



Southwest Power Pool

GENERATOR INTERCONNECTION IMPROVEMENT TASK FORCE MEETING

Thursday, September 26, 2018

41st Floor AEP Office - 1201 Elm St., Dallas, Texas

• MINUTES •

Agenda Item 1 – Administrative Items

SPP Chair Al Tamimi (Sunflower) called the meeting to order at 9:00 am CDT. All ten members were in attendance in person or by phone or were represented by proxy. The complete list of attendees is attached.

Steve Purdy (SPP staff secretary) read the anti-trust statement.

The minutes of the September 6, 2018 meeting were approved by voice vote with none opposed and no abstentions.

Agenda Item 2 – Review of Past Action Items

Steve Purdy reviewed the action item report from the previous meeting and made a correction to the posted report (attached).

<u>Agenda Item 3 – Storage Whitepaper</u>

Steve Purdy reviewed the draft whitepaper outlining rules for evaluating requests for energy storage resources that was commissioned at the previous meeting. The group made several amendments to the draft whitepaper.

Kevin Pera moved that the Task Force recommends to MOPC that the storage whitepaper be considered for incorporation into SPP's GI study process. Dirk Shulund seconded the motion.

The motion was approved unanimously by voice vote with no abstentions.

The amended storage whitepaper as approved is attached to these minutes.

Agenda Item 4 – Congestion Study Scope

Steve Purdy reviewed a draft scope of a proposed study of the impact of changing the ERIS cost allocation threshold on market congestion. The group made several edits to the draft. The draft scope was set aside pending discussion of agenda items 5 and 6.

Agenda Item 5 – ERIS Stats

Anthony Cook (SPP) reviewed previous discussion on the ERIS threshold and the proposed options. He also provided the information on the OTDF vs. PTDF constraints requested at the last meeting, including graphics illustrating the differences (attached).

Agenda Item 6 - ERIS Threshold Motion

Without objection, the previous motion made on September 29, 2017 by Randy Lindstrom (NPPD) and seconded by Bob Tumilty (AEP, proxy for James Smith) was taken from the table. It read as follows:





The SPP GIITF recommends that the ERIS TDF impact threshold criteria be reduced from the current 20% to 5% in the SPP Generator Interconnection Study Process. The current NRIS TDF impact threshold criteria of 3% will remain in place.

After discussion, Mr. Lindstrom requested to withdraw the motion and it was withdrawn without objection.

Jack Clarke (NextEra, proxy for Mark Ahlstrom) made the following motion: The SPP GIITF recommends that the ERIS continue with the current 20% contingent (OTDF) ERIS threshold criteria; additionally, the GIITF recommends a new ERIS criteria which identifies upgrades and allocates cost to each request in which the sum of the individual impacts having contingent (OTDF) threshold greater than or equal to 5% is at least 20% of the applicable facility rating. Derek Sunderman (Tradewinds, proxy for Lisa Szot) seconded.

The motion was approved with six in favor and four opposed with no abstentions. Those opposed included Randy Lindstrom (NPPD), James Smith (AEP), Andrew Aston (OG&E), and Dirk Shulund (WAPA).

Reasons for opposition are attached.

Agenda Item 7 - MOPC Report and Future of GIITF

The group reviewed the past actions of the task force and the charter. Feedback was provided to the Chair on the feeling of the group about the future of the task force. Three spoke in favor of disbanding the task force. Two spoke in favor of creating a permanent working group. One spoke in favor of disbanding the task force and continuing further discussion in other stakeholder groups. The Chair committed to convey the feedback to MOPC.

Agenda Item 6 – Summary of Action Items

No action items were identified.

Agenda Item 7 – Discussion of Future Meetings

No further meetings are scheduled at this time.

Respectfully Submitted,

Steve Purdy Secretary

Attachments

- 0 Agenda
- 1 Attendance List
- 2 Proxies
- 3 Corrected Action Item report
- 4 ERIS threshold change illustration
- 5 Storage whitepaper
- 6 Opposition to motion on ERIS Threshold change



Southwest Power Pool, Inc.

GENERATOR INTERCONNECTION IMPROVEMENT TASK FORCE MEETING

Thursday, September 26, 2018

41st Floor AEP Office - 1201 Elm St., Dallas, Texas

• AGENDA •

9:00 am - 3:00 pm CDT

1. Administrative Items		Al Tamimi
	a. Introductions, Proxies, Quorum, Anti-trust statement	
	b. Approval of minutes of previous meeting	
2.	Review of Past Action Items	Steve Purdy
3.	Storage whitepaper	Steve Purdy (1 hour)
4.	Congestion Study Scope	Steve Purdy (1 hour)
5.	ERIS Stats	Anthony Cook (30 min)
6.	ERIS Threshold Motion	Al Tamimi (1 hour)
7.	MOPC Report and Future of GIITF	Al Tamimi (1 hour)
8.	Summary of Action Items	Steve Purdy
9.	Discussion of Future Meetings	

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Southwest Power Pool, Inc.

GENERATION INTERCONNECTION IMPORVEMENT TASK FORCE MEETING

September 26, 2018

AEP Office - Dallas, TX

· ATTENDANCE LIST ·

Name	Company
Steve Purdy	SPP
Lothony Cook	sel
DirkStudend	WAPA
Aaron Vander Vorst	Trade Wind
berek SundermAN	Tradewind
Mo Awad	KCREL and Wester, Every
Dennis Reed	MURC/Sunflower
Ray Bergmy	5LiPL
Destiny Rosales	Group NIRE
JACK CLANK	NEXTERA
Kevin Pera	Xcel Energy
Michael Wegner	ITC
AL Tanini	SGC
Jason Edwards	York
BRIAN JOHNSON	AEP
	11
2	

Name	Email
Al Tamimi	atamimi@sunflower.net
Andrew Aston (OGE)	astonar@oge.com
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Calvin Daniels (WFEC)	calvin.daniels@wfec.com
Chase Harrod	charrod@spp.org
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Deepesh (Apex)	deepesh.rana@apexcleanenergy.com
Dirk Shulund	shulund@wapa.golv
Evan Estes	eestes@quanta-technology.com
Holly Carias (NEER)	holly.carias@nee.com
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Jason Mazigian	jmazigian@bepc.com
Jason Schmidt (NextEra)	jason.schmidt@nee.com
Jim Krajecki (CES)	jkrajecki@ces-ltd.com
John Brodbeck	john.brodbeck@edpr.com
Jonathan	jnmyrick@southernco.com
Joseph Price	jmprice@spp.org
Kyle McCraw	kmccraw@spp.org
Marisa Choate	mchoate@spp.org
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Phil Westby (BEPC)	pwestby@bepc.com
Raman S (Enel)	raman.somayajulu@enel.com
Randy Lindstrom	rrlinds@nppd.com
Richard Seide (Apex)	richard.seide@apexcleanenergy.com
Steve Gaw	rsgaw1@gmail.com
Steve Purdy (SPP)	spurdy@spp.org
Tessie Kentner	tkentner@spp.org
William Holden	wholden@spp.org

GIITF Minutes
Attachment 2

From: <u>Brodbeck John</u>

To: <u>Clark, Jack; Tamimi, Al; Steve Purdy</u>

Cc: Gaw, Steve

Subject: **External Email** EDP Renewables Proxy
Date: Tuesday, September 25, 2018 1:16:50 PM

I will be on the call tomorrow but not consistent. Please allow Jack Clark of Next Era to vote my proxy at the GIITF of 26 Sep in my absence.

/s/ John Brodbeck EDPR Renewables NA +1-267-418-8535

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Steve Purdy

From: Ahlstrom, Mark

Sent: Monday, September 24, 2018 10:23 AM

To: Steve Purdy

Cc: Clark, Jack; Carias Holly

Subject: **External Email** Proxy for GIITF Meeting

Hi Steve,

Jack Clark will be attending and holding my proxy for the GIITF meeting in Dallas this week.

Thanks and best regards, Mark

Mark Ahlstrom VP, Renewable Energy Policy NextEra Energy Resources, WindLogics 10 River Park Plaza, Suite 500, Saint Paul, MN 55107

Mobile: 651-470-1108 Direct: 651-556-4262

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From: Szot, Lisa

To: Tamimi, Al; Steve Purdy
Cc: Sunderman, Derek

Subject: **External Email** Proxy for today's vote

Date: Wednesday, September 26, 2018 12:37:42 PM

Due to an immediate requirement for me and Raman has other items he is attending to can you please allow Derek to be my proxy.

Thanks so much, Lisa



Southwest Power Pool, Inc. GENERATOR INTERCONNECTION IMPROVEMENT TASK FORCE

Pending Action Items and Work Plan Status Report

September 26, 2018

Pending Action Items

	Action Item	Date Originated	Status	Comments
30	SPP Staff was asked to compile the results for all options in a table for the next meeting and to include previous results at 10% and 15% across-the-board thresholds (similar to Option 1).	8/2/2018	Complete	
31	SPP Staff was asked to provide information on the effect of changing the PTDF from 3% to 5% to match the OTDF for ERIS.	8/2/2018	Complete	
32	SPP staff to determine how many unique PTDF constraints are also OTDF constraints, and identify the location of constraints and the constraints themselves, subject to confidentiality restrictions.	9/6/2018	In meeting	
33	SPP staff will create a whitepaper on storage rules based on the discussion from the Sept. 6 meeting. SPP staff to determine how many unique PTDF constraints are also OTDF constraints, and identify	9/6/2018	In meeting	
	the location of constraints and the constraints themselves, subject to confidentiality restrictions.			

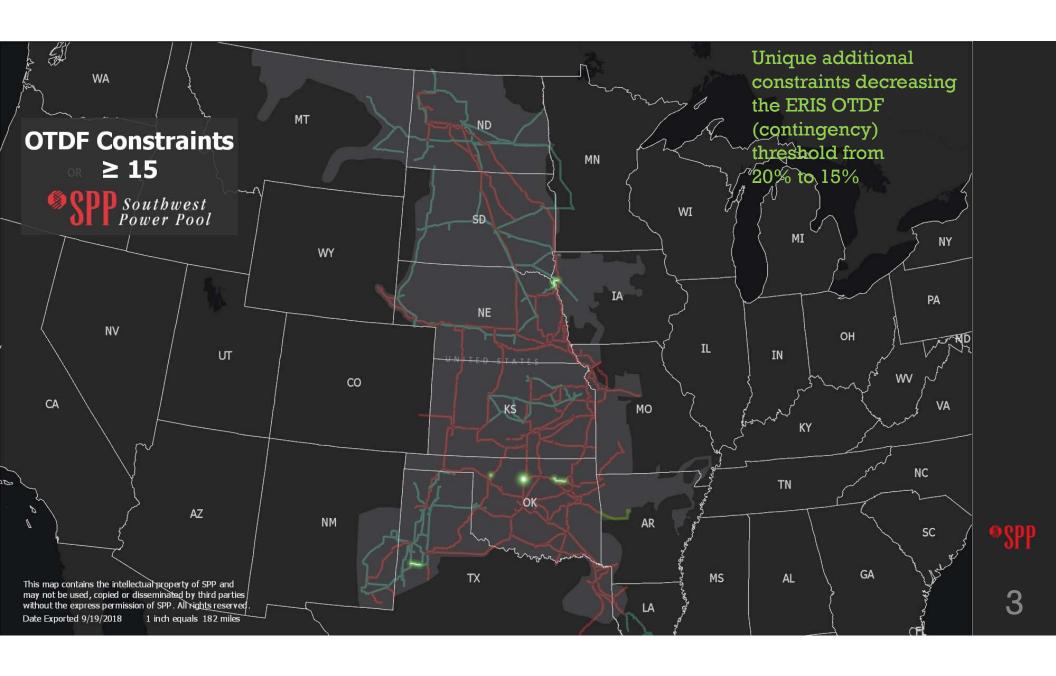


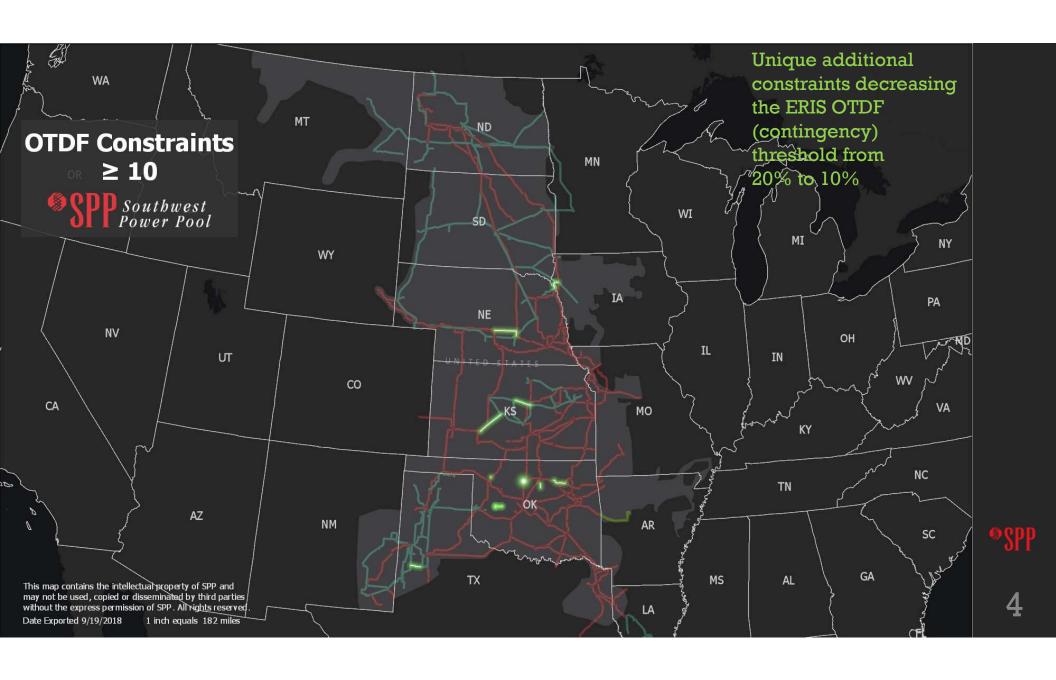
Work Plan Items

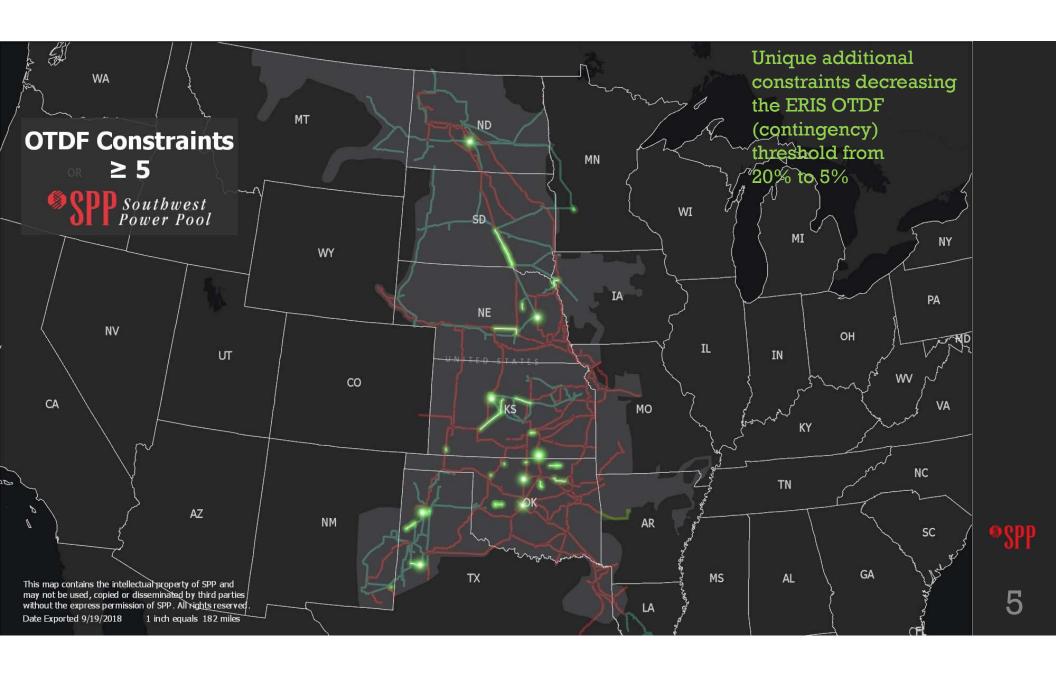
Priority	#	Task	Status
А	1	Three-stage process; including application improvements	GIITF approved 3/29 MOPC approved 4/10 SPP staff is drafting the tariff revision request. It will be reviewed by GIITF, RTWG, TWG, and RSWG before being approved by MOPC and the SPP Board, planned for the October 2018 cycle. Then it will be filed at FERC and will become effective when FERC accepts it for filing.
	2	Dispatching for light-load conditions	Recommendation approved by GIITF 9/6/18
	3	Transition plan to new process and backlog- clearing plan	GIITF approved 3/29 MOPC approved 4/10
	4	ERIS/NRIS study and thresholds	In progress
В	5	Limits to queue size/regional cluster studies	
	6	FERC NOPR	RR325 is circulating through RTWG, TWG, RSWG.
	7	Ag study deliverability issues	
	8	Hybrid interconnections	
	9	Net-Zero interconnections	
	10	Rules for storage	Whitepaper in progress.
	11	Rules for re-power, technology changes, increases (MOPC Action Item 282 for report in October 2018)	Draft in progress.
С	12	Suspension rules	
	13	Site Control Requirements	
	14	Rules for mutually exclusive requests	
	15	Discuss options for exporting GIR output. (added 8/2/18)	
	16	Consider fuel-based dispatch (added 8/2/18)	



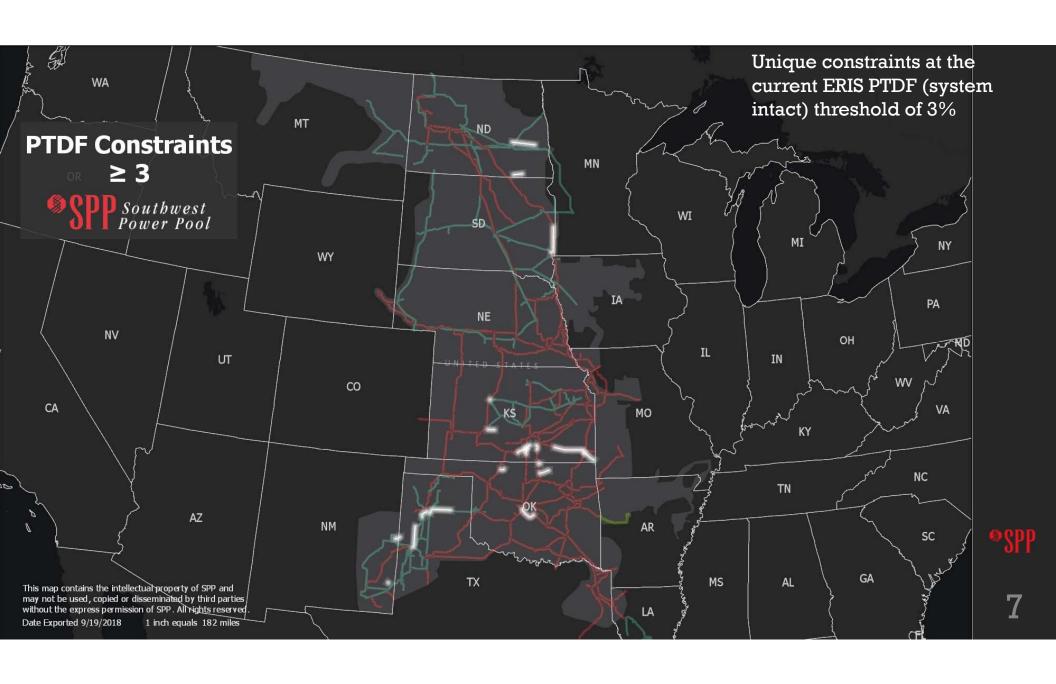
The following three slides illustrate the effect of decreasing the OTDF threshold from the current 20% and the additional unique constraints that would be identified at 15%, 10%, and 5%.

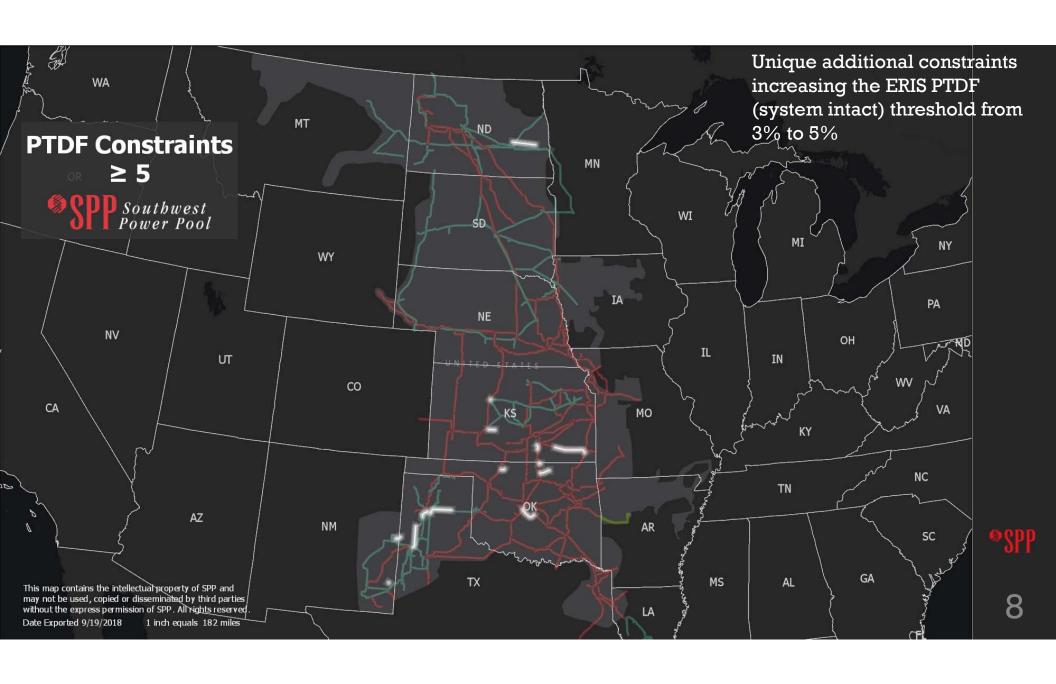


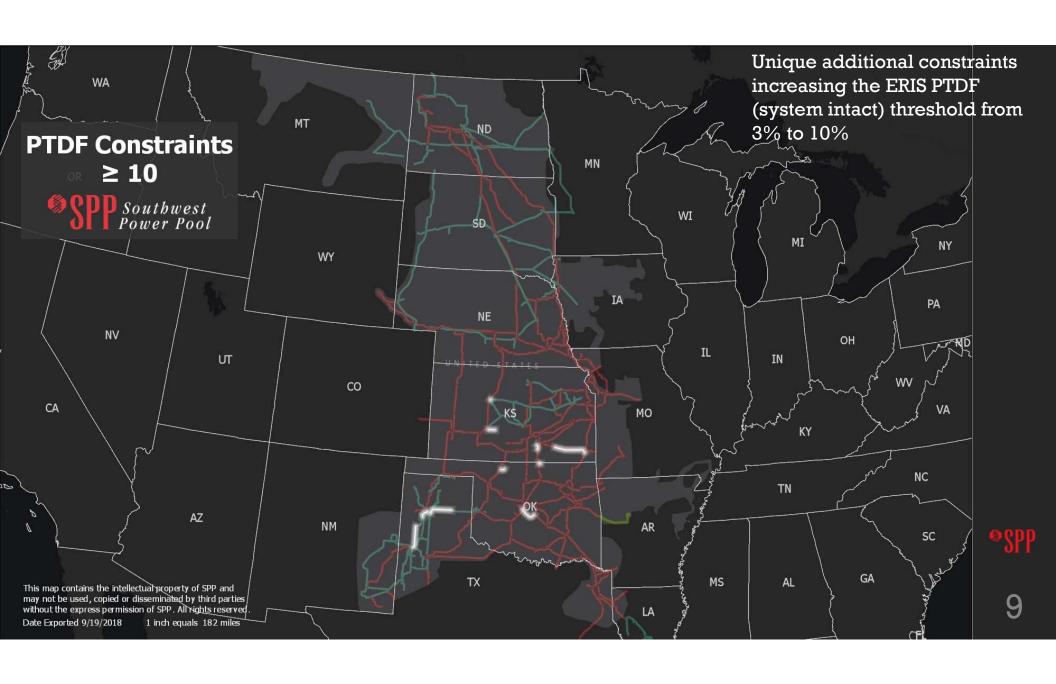


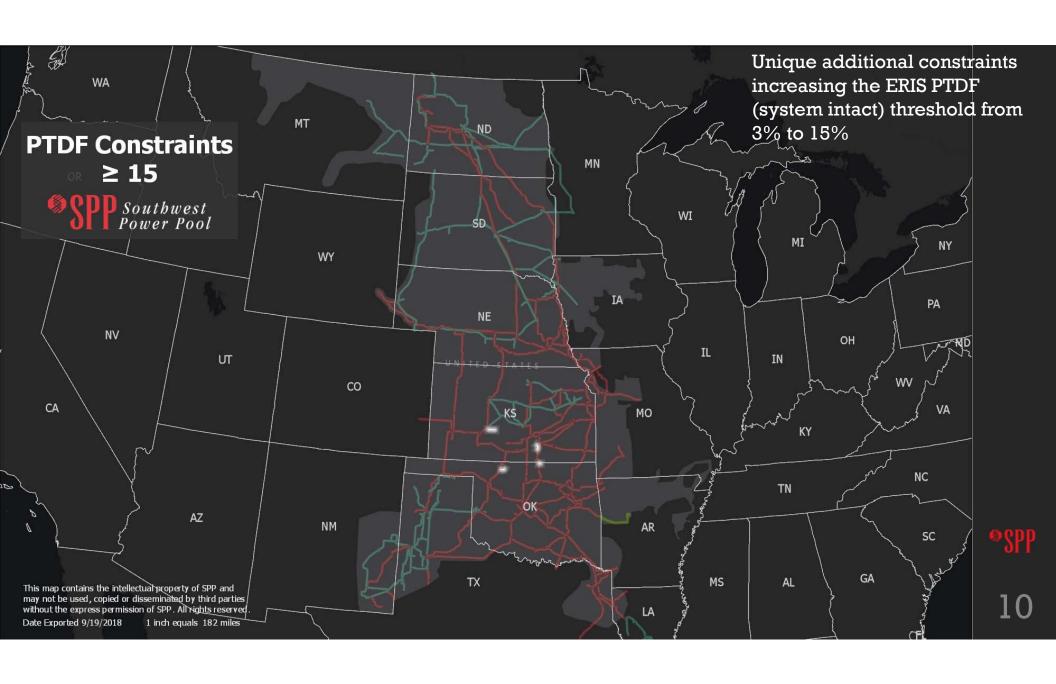


The following four slides illustrate the effect of increasing the PTDF threshold from the current 3% and the additional unique constraints that would be identified at 5%, 10%, and 15%.











PROPOSED RULES FOR ENERGY STORAGE RESOURCES IN GENERATOR INTERCONNECTION STUDIES

GI Improvement Task Force

Published September 26, 2018

By SPP GI Improvement Task Force

REVISION HISTORY

DATE OR VERSION NUMBER	AUTHOR	CHANGE DESCRIPTION	COMMENTS
September 19, 2018	SPP GI Dept.	Initial Draft	
September 26, 2018	GIITF	Amended pursuant to discussion.	Approved.

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3	Proposed Rules			
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		Process		
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1 PURPOSE

This document describes proposed rules for processing and evaluating interconnection requests for energy storage resources ("ESRs") under SPP's Generator Interconnection Procedures ("GIP").

This proposal was developed by the Generator Interconnection Improvement Task Force ("GIITF") in response to its mandate to address new requirements arising from FERC rulemaking initiatives. The GIITF was created by and reports to the Markets and Operations Policy Committee (MOPC) of SPP. The purpose of this document is (a) to document and explain in sufficient detail the recommended rules to the MOPC for its ultimate approval, (b) to provide guidance for those drafting and reviewing applicable governing document language necessary to implement the recommendations, and (c) to provide general information to interested stakeholders wishing to understand the recommendations in more detail.

If this document does not identify a change to an existing provision of the GIP, then those provisions should be considered to remain unchanged, unless modified by an independent recommendation or separate revision effort. When unspecified, "days" refers to calendar days. If not otherwise defined in this document, capitalized terms have the definition contained in the SPP tariff.

2 BACKGROUND

In Order 845, FERC changed the definition of Generating Facility to include devices for the production and/or storage for later injection of electricity identified in the Interconnection Request.

SPP has seen increased interest in energy storage resources in its queue requests and through customer inquiries.

Order 841, although focused on treatment of energy storage resources in the market, has raised the profile and interest in storage resources generally.

SPP's current tariff and business practices do not address some of the unique aspects of storage that may require clarification.

3 PROPOSED RULES

3.1 APPLICABILITY

A request to interconnect an ESR to the SPP Transmission System shall be treated as an Interconnection Request under the GIP.

A request to add an ESR to an existing Generating Facility may be made as a new request for Interconnection Service or as a new request for Surplus Interconnection Service.

3.2 PROCESS

ESRs will be evaluated for reliability impacts to the SPP Transmission System in both discharging mode (as a generator) and charging mode (as a load). The evaluation of both modes of operation will be conducted as part of the applicable Interconnection Study under the GIP. The application will accommodate the specific needs of ESR requests.

3.2.1 DISCHARGE MODE

When evaluating the interconnection of an ESR as a generator, the ESR will be dispatched in the GI cluster study models in the following ways:

Steady-State Power Flow Analysis

- As an Energy Resource in the high variable energy resource (HVER) cases
- When Network Resource Interconnection Service (NRIS) is requested, in the NR cases.
- In all seasons at 100% of requested capacity.

Dynamic Simulation

• In the same way as other non-storage resources.

Short-Circuit Analysis

• As a source with characteristic impedance of the device.

3.2.2 CHARGE MODE

Evaluation of the ESR in charging mode will be conducted as follows:

- The load will be modeled in the latest ITPNT Base Reliability model set, and a contingency scan will be performed. Thermal and voltage impacts will be identified in accordance with NERC TPL requirements.
- Seasons evaluated will include Year 1 or 2 system peak and off-peak, Year 5 system peak and off-peak, and Year 10 system peak.
- The additional load will be supplied following the rules for generation shortfall specified in the MDWG manual. The charging capacity may be specified less than the nameplate capacity.

The evaluation of the impact of the ESR in charging mode may be waived if the application meets these requirements:

- The application for interconnection service stipulates that the Generating Facility will never take energy from the Transmission System when operating in charging mode, by either Self-Dispatch or at the direction of SPP.
- The application for interconnection service includes a description of the monitoring and control equipment that will be used to ensure that the Generating Facility never takes energy from the Transmission System when operating in charging mode.
- Normal auxiliary load required solely for the operation of the ESR is exempted from this requirement.

Steve Purdy

From: Aston, Andrew <astonar@oge.com>
Sent: Wednesday, September 26, 2018 2:19 PM

To: Steve Purdy

Subject: **External Email** GIITF option 2 vote

Steve,

I did not support to approve Option 2. The primary reason is that the motion only marginally improves the issues we are experience by the large amounts of variable energy resources being added to the BES. I supported option 1.1 because it would substantially improve the current issues and still provide distinction between ERIS and NRIS.

Thanks,

Andrew Aston

Lead Trans. Planning Engr | OG&E | 405-553-8277 | astonar@oge.com

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Steve Purdy

From: Smith, James

Sent: Thursday, September 27, 2018 2:27 PM

To: Steve Purdy

Subject: **External Email** RE: 5%20% Eris Motion

AEP voted NO on this motion because it does very little to improve the ERIS congestion issue that exists in SPP. Having a sum of the individual impacts greater than or equal to 5% for cost allocation and system upgrades allows gaming of the generator interconnections to mask the congestion and need for upgrades.



JAMES B SMITH JR. | ENGINEER SR JBSMITH2@AEP.COM | D:918.599.2828 | A:8.700.2828 212 E 6TH ST, TULSA, OK 74119

From: Steve Purdy [mailto:spurdy@spp.org] **Sent:** Thursday, September 27, 2018 11:49 AM

To: James B Smith Jr.

Subject: [EXTERNAL] RE: 5%20% Eris Motion

James: Here is the text of the motion:

Jack Clarke (NextEra, proxy for Mark Ahlstrom) made the following motion: The SPP GIITF recommends that the ERIS continue with the current 20% contingent (OTDF) ERIS threshold criteria; additionally, the GIITF recommends a new ERIS criteria which identifies upgrades and allocates cost to each request in which the sum of the individual impacts having contingent (OTDF) threshold greater than or equal to 5% is at least 20% of the applicable facility rating. Derek Sunderman (Tradewinds, proxy for Lisa Szot) seconded.

The motion was approved with six in favor and four opposed with no abstentions. Those opposed included Randy Lindstrom (NPPD), James Smith (AEP), Andrew Aston (OG&E), and Dirk Shulund (WAPA).

From: Smith, James

Sent: Wednesday, September 26, 2018 3:07 PM

To: Steve Purdy <spurdy@spp.org>

Subject: **External Email** 5%20% Eris Motion

Steve,

Please email me the motion and will respond with the reason AEP voted no.

Thanks



JAMES B SMITH JR. | ENGINEER SR <u>JBSMITH2@AEP.COM</u> | D:918.599.2828 | A:8.700.2828 212 E 6TH ST, TULSA, OK 74119 This email and any attachments are for the sole use of the intended recipient(s) and may contain confidential information. If you receive this email in error, please notify the sender, delete the original and all copies of the email and destroy any other hard copies of it.

Steve Purdy

From: Lindstrom, Randy

Sent: Thursday, September 27, 2018 1:37 PM

To: Steve Purdy

Cc: Smith, James; Shulund, Dirk; 'Aston, Andrew'

Subject: **External Email** RE: Motion Opposition Feedback Requested

Steve:

NPPD voted No on the proposed Motion since it did not reduce the existing ERIS 20% impact threshold which has dictated a significant negative impact to local area reliability, congestion, and pre-existing firm transmission service. To continue to utilize a 20% ERIS impact threshold equates to totally ignoring 63 thermal criteria violations in the most recent DISIS 2016-001 which were directly attributed to the new ERIS interconnection requests. The continued preferential treatment of ERIS is a systemic problem for SPP Members and stakeholders as it is magnified by the fact that those same ERIS customers are afforded NRIS service in the Integrated Market. These issues will only continue to worsen in the upcoming future DISIS studies due to the extreme levels of new ERIS interconnection service being studied. The 20% ERIS impact threshold was a completely arbitrary value which has no technical justification and is extremely excessive when compared to the impact thresholds utilized in transmission service studies, new load interconnection studies, and annual TPL assessments. Continuing to allow a 20% ERIS impact threshold in each subsequent DISIS study is a blatant discriminatory practice placing undue burden upon the existing Transmission Owners and pre-existing firm network service customers in SPP.

Randy R. Lindstrom

Transmission Planning Supervisor System Planning & Transmission Business Nebraska Public Power District Operations

Office: 402-563-5240

From: Steve Purdy [mailto:spurdy@spp.org] **Sent:** Thursday, September 27, 2018 11:51 AM **To:** Lindstrom, Randy R.; Shulund, Dirk

Subject: Motion Opposition Feedback Requested

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Randy, Dirk: Please provide any feedback on your opposition to the GIITF motion below. I've received feedback from Andrew and James.

Thanks, Steve

Jack Clarke (NextEra, proxy for Mark Ahlstrom) made the following motion: The SPP GIITF recommends that the ERIS continue with the current 20% contingent (OTDF) ERIS threshold criteria; additionally, the GIITF recommends a new

ERIS criteria which identifies upgrades and allocates cost to each request in which the sum of the individual impacts having contingent (OTDF) threshold greater than or equal to 5% is at least 20% of the applicable facility rating. Derek Sunderman (Tradewinds, proxy for Lisa Szot) seconded.

The motion was approved with six in favor and four opposed with no abstentions. Those opposed included Randy Lindstrom (NPPD), James Smith (AEP), Andrew Aston (OG&E), and Dirk Shulund (WAPA).

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