of the proposal. The B/C ratio is calculated using the procedure described in Manual 14B, section 2.6.5. The Market Efficiency Discount Rate and Fixed Carrying Charge Rate are subject to change for any given 24-month Market Efficiency cycle. Therefore, during every cycle, these values are published along with other

Market Efficiency input assumptions. Rates published during the 2016/17 cycle are documented in the Appendix.

A proposal that does not meet the minimum B/C ratio test will not proceed further in the analysis as a stand-alone proposal to address the specific congestion constraint(s) for which it was submitted. However, the proposal, or a portion of the proposal, could be combined with other proposal(s) or a portion of other proposal(s) to address specific congestion issue(s) or other congestion issues as part of an overall plan to address system-wide congestion issues

8.2.1.4 Cost Estimate Review

Consistent with Schedule 6 of the PJM Operating Agreement, for a Market Efficiency proposal with costs in excess of $50 million, an independent review of such costs will be performed. Additional constructability review may be performed, as deemed appropriate, to evaluate competing proposals.

8.2.2 'Other' Secondary Considerations

When primary considerations do not identify an obvious cost effective solution, differentiate between proposals, or if PJM decides that further analysis is required to address potential constructability and reliability consequences, then some or all of the following secondary factors will be considered in the Market Efficiency projects selection process. (For example, a project proposal with a high 10:1 B/C ratio is clearly cost effective, but a proposal with a lower or marginal B/C ratio closer to 1.25:1 may require other considerations to be addressed)

8.2.3 Zonal/Total Savings

Consistent with Schedule 6of the PJM Operating Agreement, a Market Efficiency proposal with zonal/total benefits such as production cost savings, load payments (net and gross) reductions, Auction Revenue Rights (ARR) credits, total system congestion savings, capacity market savings (capacity market cost savings and load capacity payments savings) shall be considered during the final selection process.

8.2.4 Risk Evaluation

Cost escalation risks, schedule delay risks, and project development risks, such as siting and permitting, shall be considered during the final selection process. PJM will assess the applicable risks, consider their impacts on the execution of each project, and consider the results of such analysis in the selection decision.

Cost escalation risks may be addressed by including a cost containment provision in the project proposal. When applicable, PJM will evaluate the risk mitigation of the cost containment provisions by a subjective analysis of the potential for cost escalation and the ability of the cost containment proposal to address the risk for those aspects of the proposal for which the cost containment provisions apply. To the degree that the analysis confirms risk mitigation benefits, the proposal with cost containment may be given preference in the overall selection process.

8.2.5 Sensitivity Evaluation

Consistent with Schedule 6 of the PJM Operating Agreement, sensitivities of future conditions shall be considered within the Market Efficiency project selection process in order to mitigate the potential for inappropriately including or excluding Market Efficiency projects. Some of these future sensitivities may include but are not limited to load forecast uncertainty, transfer level variations, fuel cost variations, generator retirements, and uncertainties as a result of

constructability evaluation. The degree to which each sensitivity is applied in the selection decision varies with each proposal, but the magnitude of the potential economic impact of each sensitivity is the main driver. PJM typically will study future sensitivity impacts on load forecast variations and fuel cost variations for eligible proposals. While the sensitivities may vary based on expected volatility, a reasonable range for load and gas sensitivities is documented in the Appendix. Given the scenario where multiple projects are proposed to address the same congestion driver, all other factors being equal, PJM may select the proposal that exceeds 1.25:1 B/C for all the sensitivities considered in its selection process compared to other proposals that did not consistently meet the 1.25:1 B/C for all the sensitivities considered in the selection process.

8.2.6 Reliability Impact

Prior to recommending a Market Efficiency project for PJM Board approval, PJM will perform a reliability impact study to ensure the proposed project will not create any reliability violations requiring additional reliability upgrades or expansions in addition to the proposed solution. Any reliability violations and resulting upgrade and expansion costs to mitigate those violations will be considered added costs to the initially proposed solution and will trigger a holistic review including primary and other considerations, including recalculation of the B/C ratio. Such additional evaluation may impact the overall performance evaluation of the project.

8.2.7 Outage Impact

The duration of the outages and the transmission congestion associated with the outages required to install the project will be assessed. The outage congestion will not be included in the B/C ratio calculation for the project, but rather, as an ancillary cost sensitivity associated with the project.

8.2.8 Recommending RTEP Market Efficiency Proposals

Consistent with Schedule 6 of the PJM Operating Agreement, based on aforementioned primary and other considering factors, PJM ultimately will recommend proposals (for PJM Board approval) that relieve transmission constraints and which are economically justified. Cost containment language shall be included in the Designated Entity Agreement as a non-standard term and filed with FERC.

8.3 Public Policy Project Evaluation

PJM will consider all public policy driven proposals and evaluate them to ensure they do not trigger reliability criteria violations. PJM will evaluate a Public Policy proposal as described in Schedule 6 of the PJM Operating Agreement.

8.4 Comparative Cost Framework

8.4.1 Applicability

PJM will initiate the comparative cost framework to evaluate the costs of project proposals that are submitted through PJM's competitive proposal window process, with the final comparative cost framework being performed once project proposals are found to pass an engineering screen. The comparative cost framework is a multi-step process that calculates project costs and permits the comparison of costs among projects addressing the same violation(s) or constraint(s) (competing projects) submitted through the proposal window.

If there is only one project proposal submitted to address violation(s) or constraint(s), the comparative cost framework analysis set forth here is not necessary. Instead, PJM will review the potential risks, if any, associated with the estimated costs submitted for that project proposal.

8.4.2 Assessment of Project Proposals With Cost Commitment Provisions

If a project proposal includes a cost commitment provision, PJM will assess the details of the proposed cost commitment provision and corresponding cost estimate. Such assessment may include, for example, a review of proposed project-specific risks, scope of the proposed project, the estimated construction costs, risks of proposed costs increasing relative to the cost commitment provision, risks of proposed costs exceeding the cost commitment provision, and the risk of the sponsor's inability to complete the proposed project.

A cost commitment provision submitted as part of a project proposal may include, but is not limited to, the capital structure (debt to equity ratio) and caps on: initial capital costs (total costs associated with bringing the project into service); the annual revenue requirement; the rate of return on equity (ROE); the debt cost; the total capital cost; allowance for funds used during construction (AFUDC); construction work in progress (CWIP); abandonment costs and schedule guarantees. A cost commitment proposal may also exclude defined cost elements from the cost commitment provision.

8.4.3 Assessment of Project Proposals Without Cost Commitment Provisions

If a project proposal does not include a cost commitment provision, PJM will assess factors that may include, but are not limited to, project specific risks (for example, the risk of a proposed project's estimated costs being exceeded), scope of the project, magnitude of the proposed cost, the estimated construction costs, annual revenue requirements and the cost of capital.

8.4.4 Financial Analysis Used In the Comparative Cost Framework

In order to perform a comparative cost framework analysis, PJM will first identify the competing projects to be compared. Then, for each set of identified competing projects, PJM will perform a financial analysis using the following non-exhaustive list of defined inputs: feedback from the detailed feasibility review; data and information from the project proposals submitted to PJM; and financial input assumptions and cost commitment exclusions. The financial input assumptions may include, for example: ROE, capital structure, debt cost, administrative and general costs (A&G), ongoing capital expenditure (CapEx), service life, federal tax rate, state tax rate, property tax rate, AFUDC, CWIP, and any schedule guarantees.

Financial analysis scenarios will then be used to evaluate the sensitivity of the project proposals' estimated costs relative to variations in the magnitude of, and combinations of, certain input levels.

The estimated costs of project proposals will be compared using the net present value of the annual revenue requirements over the life of each project proposal. PJM will also consider any separate or additional upgrade costs required to accommodate the proposed project on the system.

Prior to PJM running its financial analyses for the project proposals in each set of competing projects, PJM will advise the Transmission Expansion Advisory Committee of the key inputs to the financial analyses that PJM plans to use, and any additional sensitivities it will perform.

Upon completion of the final cost comparative framework, PJM will present to stakeholders the results of the financial analysis.

In accordance with the Open Access Transmission tariff, Attachment M, the MMU has access to all data submitted to PJM through PJM's competitive proposal window process.

The MMU may, at its discretion, perform an independent financial analysis of projects submitted to PJM through PJM's competitive proposal window process.

8.4.5 Review Cost Commitment Election

The quality and effectiveness of the cost commitment selected by the project proposer, including any exceptions, exclusions or limitations to the elected level of cost commitment, will also be evaluated by PJM.

Section 9: Designation Process

This section describes the designation process for greenfield projects selected through the PJM proposal window process. The designation process is for projects selected under Schedule 6 of the PJM Operating Agreement as described in section 4.2.2 of the Consolidated Transmission Owners Agreement.

9.1 Proposal Window Agreements

9.1.1 Designated Entity Agreement (DEA)

Greenfield transmission projects that originate through an RTEP proposal window will utilize the Designated Entity Agreement (DEA) to assign construction responsibility to the Designated Entity for the RTEP project. The DEAis a two-party agreement between the Designated Entity and PJM. The terms and conditions of the DEA govern the construction period of the transmission project and define specific rights and obligations of the parties. The form DEA can be found in the PJM Tariff at Attachment KK.

9.1.1.1 Security

The Designated Entity is required to submit a security deposit for the project that is calculated as 3% of the PJM estimated costs for the portion of the transmission project being designated to the Designated Entity. A Letter of Credit, which meets PJM criteria, or cash are acceptable forms of security. Security is required to be maintained throughout the term of the DEA.

Information further detailing the DEA can be found in PJM Manual 14C.

9.1.2 Interconnection Coordination Agreement (ICA)

The Interconnection Coordination Agreement (ICA) provides for the coordination required between the Designated Entity and Interconnected Transmission Owner(s) for a greenfield transmission project selected through an RTEP proposal window. The ICA is required in those circumstances where the Designated Entity is not a signatory to the Consolidated Transmission Owners Agreement (CTOA). The ICA formalizes the coordination responsibilities between the Transmission Owner and Designated Entity during the construction phase of the project. An ICA is required for each Transmission Owner to whom the greenfield project is interconnecting who is required to coordinate work with the Designated Entity to facilitate the connection of the identified transmission project to the system. The form for the ICA can be found in the PJM Tariff, Attachment LL.

9.2 Designation Process and Timeline

When PJM staff completes the evaluation phase, a project may be recommended to the PJM Board of Managers for their consideration. If the Board elects to approve the project, the designation process, as detailed in the PJM Operating Agreement is initiated.

Within 15 business days of the PJM Board of Manager's approval of the project, PJM staff is required to notify the proposing entity of their designation. The notification is to include the required in-service date of the project and a date by which all necessary state approvals should be obtained.

Within 30 days of receiving notification of designation, the proposing entity shall notify PJM of their acceptance of designation. The acceptance is also required to contain a development schedule with a minimum breakdown aligning with the standard DEA milestones. PJM may request additional milestones as deemed appropriate. PJM may, for good cause, extend the date by which the development schedule is due.

PJM will review the development schedule and within 15 days or other reasonable time, will respond with any questions or issues that need to be addressed and tender an executable DEA to the Designated Entity. Within 60 days of receiving an executable DEA, or other time mutually agreeable to both entities, the Designated Entity is required to submit the security as described in the DEA and an executed copy of the DEA.

Exhibit 2 provides an outline of the process.

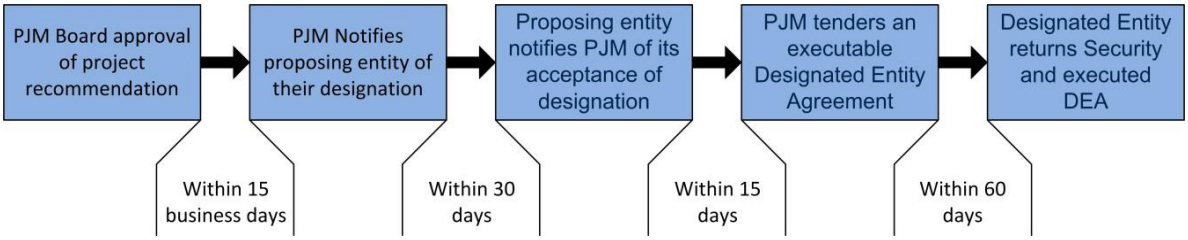


Exhibit 2: Designation Process Timeline

9.2.1 Designation of Interregional Projects

Interregional Transmission Projects must be proposed in PJM's proposal window process and be selected for cost allocation in PJM's RTEP. The cost of an Interregional Transmission Project applicable to PJM's RTEP evaluation is the cost allocated to PJM according to the applicable interregional process outlined in section 6 of this manual. Interregional Transmission Projects, or the portion thereof, located in the PJM region will selected and designated according rules applicable to the project type as outlined in this manual.

9.2.2 Project Assignment

A project may be assigned in full to another entity subject to the assignment provisions of the Designated Entity Agreement.

Attachment A: Critical Energy Infrastructure Information (CEII)

A.1 CEII Definition

PJM adopts the Federal Energy Regulatory Commission's ("FERC" or "Commission") definitions of Critical Energy Infrastructure Information ("CEII") and Critical Infrastructure at 18 CFR §388.113 (c) as follows:

1. Critical Energy Infrastructure Information means specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure that:
   a. Relates details about the production, generation, transportation, transmission, or distribution of energy;
   b. Could be useful to a person in planning an attack on critical infrastructure;
   c. Is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. 552; and
   d. Does not simply give the general location of the critical infrastructure.
2. Critical Infrastructure means existing and proposed systems and assets, whether physical or virtual, the incapacity or destruction of which would negatively affect security, economic security, public health or safety, or any combination of those matters.

A.2 Introduction

A.2.1 General Intent

PJM's intent is to provide a process for eligible recipients to access CEII consistent with the Commission's standards for handling CEII material. PJM information that contains CEII can only be obtained by complying with PJM's CEII authorization process.

A.2.2 Examples of CEII

The Commission considers certain information to be CEII including the information filed in transmission owners' respective FERC Order 715, Part 2, Part 3, and Part 6 (http://www.ferc.gov/legal/ceii-foia/ceii.asp) submittals. This information includes electrical models, detailed single-line diagrams and analysis of the filer's actual transmission system. PJM treats as CEII all power flow model, system analysis and contingency and monitored element files. Power flow models specifically configured for short circuit analysis that do not contain load and generation dispatch are not considered CEII. Other information may also qualify as CEII under FERC definitions.

A.2.3 Rules When CEII Includes Confidential Member Information

CEII information may include confidential data from PJM Transmission Owners, Generation Owners and other parties. PJM requires the entity seeking such confidential information to demonstrate that the affected members have given their consent to its release in compliance with the Tariff and Operating Agreement. Confidential information is governed by the PJM Operating Agreement.

While power flow cases are considered CEII, they may, but generally do not, contain confidential information. Some PJM power flows are special cases that contain both confidential information

and CEII. For example, cases originating from system operations and used for near term operational studies often contain confidential information in addition to CEII. To that extent, members' confidential information may be redacted prior to release if the party requesting the data is unable to demonstrate to PJM that the affected members have given their consent to its release.

A.2.4 Reservation of Rights to Amend CEII Rules

PJM reserves the right to revise its process from time-to-time, to limit access to CEII as may be appropriate in any specific instance in accordance with PJM's manual revision procedures posted on PJM's website at PJM.com.

A.3 PJM CEII Rules

A.3.1 Categories of PJM CEII Requestors Procedures

A.3.1.1 Authorized Entities Procedures

The process to request CEII from PJM is as follows for an employee or authorized agent/ consultant of: (i) a PJM member; (ii) a PJM Transmission Owner; (iii) a PJM Generation Owner or operator of generating units in the PJM Region; (iv) a NERC registered Transmission Owner/ Operator; (v) a PJM Interconnection Customer; (vi) another RTO or similar independent system operator recognized by the Federal Energy Regulatory Commission; (vii) a NERC Planning Coordinator or Transmission Planner; (viii) a nonincumbent transmission developer pre-qualified to eligible to be a Designated Entity pursuant to Schedule 6 of the PJM Operating Agreement; or (viii) a natural gas local distribution company and/or a natural gas pipeline operator serving customers within the PJM Region (individually "Authorized Entity" and together "Authorized Entities"). The process outlined below allows for individual employees or individual authorized consultants of Authorized Entities to obtain CEII. PJM's procedures set forth below allow an organization to submit requests on behalf of multiple individuals within Authorized Entities.

Except in the case of organizational CEII requests described below, each individual requester of CEII from employees or authorized agents/consultants of Authorized Entities must complete a PJM CEII Request Form and must execute the appropriate PJM CEII Nondisclosure Agreement ("NDA"). Employee or authorized agent/consultant or Authorized Entity must submit a PJM CEII Authorization Form (in addition to the requester's completed PJM CEII Request Form and appropriate PJM CEII NDA) that identifies each individual agent/consultant who may make individual requests for PJM CEII on behalf of such entity. The PJM CEII Authorization Form and CEII NDA are located on PJM's website at: http://www.pjm.com/library/request-access/form-ceii-request.aspx.

Once the CEII requester has been verified by PJM as a legitimate CEII requester such CEII requester may obtain the CEII consistent with its request.

Organizational CEII Requests: Authorized Entities may execute an organizational agreement with PJM which will allow the receiving organization to share CEII information under the terms of an applicable PJM CEII NDA an example of which is located on the PJM website at: http://www.pjm.com/library/request-access.aspx. However, PJM may use other forms of organizational CEII NDAs as appropriate. An organizational NDA will require individual recipients of CEII material to be listed and sign an attachment to the NDA which will require each individual to acknowledge his or her understanding of the restrictions on the use of CEII

or further disclosures except as allowed under the terms of the organizational NDA. Each organization is required to keep the list of authorized individual recipients up-to-date and notify in PJM in writing of any changes to the status of the authorized individual recipients in accordance with the applicable NDA.

A.3.1.2 Procedures for Federal Agencies and NERC

If the requester of CEII material is a representative of FERC, the Department of Energy, the Department of Homeland Security, NERC or a NERC Regional Entity (e.g. RF, SERC, etc.), PJM will release the information if PJM confirms that the requestor (requestors) is an employee of these agencies. Upon release, the CEII material becomes subject to the agencies rules of procedures applicable to CEII.

A.3.1.3 PJM Authorized State Commission

The process for an employee of a PJM Authorized State Commission to request CEII from PJM is as follows: Each individual requester of CEII must complete a PJM CEII Request Form and must execute a PJM CEII Government NDA located on the PJM website at: http://www.pjm.com/library/request-access.aspx.

- After such CEII requester has been verified by PJM as a legitimate CEII requester (i.e., a legitimate employee of one of the governmental organizations listed above), such CEII requester may obtain the requested CEII.

A.3.1.4 Procedures Applicable to Other CEII Requests

The process for all other requestors to request CEII from PJM is as follows:

- Each individual requester of CEII must complete a PJM CEII Request Form and must execute an appropriate PJM CEII NDA. Where the individual requester of CEII is an authorized agent/consultant for another entity, then an authorized employee of such entity must submit a PJM CEII Authorization Form (in addition to the requester's completed PJM CEII Request Form and the appropriate PJM CEII NDA) that identifies each individual agent(s)/consultant(s) who may make individual requests for PJM CEII on behalf of such entity. The PJM CEII Authorization Form is located on the PJM website at: http://www.pjm.com/library/request-access.aspx.

- Upon receiving all completed required CEII forms, PJM will determine if the requested information is CEII, and, if it is, whether to release the CEII to the requester. PJM will use the information provided by the requester in the PJM CEII Request Form to (1) establish whether a requester has presented a legitimate need for the CEII; and (2) weigh the need for the CEII against the potential harmful effects of its release. In reviewing the request from such individual, PJM will confirm the authenticity of the CEII requester and whether the request is consistent with the requestor's business or educational interest as determined from a review of publicly available data such as the requestor's website. If PJM is unable to determine from publicly available information that the request is consistent with the requestor's business or educational interest in such data, the request will be denied. A requester shall provide additional information (beyond the PJM CEII Request Form) to PJM upon PJM's request.

Attachment B: Using Secure File Transfer Tool to Submit Proposals

PJM's Secure File Transfer Tool is the preferred method for submitting proposals and all associated files to PJM. PJM requires a one-time registration for this tool. PJM limits these accounts to one primary and one alternate user per submitting entity. To setup a new account, please email PJM at ProposalWindow-Admin@pjm.com with the subject "Secure File Transfer Tool Registration". If an entity has an account, but cannot login, please email PJM at axwayadmin@pjm.com

Detailed instructions on using PJM's Secure File Transfer Tool can be found at:

http://pjm.com/planning/rtep-development/expansion-plan-process/ferc-order-1000/~/media/planning/rtep-dev/expan-plan-process/ferc-order-1000/rtep-proposal-windows/axway-user-instructions.ashx

A demonstration video walking through the steps of the Secure File Transfer Tool can be found at:

https://pjm.com/planning/competitive-planning-process.aspx

Entities must submit a single compressed (i.e. ".zip") file per proposal per window/due date..

All files must be received no later than 11:59:59 PM EST on the day of the close of the window.

Attachment C: Proposal Fee Structure

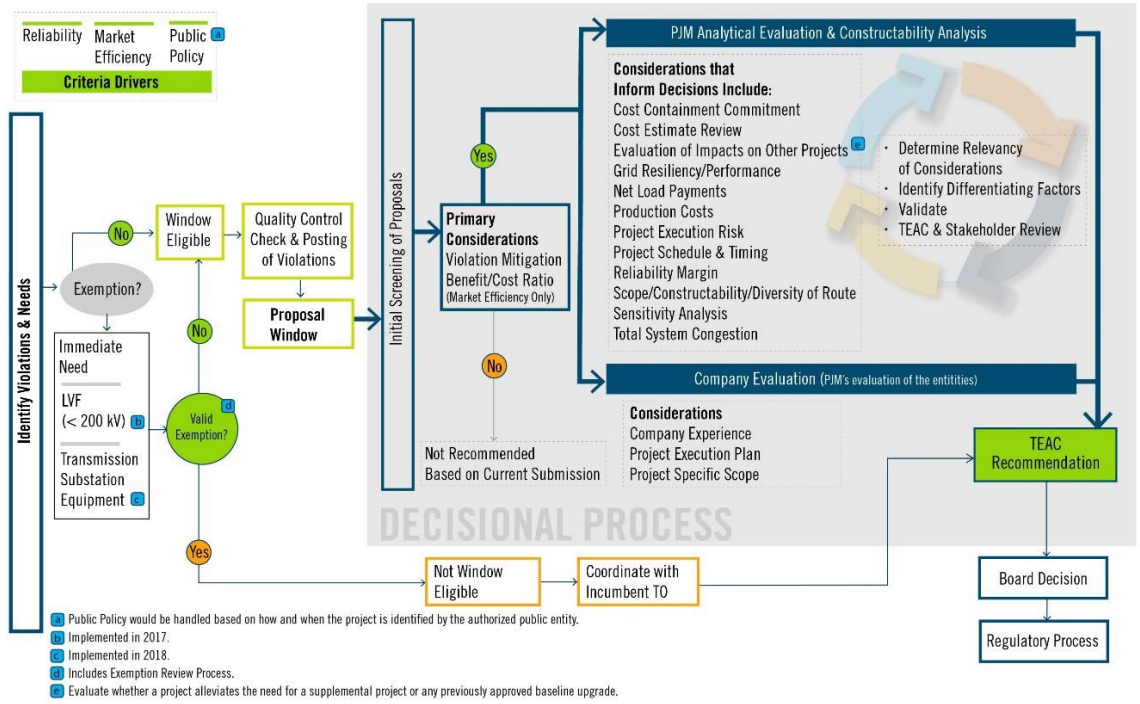
All proposals, upgrade and greenfield solutions, submitted for consideration in any RTEP Proposal Window are subject to a Proposal Fee based on the following fee structure:

- No fee ($0) for any proposed projects (upgrade and greenfield) below $20M;
- $5,000 fee for any proposed projects (upgrade and greenfield) greater than $20M and less than $100M; or
- $30,000 fee for any proposed projects (upgrade and greenfield) greater than $100M.

The fee is based on the total cost estimate (in-service year dollars) provided by the proposing entity in the detailed proposal (must be submitted along with final proposal submissions), by the close of the proposal window. The total cost estimate must include all scope elements required in the proposal, including the cost estimate of upgrade work to be completed by other entities and cost estimate of work required to alleviate any new violations caused by the proposal.

Wire transfer details will be provided along with the “Problem Statement and Requirements Document” for each proposal window. Proposing entity must ensure that all payments to PJM for Order No. 1000 proposals include “Order 1000” in the subject/notes/addenda field.

Attachment D: Decisional Process



Revision History

Revision 5 (04/10/2020):

- Periodic
- Section 6.1.2 – Replaced "cost cap on project proposal"
- Section 8.1 – Updated Cost
- Section Added 8.4 – Cost Comparative

Revision 4 (02/20/2020):

- Removal of FERC 715 Exclusion language
  - Section 5.3.1: Removed bullet
  - Section 5.3.3: Deleted Paragraph
  - Attachment D: Removed exclusion for TO Criteria from decisional process diagram
- Administrative Change:
  - Updated manual ownership from Aaron Berner to Mark Sims

Revision 3 (04/25/2019):

- Section 1.1 – Proposal Window Type and Duration
- Long-term proposal window start time modified to open in January of odd years

Revision 2 (09/27/2018):

- Section 2.1 – Pre-Qualification Process
  - Process updated to include a three year data confirmation
- Section 5.3 – Proposal Window Violation Inclusion Review Process
  - FERC acceptance of the substation equipment and Transmission Owner Form 715 exemptions
- Section 6.1 – Proposal Requirements
  - Updated to include the new project proposal template
  - Includes cost containment information
- Section 6.2 – Proposal Timelines
  - Removed with relevant information now captured under section 6.1
- Section 6.3 – Redaction Requirements
  - Updated to include the new project proposal template
- Section 6.6 - Proposal Window Communications
  - Changed to incorporate Planning Community

- Section 6.7 – Market Efficiency Proposal Requirements
  - Removed with relevant information now captured under section 6.1
- Section 8.1 – Reliability Criteria Project Evaluation
  - Added the end-of-RTEP comparative summary
  - Includes cost containment evaluation information
- General clean-up of numbering issues and spelling errors

Revision 1 (08/23/2018):

- Updated manual ownership from Mark Sims to Aaron Berner
- Section 8.2.1 - Added clarifying language
  - Proposals must address a PJM Identified congestion driver
- Added new section 8.2.1.1 – Eligible Congestion Drivers
- Moved to new section 8.2.1.2 – Congestion Mitigation
- Section 8.2.1.3 – Clarified language regarding Benefit/Cost (B/C)

Revision 0 (06/23/2017):

- This document is the initial release of the PJM Manual for Competitive Planning Process (M-14F).