**Southwest Power Pool, Inc.**

**TWG NET CONFERENCE**

**January 20, 2016**

**Net Conference – Little Rock, Arkansas**

## • Summary of Action Items •

1. Approved RR141
2. Approved Nathan McNeil, Westar, as the new TWG Vice-Chair
3. Approved the GOFs for the 2017 ITP10 and RCAR II assessments

# Southwest Power Pool, Inc.

## TWG NET CONFERENCE

## January 20, 2016

## Net Conference – Little Rock, Arkansas

## • MINUTES •

**Agenda Item 1 – Administrative Items**

TWG Chair Travis Hyde called the meeting to order at 9:02 a.m. The following TWG members were in attendance (Attachment 1a, 1b – Attendance, Proxies) or represented by proxy:

Scott Benson, Lincoln Electric System
John Boshears, City Utilities of Springfield
John Fulton, Southwestern Public Service Co.
Joe Fultz, Grand River Dam Authority
Jody Holland, South Central MCN, proxy for Noman Williams, South Central MCN
Travis Hyde, Oklahoma Gas & Electric
Kalun Kelley, Western Farmers Electric Cooperative
John Knofczynski, East River Electric Cooperative
Dan Lenihan, Omaha Public Power District
Randy Lindstrom, Nebraska Public Power District
Jim McAvoy, Oklahoma Municipal Power Authority
Matt McGee, American Electric Power
Nathan McNeil, Wester Energy Inc.
Nate Morris, Empire District Electric
Michael Mueller, Arkansas Electric Cooperative Corporation
Alan Myers, ITC Great Plains
Gayle Nansel, Western Area Power Authority
John Payne, Kansas Electric Power Cooperative
Matthew Stoltz, Basin Electric Power Cooperative
Jason Shook, GDS Associates, Inc. representing ETEC
Harold Wyble, Kansas City Power & Light

Kirk Hall, SPP staff, confirmed that there was a quorum for the TWG.

**Agenda Item 2 – Revision Request Task Force Recommendation**

This item was struck from the agenda due to a conflict with the presenter.

**Agenda Item 3 – RR141**

Jason Smith, SPP staff, presented Revision Request 141 (Attachment 2 – RR141) to the TWG and requested their approval. Jason made sure to note that this modification only affects the Operating Horizon and will not change anything in the Planning Horizon. The TWG discussed various items within the Revision Request and made a few additional adjustments to the language which are documented in the Revision Request.

**Motion: John Fulton made a motion to accept the TWG modified version of RR141. John Boshears seconded his motion. The TWG approved the motion unanimously.**

**Agenda Item 4 – TWG Vice-Chair Nominations**

Travis then discussed the Vice-Chair opening with the TWG. Travis informed the group that two TWG members, Nathan McNeil and Nate Morris, were agreeable to accept a nomination as the Vice-Chair.

> **Roll Call Vote: The TWG held a roll call vote and approved Nathan McNeil as the new TWG Vice-Chair by a vote of 12-4.**

**Agenda Item 5 – 2016 ITPNT Update**

Jason Davis, SPP staff, updated the group on the progress of the 2016 ITPNT assessment. Jason said that staff is hoping to post a draft portfolio by Monday and would send out cost estimates for non-competitive upgrades to the TOs per the approved cost estimate solution developed by the CTPTF and approved by the TWG and MOPC. Jason also mentioned that staff is planning to push back the first planning summit from early February to later in the month.

**Agenda Item 6 – 2015 TPL Stability Update**

Doug Bowman, SPP staff, provided an update on the 2015 TPL Stability Assessment. Doug reported that 16 entities were complete and 5 were remaining. Of those 5, 4 are in mitigation stage, 1 is in analysis stage. Staff expects to complete its draft report by January 29th and is looking to schedule a meeting the following week.

**Agenda Item 7 – 2017 ITP10 Update**

Generator Outlet Facilities

Kirk discussed the process (Attachment 3 – GOFs) staff went through to determine the Generator Outlet Facilities (GOFs). Kirk discussed the GOFs with the members pointing out which upgrades were being carried over from the 2015 ITP10 because of a similar resource and site, as well as going over the new GOFs based upon new resources in the 2017 ITP10 Resource Plan. Kirk pointed out that during the process of developing the GOFs he worked with each member individually to develop the best upgrade according to the process. Kirk requested the group approve the GOFs to be added to the models officially, but due to changes made the day before was willing to receive approval by an email vote.

> **Motion: Scott Benson made a motion to accept the Generator Outlet Facilities presented to the TWG. Jason Shook seconded the motion. The motion passed without opposition.**

Powerflow Model

Josh Ross, SPP staff, reviewed the updates to the 2017 ITP10 (and RCAR II) Powerflow model. He informed the stakeholders that all feedback received since the previous posting had been incorporated as well as the draft GOFs the TWG had just discussed and approved. Josh requested that the TWG approve these models by an email vote initiated by staff a few days after the meeting to make sure the members have time to review the updates. Josh clarified that the ITP10 and RCAR powerflow model topology would be exactly the same, and only topology and suggested model corrections would need to be reviewed to ensure they were implemented correctly.

Constraint Assessment

Clayton Mayfield, SPP staff, informed the TWG approaching constraint assessment milestone of the 2017 ITP10.

Seeing there was no further business, the meeting was adjourned at 10:13 am.

Respectfully Submitted,

Kirk Hall
Secretary

*Supplemental Activity*
*As discussed during the January 20th TWG Net Conference, staff requested a motion and second from the TWG to approve the 2017 ITP10 Pass 4 and RCAR II powerflow posted on TrueShare January 25th. Alan Myers made the motion and Harold Wyble seconded the motion. The vote was opened on Wednesday, January 27th and closed at 5:00 pm Friday, January 29th. The motion was passed unanimously with 18 votes in favor. Four members abstained from voting.*

**Southwest Power Pool, Inc.**

**TWG NET CONFERENCE**

**January 20, 2016**

**9:00 am – 11:00 am**

**Net Conference – Little Rock, Arkansas**

1. Revision Request Task Force Recommendation (Action Item) ..... John Allen (20 min.)
2. RR141 (Action Item) ..... Jason Smith (20 min.)
3. TWG Vice-Chair Nomination (Action Item) ..... Travis Hyde (10 min.)
4. 2016 ITPNT Update ..... Dee Edmondson (20 min.)
5. 2015 TPL Stability Update ..... Doug Bowman (10 min.)
6. 2017 ITP10 Update ..... Staff (20 min.)
    a. Generator Outlet Facilities (Action Item) – Kirk Hall
    b. Powerflow Model (Action Item) – Josh Ross/Chris Jamieson
    c. Constraint Assessment – Clayton Mayfield

All sessions in Central Standard Time (Chicago, GMT-06:00)
Session detail for 'TWG Net Conference':

| Participant | Name | Email |
|---|---|---|
| 1 | Kirk Hall | khall@spp.org |
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| 3 | Jason Smith | jsmith@spp.org |
| 4 | Jason Chaplin (OCC) | j.chaplin@occemail.com |
| 5 | Travis Hyde | hydetd@oge.com |
| 6 | Ryan Yokley | ryokley@sunflower.net |
| 7 | Steve Hardebeck-OG&E | hardebsm@oge.com |
| 8 | Derek Hawkins | dhawkins@spp.org |
| 9 | Harold Wyble (KCPL) | harold.wyble@kcpl.com |
| 10 | Jason Shook (GDS/ETEC) | jason.shook@gdsassociates.com |
| 11 | Natalie Jackson (GSEC) | njackson@gsec.coop |
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| 13 | matthew stoltz BEPC | mstoltz@bepc.com |
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| 17 | Gimod Olapurayil | golapurayil@itctransco.com |
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| 20 | John Boshears | john.boshears@cityutilities.net |
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| 27 | Jordan Schmick | jordan.h.schmick@xcelenergy.com |
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| 32 | Jeremy Severson (BEPC) | jseverson@bepc.com |
| 33 | Doug Bowman | dbowman@spp.org |
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| | | |
|---|---|---|
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| 69 | John Payne | jpayne@kepco.org |
| 70 | Dona Parks (GRDA) | dparks@grda.com |
| 71 | ryan | ryan.shepler@us.abb.com |
| 73 | Adam Mummert | amummert@burnsmcd.com |
| 74 | Josh Verzal | jverzal@oppd.com |

## Kirk Hall

**From:** Jody Holland <JHolland@gridliance.com>
**Sent:** Monday, January 18, 2016 7:05 PM
**To:** Kirk Hall
**Cc:** Williams, Noman
**Subject:** Fwd: TWG Conf. Call - Proxy

Kirk,
See Noman's email to you below. Looks like he sent it to wrong email address. Thx.

Jody Holland
Director, Transmission Planning
South Central MCN, LLC
Midcontinent MCN, LLC
Cell: 501-681-5950
jholland@gridliance.com

GRIDLIANCE
A Blackstone Company

Message sent from my iPhone.



Begin forwarded message:

> **From:** Noman Williams <Nwilliams@gridliance.com>
> **Date:** January 18, 2016 at 6:39:39 PM CST
> **To:** Kevin Hopper <khopper@gridliance.com>
> **Cc:** Jody Holland <JHolland@gridliance.com>
> **Subject: TWG Conf. Call - Proxy**
>
> Kirk, I will not be able to participate in the TWG conference call on January 20th due to the SPP HRC meeting being held at the same time. Will provide my proxy to Jody Holland to act on my behalf for any action/voting by the TWG during this conference call/meeting. Please share this with Travis.
>
> Thanks
>
> **Noman Williams**
> Senior Vice President Engineering & Operations, COO
> South Central MCN, LLC
> Midcontinent MCN, LLC
> Phone: 816-492-2014
> Cell: 785-259-5110
> Nwilliams@gridliance.com
>
> GRIDLIANCE

SPP Southwest Power Pool

# Revision Request Recommendation Report

| | |
|---|---|
| **RR #: 141** | **Date: 1/11/2016** |
| **RR Title: SOL Methodology Revisions** | |

**SUBMITTER INFORMATION**

| | |
|---|---|
| **Submitter Name:** Jason Smith | **Company:** SWPP |
| **Email:** jsmith@spp.org | **Phone:** 501-614-3293 |

**EXECUTIVE SUMMARY AND RECOMMENDATION FOR MOPC AND BOD ACTION**

**OBJECTIVE OF REVISION**

**Objectives of Revision Request:**

*As part of a filed mitigation plan with SERC, SPP RC has agreed to add clarifying language to its RC SOL Methodology that clearly provides flexibility to use updated ratings for facilities, elements, and ultimately flowgates that reflect the current ambient conditions or more relevant system conditions. There has been concern in the past that allowing real-time use of a rating value that is higher than the rating used for various long term or operational planning studies is a violation of FAC-011 and the SOL Methodology. The concern is that this results in using an SOL which exceeds the Facility Rating.*

*A second change is proposed within this RR that includes required language from FAC-011 that requires SOLs to provide acceptable performance after loss of certain HVDC facilities. In the past, prior to IS integration, there were none of these facilities within the RC footprint. This language should be added to the SOL methodology so that SPP can remain compliant with FAC-011.*

*Other miscellaneous changes are proposed to provide consistency with TOP/IRO standards and more recent NERC terminology. Namely the use of the phrase "exceedance" vs "violation" when referring to study results related to SOL and IROLs.*

**SPP STAFF ASSESSMENT**

**IMPACT**

**Will the revision result in system changes** ☒ **No** ☐ **Yes**

**Will the revision result in process changes?** ☒ **No** ☐ **Yes**

**If yes to either, please provide a summary of the changes:**

**Is an Impact Assessment required?** ☒ **No** ☐ **Yes**

**If system/process changes exist, but an Impact Assessment is not performed, please explain why it is not needed:**

| | |
|---|---|
| **Estimated Cost: $** | **Estimated Duration:** months |
| **Primary Working Group Score:** | |

**SPP DOCUMENTS IMPACTED**

| | | |
|---|---|---|
| ☐ **Market Protocols** | **Protocol Section(s):** | **Protocol Version:** |
| ☐ **Operating Criteria** | **Criteria Section(s):** | **Criteria Date:** |
| ☒ **Planning Criteria** | **Criteria Section(s):** 7.3 | **Criteria Date:** 1/1/2016 |
| ☐ **Tariff** | **Tariff Section(s):** | |
| ☐ **Business Practice** | **Business Practice Number:** | |

| WORKING GROUP REVIEWS AND RECOMMENDATIONS<br>List Primary and any Secondary/Impacted WG Recommendations as appropriate | |
|---|---|
| **Primary Working Group:**<br>**ORWG** | **Date: 1/6/2016**<br>**Action Taken: Approved**<br>**Abstained: David Pham (EDE), John Stephens (CU)**<br>**Opposed: None** |
| **Reason for Opposition:** | |
| **Secondary Working Group:**<br>**SPCWG** | **Date: 1/13/2016**<br>**Action Taken:**<br>**Abstained:**<br>**Opposed:** |
| **Reasons for Opposition:** | |
| **Secondary Working Group:**<br>**TWG** | **Date: 1/20/2016**<br>**Action Taken:**<br>**Abstained:**<br>**Opposed:** |
| **Reasons for Opposition:** | |
| **Secondary Working Group:**<br>**RCWG** | **Date: 1/22/2016**<br>**Action Taken:**<br>**Abstained:**<br>**Opposed:** |
| **Reasons for Opposition:** | |
| **MOPC** | **Date: 4/12/2016**<br>**Action Taken:**<br>**Abstained:**<br>**Opposed:** |
| **Reasons for Opposition:** | |
| **BOD/Member Committee** | **Date: 4/26/2016**<br>**Action Taken:**<br>**Abstained:**<br>**Opposed:** |

| |
|---|
| **Reasons for Opposition:** |
| **COMMENT** |
| **Comment Author: Douglas Web (KCPL)** |
| **Date Comments Submitted: 01/05/2016** |
| **Description of Comments:** KCPL recommends that RR141 be withdrawn for the following reasons stated in the comment form; Revisions are in Opposition to NERC Compliance Initiatives, Revisions Add Indefinite Language to Already Ambiguous Language, Proposed Changes Create Unnecessary Work with NERC Revised and New Definitions Likely on the Horizon, RC Requirement to Establish System Performance Methodology is likely Ending, Facility Ratings Need to Align with Transmission Planning Analysis. |
| **Status: The ORWG reviewed these comments and incorporated some of the suggested language changes in the version of RR141 that was approved by the ORWG. The ORWG did not agree with the actions this comment recommended taking on RR141.** |
| **PROPOSED REVISION(S) TO SPP DOCUMENTS** |

| |
|---|
| **SPP Criteria** |

## 7.3 System Operating Limits (SOLs)

The value (such as MW, MVar, Amperes, Frequency or Volts) that satisfies the most limiting of the prescribed operating criteria for a specified system configuration to ensure operation of the Bulk Electric System (BES) within acceptable reliability criteria. System Operating Limits are based upon certain operating criteria. These include, but are not limited to: Facility Ratings (Applicable pre- and post-Contingency equipment or facility ratings), Transient Stability Ratings (Applicable pre- and post-Contingency Stability Limits), Voltage Stability Ratings (Applicable pre- and post-Contingency Voltage Stability), and System Voltage Limits (Applicable pre- and post-Contingency Voltage Limits). SPP monitors and controls the BES using Flowgates and the NERC TLR process.

SPP also monitors numerous other BES facilities within its footprint and creates temporary flowgates when operating conditions reveal any additional limiting system configurations. Since SPP is utilizing these flowgates to ensure the system is operating within acceptable reliability criteria, these flowgate limits serve as the SPP System Operating Limits.

### 7.3.1 Methodology for Determination of Operating Horizon SOLs

(1) This methodology is applicable for developing SOLs used in the operating horizon.

(2) Based on results of system studies (as described below), SOLs are determined per the definition.

(3) SOLs shall not exceed Facility Ratings. SOLs equal applicable Facility Ratings unless additional studies have established a lower limit based on other operational issues such as transient, dynamic and voltage stability, etc. The Facility Ratings used in the Operating Horizon or Real-Time Horizon may be higher than the Facility Ratings used in the Planning Horizon and shall be based upon the forecast system

conditions applicable to the horizon of the study used to establish the SOL. All Facility Ratings shall be calculated in accordance with the appropriate Transmission Owner's Facility Rating methodology.

(4) Anticipated system topology, generation dispatch, and load levels ~~are~~ shall be utilized ~~daily via SPP member submission on OPS1 and NERC SDX for non-members~~.

(5) Pre-contingency and first contingency studies will be conducted to investigate thermal and voltage violations for current and next day.

(6) Voltage and angular stability issues are investigated ~~off-line~~ as deemed necessary by operator and engineer experience and engineering judgment.

(7) As deemed necessary by study results, an operating guide to aid operators in mitigating potential SOL ~~violations~~ exceedances may be produced. These guides may be temporary or permanent, depending whether the violation is due to a short-term outage, seasonal loading issues, etc. At a minimum, this operating guide will include:

(a) Statement of type(s) of ~~violations~~ limit exceedances revealed by study (voltage/thermal/stability)

(b) Applicable dates

(c) Available/recommended mitigation methods, including generation redispatch (maximum MW and/or minimum Mvar generation), transmission reconfiguration, reclosing reconfiguration, load shedding, and/or Transmission Loading Relief (TLR).

(8) Identified SOLs are screened to compile a list of potential IROLs per the following criteria**:**

(a) Potential IROLs will be investigated when a contingency analysis highlights a thermal overload in excess of 120% of the SOL of the monitored facility.

(b) Potential IROLs will also be investigated when a contingency analysis highlights an under-voltage condition characterized by bus voltages of less than 90% across three or more BES facilities.

The potential IROL condition will be reviewed further by evaluating the system response to the loss of the ~~SOL violated~~ facility with the SOL expected to be exceeded. The original potential IROL ~~contingency~~ condition will be assumed to be a confirmed IROL condition if the evaluation reveals that the ensuing loss of the facility with the SOL ~~violated facility contingency~~exceedance results in another BES facility being overloaded to greater than 120% of its SOL or three or more additional BES facilities with bus voltages in the area experiencing projected post-contingency voltages less than 90%, unless there are studies or system knowledge that the SOL is not an IROL.

(9) The IROL $T_V$ is 30 minutes unless studies dictate a shorter time.

(10) Special Protection Schemes (SPS's) or Remedial Action Schemes (RAS's) are allowed to prevent prolonged undervoltage and to preserve system voltage and machine stability. ~~The Transmission Owner shall provide the RC with the location and description of each SPS, and shall notify the RC when the schemes are enabled/disabled.~~

**Commented [jrs1]:** This language – or similar – is needed to satisfy a required mitigation for SPP RC. The methodology needs clarifying language that allows a higher rating than that submitted for the planning/ems base model build to be used in real-time, ex. Night/colder weather/higher wind in real-time.

**Commented [jrs2]:** This is a methodology for TOPs to use when developing SOLs. Not a description of how data is used by SPP RC.

**Commented [jrs3]:** This language is duplicative of other requirements in Criteria 7, Appendix 7, and other NERC Standards.

**7.3.1.1 SOL Provisions**

(1) In the pre-contingency state, the BES shall demonstrate transient, dynamic, and voltage stability; all Facilities shall be within their Facility Ratings and within their thermal, voltage, and stability limits. In determining SOLs, the BES condition used shall reflect future system conditions with all facilities operated in their normal operating condition.

(2) Following single contingencies as defined in (a) ~~and~~, (b), and (c) below, the system shall demonstrate transient, dynamic, and voltage stability; all Facilities shall be operating within their Facility Ratings and within their thermal, voltage, and stability limits; and Cascading Outages or uncontrolled separation shall not occur.

(a) Single-line-to-ground or three-phase fault (whichever is more severe), with normal clearing, on any faulted generator, line, transformer, or shunt device.

(b) Loss of any generator, line, transformer, or shunt device without a Fault.

~~(b)~~(c) Single pole block, with Normal Clearing, in a monopolar or bipolar high voltage direct current system.

**Commented [jrs4]:** With integration of IS HVDC lines, this provision needs to be added to Criteria.

(3) In determining the system's response to a single Contingency starting with all facilities operated in their normal operating condition, the following shall be acceptable:

(a) Planned or controlled interruption of electric supply to radial customers or some local network customers connected to or supplied by the Faulted Facility or by the affected area. System reconfiguration should be implemented to minimize the interruption of electric supply to the extent possible.

(b) System reconfiguration through manual or automatic control or protection actions.

(4) To prepare for the next Contingency, system adjustments may be made, including changes to generation, uses of the transmission system, and the transmission system topology.

(5) Starting with all facilities operated in their normal operating condition and following any of the multiple contingencies identified in Reliability standard TPL-003 the system shall demonstrate transient, dynamic and voltage stability; all facilities shall be operating within their facility ratings and within their thermal, voltage and stability limits; and cascading or uncontrolled separation shall not occur.

(6) In determining the system's response to any of the multiple contingencies identified in Reliability standard TPL-003, in addition to the actions identified in (a) and (b) above, the following shall be acceptable:

(a) Planned or controlled interruption of electric supply to customers (load shedding) the planned removal from service of certain generators, and/or curtailment of contracted firm electric power transfers. System reconfiguration should be implemented to minimize the interruption of electric supply to the extent possible.

### 7.3.1.2 System Modeling and Contingency Definition

(1) All offline models ~~are based on the ERAG MMWG~~shall be based on a coordinated model of the Eastern Interconnect and any necessary facilities in other Interconnections~~power system~~. The model shall include~~s~~ all ~~TOs~~ TOP Areas within the SPP RC footprint as well as facilities in adjacent TOP Areas that have been determined to have impact on the SPP RC footprint.

(2) The model shall include~~s~~ all non-radial facilities within the BES. Loads served over radial lines ~~are typically~~may be modeled as aggregate at the delivery bus. ~~Many systems are modeled in greater detail down to subtransmission level voltages (<69kV). This is typically true only when the subtransmission system is networked (non-radial). In a few cases distribution level voltages (26kV/13kV) are also modeled.~~ Distribution capacitors can be modeled as aggregate at a load bus.

(3) The online model used by the SPP EMS application is constructed from data in the offline model (PSS/E).

(4) At a minimum the contingency list used in the operating horizon ~~should~~ shall include all non-radial BES transmission lines and transformers ~~> 100kV~~ and all generators rated 300MW and above. Additional contingencies will be included as provided by ~~BA's and/or TOs within the RC footprint~~other applicable registered entities.

~~**7.3.1.3 Methodology Distribution**~~

~~SPP shall issue this methodology and any changes to the methodology, prior to the changes taking effect, to all the following:~~

~~(1) Adjacent RCs and each RC that has indicated it has a reliability related need for the methodology~~

~~(2) Each PA and Transmission Planner that models any portion of the RC footprint~~

~~(3) Each TOP within the RC footprint.~~

**Commented [jrs5]:** FAC-011-3 already requires this, there is no need to include this requirement as a duplicate. FAC-011-3 just requires this be done, not the methodology include the requirement that this be done.

~~**7.3.1.4 Comments on Methodology**~~

~~(4) If a recipient of the SOL methodology provides documented technical comments on the methodology, the RC will provide a documented response to that recipient within 45 calendar days of receipt of those comments. The response will indicate whether a change will be made to the SOL methodology and, if no change will be made to the SOL methodology, the reason why.~~

**Commented [jrs6]:** FERC retired this requirement in January 2014. Also, the FAC-011-3 standard required this, not that the methodology include this process. This is a needless duplication of a requirement.

| **SPP Business Practices** |
|---|

# 2017 ITP10 Generator Outlet Facilities

SPP Southwest Power Pool

Helping our members work together to keep the lights on... today and in the future

# Process

- Using the approved TWG methodology, staff analyzed the outlet capability of a resource site based upon
  - 3% TDF for Base Case
  - 20% TDF for N-1
  - Leveraged GI queue for wind sites and needed upgrades
- Assessed resources and sites for 2020, 2025, and 2035 (F3 Only) for F1, F2 and F3
- Locations carried over from 2015 ITP10 Resource Plan kept the previous GOF where possible

# Resources Requiring GOFs

| Year | MW | Bus Name | Future(s) |
|---|---|---|---|
| 2020 | 550 | DEAFSMITH 6 | F1, F3 |
| | 550 | LP-HOLLY 6 | F1, F3 |
| | 550 | MOORLND4 | All |
| | 550 | OEC 7 | All |
| 2025 | 550 | DEAFSMITH 6 | F2 |
| | 550 | GAINESGENTP6 | All |
| | 550 | HOBBS_INT 6 | All |
| 2035 | 216 | DEAFSMITH 6 | F3 |
| | 550 | GAINESGENTP6 | |
| | 550 | HOBBS_INT 6 | |
| | 550 | JONES 6 | |
| | 216 | LP-HOLLY 6 | |
| | 550 | MOORE_CNTY 6 | |
| | 216 | MOORLND4 | |
| | 216 | TUCO_INT 7 | |
| | 550 | LEC U5 6 | |

# Draft GOFs from 2015 ITP10

- AEP
  - Oneta Energy Center: Add 3rd 345 kV circuit from OEC
- Lubbock Power & Light
  - Holly and Jones Units: 230 kV buildout around Lubbock and terminal upgrades, waiting on impedance changes for Jones – Lubbock South 230 kV
- SPS (Updated)
  - Hobbs/Gaines (Sidewinder): Convert 230 built at 345 kV to 345 kV operation from Hobbs to Andrews, add 345 kV line from Andrews – Road Runner, Hobbs generator move to 345 kV bus, terminal upgrades for Hobbs – Sidewinder – Andrews (2035 Only)

# New Draft 2017 ITP10 GOFs

- **WFEC**
  - **Mooreland: Tap Woodward – Thistle 345 kV double circuit, place resource at 345 kV tap**
- **SPS**
  - **Moore County: Tap Hitchland-Potter 345 at Moore County, add 345/230 kV xfmr, add 2nd 230/115 kV xfmr, terminal equipment upgrade on Bushland-Potter 230 kV line**
  - **Tuco: Build new Tuco 2 station connecting to Border 345, place CT at new 345 kV station**

# New Draft 2017 ITP10 GOFs (cont'd)

- SPS (cont'd)
  - Deafsmith: Tap Deafsmith-Plant X 230 near Deafsmith, Route Newhart – Potter 230 kV in and out at new station
  - Add 230/115 kV xfmr at new station, reterminate 115 kV line from to DS #21 to Deafsmith at new station, terminal upgrades on Hereford – DS #6 – Friona 115 kV (2035 only), terminal equipment upgrade on Deafsmith – Plant X 230 kv line

# Wind GOFs

- New wind resources sites based upon GI Queue
  - GOFs needed for wind resources directly pulled from Generation Interconnection Agreements
  - Posted as informational only

# Recommendation

- **Staff recommends the TWG approve the GOFs for the 2017 ITP10 and RCAR II conventional resource plans**