

Preliminary Draft

PJM Interconnection principles for TRPSTF design matrix and other PJM planning meetings

May 4, 2018

PJM citations and principles associated with its proposed TRPSTF design components. These principles are also applicable to RTEP, SRRTEP, Planning Committee (PC) and TEAC processes.

1. PJM is the Regional Transmission Planner and Transmission Operator. PJM's roles, authorities and requirements are documented in the NERC-Accepted Transmission Owner/Transmission Operator (TO/TOP) Matrix, the Amended and Restated Operating Agreement (OA), the Open Access Transmission Tariff (OATT), the Reliability Assurance Agreement (RAA) and the Consolidated Transmission Owners Agreement (CTOA). We reference the most current OA, OATT, RAA, and CTOA on file with FERC.
2. PJM Manual 34: PJM Stakeholder Process Manual is the documented methodology set forth to ensure requirements are met to obtain FERC approval of any proposed revision(s) to the PJM governing documents (OA, OATT, and RAA) or PJM's stakeholder process. Section 10 of the Consensus Based Issue Resolution Process does not provide for review, revision or amendment of the Consolidated Transmission Owner Agreement (CTOA). PJM does not propose any changes to the CTOA.
3. PJM's proposed clarifications, enhancements and new processes to the TRPSTF design matrix, when accepted by the PC/MRC, will be codified in the PJM Manuals. Future TRPSTF recommendations will be reviewed with the PC and voted upon by the MRC.
4. As the Transmission Provider and Regional Transmission Planner, PJM core responsibilities relate to the administration, execution and oversight of planning the bulk electric system to include: developing the regional transmission expansion plan (RTEP), assessing the impacts to the reliability of the transmission system plan, the facilitation of sub-regional planning process, assessing the impacts, if any, of transmission owner Supplemental Projects and, finally, administering and selecting competitive transmission projects in accordance with FERC Order No. 1000.
5. PJM's core responsibilities associated with the planning processes are based upon adherence with the Governing Agreements listed in #1 above and further documented in the PJM manuals. These processes are bounded by criteria, reliability-driven practices and sound engineering judgment. For PJM-planned projects, these processes require criteria that result in the selection of the more efficient or cost-effective solution when considering multiple proposals. PJM shall continue to uphold its engineering and reliability methodology with the understanding that the prudence of a project or projects is the sole jurisdiction of others (e.g. FERC, and or State public utility commissions). PJM, as the independent regional planner, is responsible for the development of the RTEP that will enable the transmission needs to satisfy the reliability, adequacy, operational performance, market efficiency, multi-driver, public policy requirements and competitive transmission development and operation. While PJM processes require Transmission Owners to provide timely status updates including cost updates from concept to energization, PJM does not assert or see a role in which it is responsible for determination and evaluation of the prudence of a project before, during or after construction and energization of facilities.

With this as a context, PJM SMEs have developed the following positions and design component elements:

#	Design Components ¹	Priority	Status Quo	A	B			
			Attachment M-3 FERC Directive - PJM and TO Compliance Filings (3/19/2018)			ODEC/AMP Proposal (4/24/2018)	Proposals by PJM SMEs (5/4/2018)	
			[Applicable to all Supplemental projects]					
			[Not for editing or voting as this is the FERC directive(s)]					
*	Implementation							
1	Coordination of End of Life Projects in the Local Planning and RTEP processes		<ul style="list-style-type: none"> - assumptions meeting annually at the beginning of cycle - meetings as needed for the rest of year - sub regional meetings focusing on EOL Baseline Projects as well as EOL Supplemental Projects for each TO in the region -pc, TEAC, sub regional rtep postings via PJM.com WebEx, special pc 	<p>Subregional RTEP Committees shall be responsible for the review of Supplemental Projects (M-3, P1)</p> <p>The Subregional RTEP Committees shall have a meaningful opportunity to participate and provide feedback, including written comments throughout the transmission planning process for Supplemental Projects (M-3, P1)</p> <p>Annual Assumptions Meeting(s). Each Subregional RTEP Committee shall schedule and facilitate a minimum of one Subregional RTEP Committee meeting to review the Transmission Owners' criteria, assumptions and models used to plan and identify Supplemental Projects</p> <p>Each transmission owner shall provide the criteria, assumptions and models to PJM for posting at least 20 days in advance of the Assumptions meeting to allow stakeholders sufficient opportunity to review the information (M-3, P2). Stakeholders may provide comments on the criteria, assumptions and models to the transmission owner for consider either prior to or following the Assumptions Meeting.</p> <p>Transmission Owner shall review and consider comments that are received within 10 days of the Assumptions Meeting and may respond or provide feedback as appropriate (M-3, P2).</p> <p>System Needs Meeting. No fewer than 25 days after the Assumptions Meeting, each Subregional RTEP Committee shall schedule and facilitate a minimum of one Subregional RTEP Committee meeting per planning cycle to review the identified criteria violations and resulting system needs, if any, that may drive the need for a Supplemental Project (M-3, P3).</p> <p>Each transmission owner will review the identified system needs and drivers of those needs, based on the application of its criteria, assumptions and models that it uses to plan Supplemental Projects (M-3, P3).</p>	regularly scheduled meetings		<p><u>Assumptions Meeting</u></p> <ul style="list-style-type: none"> • PJM-facilitated Regional and Subregional Meetings on EOL Planning plus individual TO meetings. • TOs provide (and PJM posts) all TO planning criteria assumptions as well as EOL assessment methodologies and assumptions 30 days before meeting. <ul style="list-style-type: none"> ○ <u>Criteria</u> should be quantifiable and include details about associated criteria thresholds. Each TO proposing EOL driven projects should have and share an established, company-approved, public set of quantifiable criteria that can be replicated by external entities. • Stakeholder comments 15 days after meeting. • The TOs shall provide written responses within 10 days of stakeholder comments. • The TOs shall provide enough information for stakeholders to understand how assets will be prioritized for replacement, how the replacement versus maintenance decision is made, how assets rank relative to other assets on the system and the system average values. The level of detail will be sufficient to enable stakeholders to replicate the TO decision-making process for EOL facilities. • 30 days after assumptions meeting, PJM provides assumptions to be used in performing the evaluation as well as any concerns with TO-provided assumptions. <p><u>Needs Meeting(s)</u></p> <ul style="list-style-type: none"> • To include a review of system needs and drivers of needs, based on application of TO methodology and assumptions used to plan EOL projects. • PJM-facilitated Regional and Subregional Meetings on EOL Planning. • At least 25 days after the Assumptions Meeting. • 10 days prior to Needs Meeting, TOs provide and PJM posts all PJM or TO system needs, Criteria Assessments and drivers. <ul style="list-style-type: none"> ○ <u>Criteria assessments</u> should include at a minimum: asset scoring data inputs, analysis, and final results. Criteria assessments should also assess EOL priority ranking relative to entire system under study. All TO facilities need to continue to be part of the overall system level average. <ul style="list-style-type: none"> ▪ For developed criteria thresholds used to justify the replacement of an asset, the TO's will provide system level averages specific to that type/class of asset to support their established criteria threshold. These system level averages will include but not be limited to any data inputs used to rank and prioritize an individual asset's replacement against another asset of same 	<p><u>Assumptions Meeting</u></p> <ol style="list-style-type: none"> 1. Follow process which is similar, though not identical to, the TEAC process and timing for baseline projects 2. TO's provide overview of material condition and asset management program as they relate to end of life. 3. TOs provide (and PJM posts) assumptions 20 calendar days in advance of scheduled SRRTEP meeting. 4. Stakeholders provide any comments regarding the criteria, assumptions, and models posted for use in the EOL study process within 10 days of the assumptions and methodology meeting to be included in the TO review and consideration of all comments received for the assumptions and methodology meeting 5. PJM shall schedule and facilitate all SRRTEP meetings. 6. With continued refinements, and to the extent possible, a uniform template shall be used by all TOs to convey the information above 7. At the SRRTEP meeting(s), stakeholders and customers should have access to basic transmission planning information necessary for them to consider future resource options (paragraph 476 of FERC Order No. 890) and impacts upon customer needs. Stakeholders may request information relevant to the TO's need determination and PJM shall provide such, or, in the instance that PJM does not possess such information, PJM shall submit the request for the relevant information to the zonal TO. 8. PJM shall facilitate the SRRTEP in a timely fashion to support the progress of the planning process. 9. TOs should coordinate their EOL processes with their yearly local reliability planning to help clarify why a more expensive solution might be brought forward that would solve both the reliability and EOL drivers. 10. The TOs should synchronize above to provide input into PJM annual system forecast needs. (Note: for each TO, it must be recognized that its needs forecast can and will change throughout the year.) <p><u>System Needs Meeting</u></p> <ol style="list-style-type: none"> 1. PJM schedule a minimum of one Subregional RTEP committee meeting no fewer than 25 days after the assumptions and methodology meeting to review the identified criteria violations and resulting system needs, if any, that may drive the need for an EOL project 2. TO post identified criteria violations and drivers no fewer than 10 days in advance of the Needs Meeting

The transmission owner shall share and post their identified criteria violations and drivers no fewer than 10 days in advance of the Needs Meeting (M-3, P3). Stakeholders may provide comments on the criteria violations and drivers to the transmission owner for consideration prior to, at, or following the Needs Meeting (M-3, P3). The transmission owner shall review and consider comments that are received within 10 days of the Needs Meeting and may respond or provide feedback as appropriate (M-3, P3).

Solutions Meeting. No fewer than 25 days after the Needs Meeting, each Subregional RTEP Committee shall schedule and facilitate a minimum of one Subregional RTEP Committee meeting per planning cycle to review and potential solutions for the identified criteria violations (M-3, P4).

The transmission owner shall share and post its potential solutions, as well as any alternatives identified by the transmission owners or stakeholders, no fewer than ten days in advance of the Solutions Meeting (M-3, P4). Stakeholders may provide comments on the potential solutions to the transmission owner for consideration either prior to or following the Solutions Meeting (M-3, P4).

The transmission owner shall review and consider comments that are received within ten days of the meeting and may respond or provide feedback as appropriate (M-3, P4).

Each transmission owner will finalize for submittal to PJM Supplemental Projects for inclusion in the Local Plan in accordance with the Operating Agreement, Schedule 6, § 1.3 and the schedule established by PJM (M-3, P 5).

Stakeholders may provide comments on the Supplemental Projects in accordance with the Operating Agreement, Schedule 6, § 1.3 before the Local Plan is integrated into the RTEP (M-3, P5).

Each transmission owner shall review and consider comments that are received at least ten days before the Local Plan is submitted for integration into the RTEP (M-3, P5).

Nothing in PJM Tariff, Attachment M-3 precludes a transmission owner from agreeing with stakeholders to hold additional meetings or other

type/class located on the TO's system.

- o Drivers contributing to EOL determination (including performance, condition and risk) should be included. TOs will provide quantifiable values pertaining to what is driving facility selection. These values must include system level averages. As applicable, TOs shall provide documentation developed of condition assessments (e.g. photographs, engineer field reports, etc.)
 - On an annual basis, the TOs must provide a complete list of all assets (CB, TF, Line, Station, etc.), and their relative ranking from highest priority to lowest priority, and the associated input data supporting their ranked priorities, in order to discuss prioritization rather than just dealing with individual projects.

- Stakeholders provide written comments within 10 days after meeting for TO consideration.
- TOs provide written responses, including all additional information requested, prior to Solutions Meeting(s). Subsequent Solutions meetings will be deferred until all information is provided.
- TOs should also identify the specific company that owns the asset being assessed and if the asset is currently a transmission or distribution asset, as well as what entity will be owning, operating and maintaining the replacement facilities.
- When EOL transmission projects are replacing distribution assets, the TO also provides drivers to support a transmission improvement over a distribution improvement, including the supporting evidence that demonstrates the transmission alternative is lower in cost and/or the distribution alternative would not meet the needs. Finally, for any EOL project that is replacing a distribution facility, the TO must demonstrate that the distribution needs are imminent.
- TOs must coordinate TO EOL process with their yearly local reliability planning to better demonstrate why a more expensive solution might be brought forward.
- Needs meetings must occur prior to the individual TO finalizing its annual budget. This coordination is critical to ensure that TO are not planning ahead of PJM and other stakeholders and then just pushing through their already decided upon solutions.
- Nothing precludes any TO from having additional stakeholder meetings or communications regarding a Local Plan that affects such stakeholders in addition to the Planning Meetings.

Solutions Meeting(s)

- PJM-facilitated Regional and Subregional Meetings on EOL Planning
- TOs shall share and post their potential solutions, as well as any alternatives identified by the TOs or stakeholders, at least 10 days in advance of the Solutions Meeting.
 - o Only EOL solutions that include the following information will be brought forward for consideration:
 - Asset specific EOL scoring data inputs, analysis, and final results
 - Asset specific EOL priority ranking relative to entire system under study
 - Asset specific EOL Quantifiable values pertaining to what is driving the selection of the facility

3. Stakeholders provide comments no later than 10 days following the needs meeting for TO to review and consider so that the TO may respond or provide feedback as appropriate

4. TO's provide annual forecast of supplemental projects with current known information. Additional forecasts may be provided throughout the year as necessary. Drivers contributing to EOL-based need determination (such as age, performance, condition and risk) should be included from the criteria identified in the assumptions and methodology meeting.

5. TO representatives shall present identified system needs and drivers. .

Solutions Meeting

1. PJM schedule a minimum of one subregional RTEP committee solutions meeting no fewer than 25 days after the needs meeting

2. TO post potential solutions, with any alternatives considered, no fewer than 10 days prior to the solutions meeting

3. TO to review and consider written comments received prior to or within 10 days after the solutions meeting. TO may respond or provide feedback as appropriate.

4. At the conclusion of the process, the TO will identify the recommended solution that will be included in the PJM Local Plan. Project selection is determined solely by TO.

5. Stakeholders and customers are given the opportunity to provide meaningful input and alternatives for TO consideration. Whether such input or alternatives are included in the determination of the final solution is and remains the sole decision of the TO.

Submission of EOL Projects

1. TO finalize and PJM post final EOL solutions

2. Stakeholders may provide comments on final solutions

3. TO shall review and consider written comments that are received at least 10 days before the schedule, as established by PJM, for including the EOL solutions in the Local Plan and RTEP

				communications regarding Supplemental Projects, in addition to the Subregional RTEP Committee process (M-3, P7).			<ul style="list-style-type: none"> ○ Projects not meeting this minimum criteria can be brought forward as part of a new, TO-specific Order 890 compliant planning process. ● No fewer than 25 days after the Needs Meeting but after all information requested at Needs Meeting is provided, each Regional TEAC or Subregional RTEP Committee shall schedule and facilitate a minimum of one Regional TEAC or Subregional RTEP Committee meeting to review potential solutions for the identified criteria violations (Solutions Meeting). ● Stakeholders may provide comments on the potential solutions to the TO for consideration either prior to or by 10 days following the Solutions Meeting. <p>The TO shall review and consider comments that are received within 10 days of the meeting and shall respond or provide feedback in writing no later than 20 days after the Solutions Meeting.</p> <p><u>Alternative Solutions Meeting</u></p> <ul style="list-style-type: none"> ● PJM-facilitated Regional and Subregional Meetings on EOL Planning ● No more than 10 days after the initial Solutions Meeting, any stakeholder shall share and PJM shall post alternative solutions to the TO potential solutions. ● No more than 20 days after the alternative solutions are posted, the Regional TEAC or subregional RTEP Committee shall schedule and facilitate the Alternative Solutions Meeting to review and discuss the TO's and stakeholders' alternative solutions. <p><u>Final Solutions Meeting</u></p> <ul style="list-style-type: none"> ● PJM-facilitated Regional and Subregional Meetings on EOL Planning ● No fewer than 20 days after the Alternative Solutions Meeting, the Regional TEAC or subregional RTEP Committee shall schedule the Final Solutions Meeting to review and discuss the TO's solution and for the TOs to respond to questions. ● The TOs shall share and post their selected solution no fewer than 10 days before the Final Solutions Meeting. TOs shall provide justification and documentation for their selected solution. <p>The Regional TEAC or subregional RTEP Committee shall facilitate the Final Solutions Meeting to review and discuss the TO's solution and for the TOs to respond to questions.</p> <p><u>Finalization of Projects for Local Plan</u></p> <ul style="list-style-type: none"> ● Each TO will finalize for submittal to PJM EOL Projects that were introduced through the Regional TEAC or subregional RTEP committees from January through May for inclusion in the finalized PJM RTEP base case for that planning year. ● The TOs shall provide a written response 10 days prior to the Local Plan being submitted for integration into the RTEP. ● Projects for the Local Plan will not be final "finalized" until the conclusion of Dispute Resolution (if applicable) 	
2	Openness/Transparency				EOL decision making process incorporated into protocols	review and PJM approval of criteria and guidelines	<ul style="list-style-type: none"> ● For Stakeholders who have completed PJM's CEII Request form and have executed the PJM CEII NDA in accordance with the PJM and FERC processes for CEII as defined at 18 CFR §388.113 (c), PJM and the TOs shall make available the decision-making process and all information discussed above used in performing the needs identification and evaluation, including, but not limited to: i) all assumptions and 	1. PJM emphasizes that CEII access is granted to an individual solely for the use in examining a specific need or proposed solution. The information is not to be disseminated further than to similarly authorized individuals and may not be utilized for any other purpose.

							<p>methodology, including any criteria, guidelines, models, and supporting evidence that PJM and each TO uses to identify issues, develop alternatives and recommend solutions; ii) the impacts of regulatory actions, projected changes in load growth, demand response resources, energy efficiency programs, price responsive demand, generating additions and retirements, market efficiency and other trends in the industry; and (iii) alternative sensitivity studies, modeling assumptions and scenario analyses.</p> <ul style="list-style-type: none"> • TOs will communicate any concerns that proposed changes or alternatives may negatively impact TO risk profile and how. 	
3	Communications				identify any facilities that TO thinks that are 5 years within EOL (asset or project list)			
4	Reference Materials		<ul style="list-style-type: none"> - Formula rates, FERC filings posted to PJM.com - Tabular data, construction status, cost allocation and associated filings, post TO criteria, form 715, posted TEAC whitepapers, deactivation/retirement notices, secure posting of models, special webcasts, all queue information 	Information relating to each transmission owner's Supplemental Projects will be provided in accordance with and subject to the limitations set forth in the Operating Agreement, Schedule 6, § 1.5.4(e) (M-3, P6).				1. Information relating to each transmission owner's Supplemental Projects will be provided in accordance with and subject to the limitations set forth in the Operating Agreement, Schedule 6, § 1.5.4(e) (M-3, P6).
5	Comparability				PJM and TO's agree upon guidelines how identify end of life assets			
6	Dispute Resolution		<ul style="list-style-type: none"> -PJM standard ADR processes in OATT and OA (process assertion for violating OATT and OA) -participate in discussion by TEAC, letters TO the board, siting proceedings by state 	Disputes shall be resolved in accordance with procedures set forth in the Operating Agreement, Schedule 5			<ul style="list-style-type: none"> • Disputes shall be resolved in accordance with the procedures set forth at Schedule 5 of the Operating Agreement. • This is not limited to process disputes and shall include disputes about a TO's assumptions, needs, or solution decisions to select one or more EOL Projects into the Local Plan. 	1. There is opportunity for Alternative Dispute Resolution (ADR) regarding the RTEP or SRRTEP processes, however, no ADR process is identified for project selection. EOL Project selection is determined solely by TO.
7	Replicability		<ul style="list-style-type: none"> some ability to replicate stability, short circuit, power flow - PJM working on tools to improve - ability to review but not replicate aging infrastructure analysis 					1. Not applicable or required for end of life. Replicability does not apply to end of life or asset management.
8	Consistency		individual TO approach to aging infrastructure based on historic practice		<ul style="list-style-type: none"> - consistency of application by TO - some degree of consistency across TOs 	list of potential guidelines		1. PJM shall develop manual language to establish minimum requirements related to transparency and availability of information with respect to asset management programs.
9	Interaction with Market Efficiency Process				potential integrate market efficiency analysis into decision making related to supplemental and aging infrastructure			1. Hold for market efficiency problem statement. Rolled into future market efficiency analysis by separate PJM task force.

10	project reporting standards (completed Project construction website)		- qtr. reports for RTEP projects - approx. qtr. updates to construction status		PJM created periodic report to clarify transmission costs (TCIC)	enhance RTEP project reporting to include initial and final cost and schedule		
11	PJM analytically determine need (new design component 1/24/2018)							<p>1. TO provides the need, condition, and performance. PJM is not in a position to assess needs that cannot be validated through power system analysis.</p> <p>2. PJM is not in a position to validate TO asset management program(s).</p>