



RELIABILITY FIRST

**TRANSMISSION PERFORMANCE
SUBCOMMITTEE
PROCEDURE MANUAL
Last Revised: March 16, 2020**

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TRANSMISSION PERFORMANCE SUBCOMMITTEE

1. PURPOSE

As specified in the Reliability Committee Governance document, the Transmission Performance Subcommittee (TPS) reports to and supports the Reliability Committee as a Subject Matter Expert (SME) body to address transmission reliability related activities. The TPS provides a forum in which to discuss transmission planning and/or performance issues associated with the reliability of the Bulk Power System. The TPS provides feedback on parameters and objectives for the assessment of the future transmission performance of the region and for the production of regional transmission reliability assessments.

Discussions held at each TPS consist of the following: provide technical support on RF studies, share lessons learned and discuss success stories and near-misses that are pertinent to the TPS and work related to the Bulk Power System.

Representatives to this subcommittee typically have a Transmission Planning background and responsibilities. FERC Orders 888, 889, and 2004 code of conduct apply to TPS proceedings; therefore, Suppliers and marketers are not permitted to participate in TPS proceedings.

2. TPS FUNCTIONS

The functions of the TPS include but are not limited to:

- Prior to each Study cycle, TPS members shall work with the designated RF staff to develop RF staff driven studies/assessments.
- Review and provide guidance to RF Staff regarding parameters, criteria and objectives for assessment of the future transmission performance.
- Review and provide feedback on transmission assessments and special studies.
- Review and provide feedback on past seasonal performance of the Bulk Electric System.
- Provide expertise as needed to address activities requested by the Reliability Committee or other RF Subcommittees.
- Provide a forum to discuss transmission issues and risks (e.g., drought, polar vortex, distributed resources) associated with the reliability of the Bulk Power System.
- Provide a forum to discuss transmission issues with other Regional Entities transmission committees.
- Provide updates of TPS activities to the Reliability Committee.

3. RF STUDY AREAS

ReliabilityFirst (RF) continually assesses how best to assess reliability in its footprint for the upcoming seasons. Currently RF divides its footprint into seven Study Areas, as shown in *Exhibit 3.1-1*. This division of the PJM and MISO markets into Study Areas was performed with the assistance of MISO, PJM and their associated Transmission Owners. Except for the PJM Northern Illinois Study Area, these Study Areas encompass multiple load-serving entities, which are shown in *RF Exhibit 3.1-1*. The PJM South and MISO WUMS Study Areas are also unique in that they include transmission systems serving non-RF members of other Regional Entities.

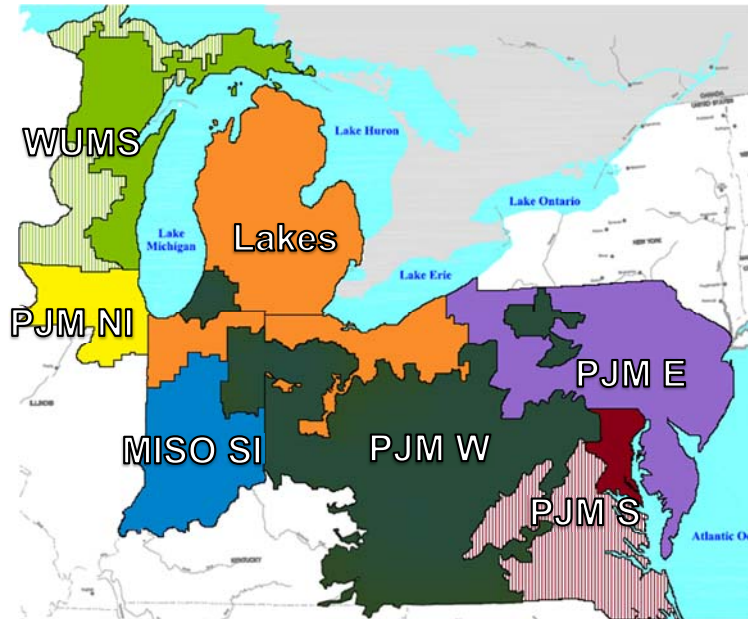
These Study Areas do not reflect the planning process used to identify resources needed to serve demand. Several of the RF Study Areas include members of multiple NERC Regions, and one includes members of multiple Planning Coordinators.

The transmission owning members of the TPS may have transmission in multiple RF Study Areas, as shown in *Exhibit 3.1-2*.

Portions of MISO and all of PJM make up the entirety of the RF Study Areas. The seven Study Areas within RF are:

- | | |
|---------------------------------|--------------------------------|
| PJM East (PJM E) | PJM South (PJM S) |
| PJM West (PJM W) | PJM Northern Illinois (PJM NI) |
| MISO WUMS (WUMS) | Lakes (Lakes) |
| MISO Southern Indiana (MISO SI) | |

Exhibit 3.1-1: Map of Study Areas



The **PJM East Study Area** contains the following Transmission Zones:

- Atlantic City Electric (AE)
- Delmarva Power (DP&L)
- Jersey Central Power & Light Company (JCP&L)
- Metropolitan Edison Company (METED)
- PECO Energy Company (PECO)
- Pennsylvania Electric Company (PENELEC)
- PPL Utilities (PPL)
- Public Service Electric & Gas (PSE&G)
- Rockland Electric Company (RECO)
- UGI Utilities, Inc. (UGI)

The primary load centers in the PJM East Study Area are the cities of Philadelphia, PA; Newark, NJ; Wilmington, DE; and the surrounding metropolitan areas. The footprint of the PJM East Study Area is

different from the footprints used by PJM in its transmission analysis process.

The **PJM South Study Area** is comprised of the following Transmission Zones:

- Baltimore Gas & Electric Company (BGE)
- Potomac Electric Power Company (PEPCO)
- Dominion Virginia Power (DVP) (SERC Regional Entity)

BGE and PEPCO are members of RF, and DVP is a member of SERC Corporation (SERC). The primary load centers in the PJM South Study Area include the cities of Baltimore, MD; Washington, DC; Richmond, VA; and Norfolk, VA. The footprint of the PJM South Study Area is different from the footprints used by PJM in its transmission analysis process.

The **PJM West Study Area** consists of the following Transmission Zones:

- American Electric Power (AEP)
- Allegheny Power (AP)
- Dayton Power and Light (DAY)
- Duquesne Light Company (DLCO)
- Duke Energy Ohio and Kentucky (DEO&K)
- Ohio Valley Electric Corporation (OVEC)

The large population centers in the PJM West Study Area are Pittsburgh, PA; Cincinnati, Columbus, and Dayton, OH; Roanoke, VA; and Charleston, WV. The footprint of the PJM West Study Area is different from the sub-area footprints used by PJM in its transmission analysis process.

The **PJM Northern Illinois (PJM NI) Study Area** is comprised of Commonwealth Edison Company (CE). The primary load center in the PJM Northern Illinois Study Area is the city of Chicago, IL and the surrounding metropolitan areas.

The **MISO WUMS Study Area** stretches across two RRO areas (MRO and RF) and is served by the American Transmission Company LLC (ATC) transmission system and contains the registered Balancing Authorities of:

- Alliant East (ALTE) (MRO Regional Entity)
- Madison Gas and Electric Company (MGE) (MRO Regional Entity)
- Michigan Upper Peninsula (MIUP)
- Upper Peninsula Power Company (UPPC) (MRO Regional Entity)
- Wisconsin Electric Power Company (WEC)
- Wisconsin Public Service Corporation (WPS)

The large population centers in the MISO WUMS Study Area are Milwaukee and Madison, WI. ATC and MISO are members of both MRO and RF. WPS, WEC and MIUP are members of RF, and the remaining companies are members of the MRO.

The **Lakes Study Area** includes the following entities and Transmission Zones:

- American Transmission Systems, Inc. (ATSI)
- Cleveland Public Power (CPP)
- Consumers Energy (CONS)
- DTE Electric (DTE)
- ITC Transmission (ITCI and ITCT)
- Lansing Board Water and Light (LBWL)
- Northern Indiana Public Service Company (NIPS)
- Michigan Electric Transmission Company (METC)
- Michigan Public Power Association (MPPA)
- Wolverine Power Cooperative (WPSC)

The large population centers in the Lakes Study Area are Cleveland, OH; Detroit, MI; and the Northwest Indiana metropolitan area surrounding Gary, IN.

The **MISO Southern Indiana (MISO SI) Study Area**, defining the central and southern portions of Indiana, includes the following Transmission Zones:

- I&M Transco (AEP)
- Duke Energy Indiana (DEI)
- Hoosier Energy Rural Electric Cooperative, Inc. (HE)
- Indianapolis Power and Light Company (IPL)
- Southern Indiana Gas and Electric Company (SIGE/VECTREN)

The large population centers in the MISO Southern Indiana Study Area are Indianapolis, IN and Evansville, IN.

Exhibit 3.1-2: Study Areas and TPS Member Companies

RF Study Area	TO (Transmission Zone)
Lakes	CONS
Lakes	FE (ATSI)
Lakes	ITC (ITCI, ITCT, METC, LBWL, MPPA)
Lakes	NIPS
Lakes	WPSC
MISO S. Indiana	Duke (DEI)
MISO S. Indiana	HE
MISO S. Indiana	AES (IPL)
MISO S. Indiana	SIGE
MISO WUMS	ATCLLC (MIUP, WEC, WPS)
PJM East	Exelon (ACE, DP&L, PECO)
PJM East	FE (JCP&L, MetEd, Penelec)
PJM East	PPL
PJM East	PSE&G
PJM East	RECO
PJM East	UGI Utilities, Inc.
PJM N. Illinois	Exelon (ComEd)
PJM South	Exelon (BGE, PEPCO)
PJM West	AEP
PJM West	AES (DAY)
PJM West	Duke (DEO&K)
PJM West	DLCO
PJM West	FE (AP)
PJM West	OVEC

4. MEMBERSHIP

As specified in the Reliability Committee Governance document, TPS membership is optional and is open to all Registered Entities of RF with the necessary experience, expertise and/or technical qualifications with respect to the functions of the TPS. However, suppliers and marketers are not permitted to participate in TPS proceedings, in accordance with the 2004 code of conduct.

The TPS will consist of no more than one voting representative from each Subcommittee Member company. However, multiple personnel from one company and affiliated companies are welcome to attend and participate in meetings, which are open to the public, subject to FERC Orders 888, 889 and the 2004 code of conduct.

As specified in the Reliability Committee Governance document, membership in the TPS will be suspended following a member’s absence from two consecutive meetings. A suspended TPS Member may be reinstated at the discretion of the Subcommittee or Task Force’s leadership or following attendance at two consecutive meetings.

5. MEETINGS AND SCHEDULES

Those attending the TPS meetings are expected to prepare for and actively participate in each of the TPS discussions. As specified in the Reliability Committee Governance document, the following principles shall govern all TPS meetings:

- The TPS shall meet (in person or via conference call/webcast or other means) at such times as determined by the TPS or at the request of the TPS Chair, Vice-Chair, or RF Staff.
- Travel and living expenses for TPS meetings and proceedings shall be borne by the TPS members and not by RF.
- Meeting minutes will be recorded by the RF Staff and shall include at a minimum:
 - A roster of attendees (in person and via phone),
 - A summary of the discussions at the meetings,
 - Motions made and the results of the votes on those motions.
 - In addition to the requirements specified in the Reliability Committee Governance document, action items shall be recorded.
- FERC Orders 888, 889, and 2004 code of conduct shall apply to all meetings of the TPS.
- Proceedings of TPS meetings adhere to the Roberts Rules of Order (see [Section 7](#) below).

6. CHAIR AND VICE CHAIR TERMS

As specified in the Reliability Committee Governance document, the Chair and Vice-Chair of the TPS shall each serve a single two-year term. This term begins on July 1. Each odd-numbered year, at the TPS Spring meeting, the Vice-Chair of the TPS will become the Chair, and a new Vice-Chair will be selected by vote of the majority of TPS members participating in the spring meeting.

The TPS will make an effort to select the new Vice-Chair from a portion of the RF footprint that has not recently served as the TPS Chair or Vice-Chair. The TPS will attempt to select the Vice-Chair using the following order of RF Study Areas:

Table 6.1: TPS Chair and Vice-Chair Order

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
C	Goodwin (MISO)	(MISO_SI)	(MISO_SI)	(MISO_SI)	PJM or PJM_E	MISO or Lakes	PJM or PJM_W	MISO or WUMS	PJM or PJM_NI							
VC	(MISO_SI)	PJM or PJM_E	PJM or PJM_E	PJM or PJM_E	MISO or Lakes	PJM or PJM_W	MISO or WUMS	PJM or PJM_NI	PJM or PJM_S							
Order																
	MISO or MISO_SI	>> AES (IPL), Duke (DEI), HE, SIGE														
	PJM or PJM_E	>> Exelon (ACE, PECO, DPL), FE (JCP&L, MetEd, Penelec), PPL, PSE&G, RECO, UGI														
	MISO or Lakes	>> CONS, DTE, FE (ATSI), ITCT (ITC, METC), NIPS, WPSC														
	PJM or PJM_W	>> AEP, AES (DAY), DLCO, Duke (DEO&K), FE (AP)														
	MISO or WUMS	>> ATC														
	PJM or PJM_NI	>> Exelon (ComEd)														
	PJM or PJM_S	>> Exelon (BGE, PEPCO)														

7. DUTIES OF THE CHAIR, VICE-CHAIR, MEMBERS AND RF STAFF

As specified in the Reliability Committee Governance document, the Chair of the TPS is expected to:

- Preside at all meetings of the TPS.
- Determine need and location of the TPS meetings and conference calls.
- Represent the TPS at RF, NERC and other industry functions.
- May direct action to a Task Force by affirmative vote of the TPS.

In addition, the Chair of the TPS is expected to:

- Prepare the agenda for TPS meetings and conference calls.
- Lead TPS meetings and conference calls.
- Inform the Reliability Committee of the activities of the TPS.
- Bring TPS issues/concerns to the Reliability Committee.
- Inform the TPS of any directives received from the Reliability Committee.
- Oversee the completion of directives received from the Reliability Committee.
- Direct activities of a TPS Task Force.

As specified in the Reliability Committee Governance document, the Vice-Chair is expected to preside at meetings of the TPS and perform the duties of the Chair in the absence of the Chair.

In addition, the Vice-Chair is expected to assist the Chair of the TPS in preparing the agenda for meetings and other support functions.

As specified in the Reliability Committee Governance document, the Members of the TPS are expected to:

- Disseminate and collect information and data to and from the ReliabilityFirst staff and within their company as needed.
- Provide technical advice in their area of expertise

- Assist with and perform technical reviews on behalf of ReliabilityFirst
- Undertake assignments of the Reliability Committee

In addition, the Members of the TPS are expected to:

- Discuss transmission issues and risks (i.e. drought, polar vortex, distributed resources) associated with the reliability of the Bulk Power System.
- Provide feedback on parameters and objectives for assessment of the future transmission performance.
- Review and provide constructive feedback on RF assessment documents and presentations.
- Undertake support activities requested by other RF subcommittees.
- Comply with any RF conflict of interest, antitrust, and/or confidentiality policies when participating in TPS matters.
- Prepare thoughts and/or materials for TPS meetings, and share those thoughts with the presenters prior to the meeting.

The RF staff facilitator is expected to:

- Arrange for the meeting place or conference call of TPS meetings.
- Provide suggested TPS agenda items based on RF staff activities.
- Serve as the secretary and prepare draft minutes of the TPS meetings.

8. ROBERT’S RULES OF ORDER

The TPS will adhere to Robert’s Rules of Order (<http://www.robertsrules.org/>) when conducting its meetings (both WebEx conference calls and face-to-face meetings). Robert’s Rules of Order provides common rules and procedures for deliberation and debate.

9. VOTING GUIDELINES

The TPS does not regularly take formal actions that require voting. The TPS will follow the below provisions from the Reliability Committee Governance document.

- Subcommittees are not expected to take formal actions. However, for purposes of determining positions and advancing Subcommittee issues to the Reliability Committee for a decision; the Subcommittee must make a recommendation on an issue. For the Subcommittee recommendation, a majority of its Members present at a meeting or on a conference call must agree. Furthermore, the record of such agreement (as advanced to the Reliability Committee) should fully express any minority opinions when that opinion is held by a minority of more than one Subcommittee Member.

- Each Subcommittee Member is entitled to cast one vote. Affiliated companies shall receive one vote and shall designate one of the affiliated companies as the Subcommittee Member for voting purposes.
- A Subcommittee Member must be present, either in person or via proxy, to cast a vote.
- Non-members and suspended members of the TPS may not cast a vote.
- Proxies given to other Subcommittee Members count toward establishing a quorum; but do not count as attendance for the limited purpose of ensuring no Member is absent from two consecutive meetings.

10. RF STAFF STUDIES

The TPS draws upon the collective knowledge of its members and other industry participants to advise, guide, and provide recommendations to RF staff with the goal of enabling RF Staff to efficiently and timely execute its tasks. The TPS is a source of input to the RF Staff concerning the development of the RF staff study plan. The RF staff will exercise its discretion in how it utilizes the advice in carrying out its tasks.

11. ABBREVIATIONS AND ACRONYMS

AEP	American Electric Power
ATC	American Transmission Company
ALTE	Alliant Energy East
MGE	Madison Gas and Electric Company
MIUP	Michigan Upper Peninsula
UPPC	Upper Peninsula Power Company
WEC	Wisconsin Electric Power Company (WE)
WPS	Wisconsin Public Service Corporation
CE	Commonwealth Edison (Exelon)
DAY	Dayton Power
DEM	Duke Energy Corporation
DEI	Duke Energy Indiana
DEO&K	Duke Energy Ohio & Kentucky
DLCO	Duquesne Light Company
DPL	Delmarva Power and Light
FE	FirstEnergy Corp.
ATSI	American Transmission Systems, Inc.
JCP&L	Jersey Central Power & Light
MetEd	Metropolitan Edison Company
PENELEC	Pennsylvania Electric
HE	Hoosier Energy
IPL	Indianapolis Power & Light
ITCT	International Transmission Company
METC	Michigan Electric Transmission Company
WPSC	Wolverine Power Supply Cooperative, Inc.
CONS	Consumers Energy
LBWL	City of Lansing Board of Water & Light
MPPA	Michigan Public Power Agency
MISO	Midcontinent Independent System Operators
MRO	Midwest Reliability Organization
NERC	North America Electric Reliability Corporation
NIPSCO	Northern Indiana Public Service Company
NPCC	Northeast Power Coordinating Council
OVEC	Ohio Valley Electric Corporation
PECO	Philadelphia Electric Company
PEPCO	Potomac Electric Power Company
PPL	PPL Electric Utilities Corporation
PSE&G	Public Service Electric and Gas Company
PJM	PJM Interconnection, LLC
RAPA	Reliability Assessments & Performance Analysis
RECO	Rockland Electric Company

RF	ReliabilityFirst
SERC	SERC Reliability Corporation
SIGE	Southern Indiana Gas & Electric (Vectren)
TPS	Transmission Performance Subcommittee
UGI	UGI Utilities, Inc

12. REVISION HISTORY

Doc Number	Description	Revised by	Effective Date
RF-TPS-002-r1	Missing Acronyms in Section 11	TPS	March 2020
RF-TPS-001-r8a		Governance Committee Approval	May 2019