Southwest Power Pool
Economic Studies Working Group
May 23, 2019
Conference Call

• SUMMARY OF ACTIONS TAKEN •

1. Approved use of the MISO Transmission Expansion Plan 2019 (MTEP19) for External Resource Plan
2. Approved the following exceptions to the preliminary siting plan:
   - 250 MW at Leland Olds - Ft. Thompson 345 kV for GEN-2016-017
   - 202.4 MW at Mingo 345 kV for GEN-2015-065
   - 197.8 MW at Mingo 115 kV for GEN-2015-064
   - 530 MW of generation at Hoskins 345 kV
   - 300 MW of generation at Sooner-Rose Hill 345 kV
   - 522 MW at Crossroads 345 kV for Sagamore Wind Project
   - 73.4 MW at Friend 115kV for GEN-2014-039
   - 100 MW for Wildhorse Wind
   - 220 MW at Gordon Evans 138 kV for GEN-2017-179
   - 250 MW at Woodring 345 kV for GEN-2016-068
   - 300 MW at Pauline-Moore 345 kV for GEN-2015-088
Agenda Item 1 – Administrative Items

Agenda Item 1a - Call to Order, Introductions

Vice-chair Tim Owens (NPPD) called the meeting of the Economic Studies Working Group (ESWG) to order at 1:00 p.m., welcomed those in attendance, and asked for introductions.

There were 44 web conference participants, representing 13 of 16 ESWG members. (Attachment 1a – May 15-16, 2019 ESWG Attendance)

Agenda Item 1b – Receipt of Proxies

Amber Greb (SPP) asked for any proxy statements; three proxies were identified. (Attachment 1b – Proxy Statements)

- Alan Myers (ITC) named Michael Wegner (ITC) as his proxy
- Jon Iverson (OPPD) named Steve Hohman (OPPD) as his proxy
- John Olsen (Westar) named Doug Jasa (Westar) as his proxy

Agenda Item 1c – Review of Agenda

Vice-chair Tim Owens (NPPD) presented the agenda for review and asked for any additions or corrections. One addition was made to add EDF at the end of item 2b. (Attachment 1c - May 23 Draft ESWG Agenda)

Kurt Stradley (LES) made a motion; seconded by Zac Hager (OGE) to adopt the agenda. The motion was approved unanimously.

Agenda Item 1d – Antitrust Reminder

Amber Greb (SPP) provided an antitrust reminder to the group.

Agenda Item 2 – 2020 ITP Items

Agenda Item 2a – External Resource Plan

Antonio Barber (SPP) discussed evaluation of the MTEP19 for use in the External Resource Plan. He discussed the different future definitions and recommended utilizing the MTEP19 Continued Fleet Change (CFC) and Accelerated Fleet Change (AFC) retirement assumptions and resource plan additions for MISO and TVA areas in the 2020 ITP Future 1, and Future 2, respectively. (Attachment 2a - External Resource Plan)

Jeremy Severson (BEPC) made a motion; seconded by Kurt Stradley (LES) to approve use of the MTEP19 for External Resource Plan as staff recommended. The motion was approved unanimously.

Agenda Item 2b – Renewable Siting Exceptions

Agenda Item 2bi – Basin Electric Power Cooperative

Jeremy Severson (BEPC) presented an exception for GEN-2016-017. (Attachment 2bi - Basin_GEN-2016-017_Exception)

The exception passed as a result of an up-or-down vote.
Agenda Item 2bii – Liberty-Empire


The exceptions did not pass as a result of an up-or-down vote.

Representatives of Liberty requested a reconsideration of their exceptions after all other exceptions were presented. After discussing the implications of interim GIAs, the group asked for staff to send out an email vote on the Liberty exceptions with some background information on interim GIAs.

The exceptions did not pass through email vote with 4 votes to approve and 6 votes against.

Agenda Item 2biii – Sunflower


The exception passed as a result of an up-or-down vote.

Agenda Item 2biv – Tradewind

Aaron Vander Vorst (Tradewind) presented endorsements for GEN-2011-008, GEN-2015-046, and GEN-2016-115 as well as exceptions for 530 MW at Hoskins 345 kV, and 300 MW at Sooner-Rose Hill 345 kV. (Attachment 2biv - Tradewind ITP20 Siting Exception Requests)

The exceptions passed as a result of an up-or-down vote. There were two votes against the Hoskins 345 kV exception: Anita Sharma (AEP) and Tim Owens (NPPD).

Agenda Item 2bv – SPS

Bennie Weeks (SPS) presented an exception to remove MW sited in northern SPS area and to site 522 MW at Sagamore wind location of Crossroads 345 kV and 135.8 MW at Border-Tuco 345 kV. (Attachment 2bv - SPS_Exception_Request_Siting_2020_ITP10)

The exception passed as a result of an up-or-down vote. There was one abstention: Natasha Henderson (GSEC).

Agenda Item 2bvi – Aksamit Resource Management

Jason Edwards (Aksamit) presented an exception for GEN-2014-039. (Attachment 2bvi - Aksamit GEN-2014-039)

The exception passed as a result of an up-or-down vote.

Agenda Item 2bvii – AECC

Bruce Walkup (AECC) presented an exception for Wildhorse Wind. (Attachment 2bvii - AECC Wildhorse Wind)

The exception passed as a result of an up-or-down vote.

Agenda Item 2bviii – Nextera


The exceptions passed as a result of an up-or-down vote.

Agenda Item 2bix – EDF

Jason Kemper (EDF) presented an exception for the 300 MW Milligan Wind Project and for GEN-2016-096 in Future 2. (Attachment 2bix - EDF Renewables_Siting Plan Exception Request for 5-23-2019)

The Milligan Wind Project exception passed as a result of an up-or-down vote. There were three votes against: Tim Owens (NPPD), Kurt Stradley (LES), and Doug Jasa (Evergy).

The GEN-2016-096 exception did not pass as a result of an up-or-down vote.
Comments on exception votes:
NPPD voted against several renewable siting exception requests, for the following reasons.

- Liberty-Empire request (GEN-2017-060, GEN-2017-082, GEN-2017-009) did not yet have a signed GIA.
- Tradewind Energy request (GEN-2016-021, GEN-2016-043) did not provide evidence of a signed PPA, firm service, or utility ownership for the project. NPPD also has some questions about the status of the GIA.
- EDF Renewables request - Supportive information was not provided prior to the meeting, which did not allow an opportunity for me to fully consider the request.
  - (GEN-2015-088) did not provide evidence of a signed PPA, firm service, or utility ownership.
  - (GEN-2016-096) no supportive information was provided for the request.

Agenda Item 2c – SPS Conventional Resource Plan Request
Bennie Weeks (SPP) brought a request to replace three combustion turbine units assigned to the SPS zone with one combined cycle unit. She gave background information to her request and made a recommendation. (Attachment 2c - SPS Change Request in RP2 -2020 ITP)

The request passed as a result of an up-or-down vote.

Closing Items
The ESWG had no action items.

The meeting was adjourned at 4:00 PM.

Respectfully Submitted,
Amber Greb
ESWG Secretary
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<tr>
<th>Name</th>
<th>Company/Email</th>
<th>Attendance</th>
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<tbody>
<tr>
<td>Aaron Vander Vorst</td>
<td><a href="mailto:avandervorst@tradewindenergy.com">avandervorst@tradewindenergy.com</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>Amber Greb</td>
<td>SPP</td>
<td>Phone</td>
</tr>
<tr>
<td>Amber Joyce</td>
<td><a href="mailto:amber.joyce@mdu.com">amber.joyce@mdu.com</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>Andy Berg (MRES)</td>
<td><a href="mailto:andrew.berg@mrenergy.com">andrew.berg@mrenergy.com</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>Anita Sharma (AEP)</td>
<td><a href="mailto:asharma@aep.com">asharma@aep.com</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>Antonio Barber (SPP)</td>
<td><a href="mailto:aabarber@spp.org">aabarber@spp.org</a></td>
<td>WebEx</td>
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<tr>
<td>Bennie Weeks (SPS)</td>
<td><a href="mailto:bennie.weeks@xcelenergy.com">bennie.weeks@xcelenergy.com</a></td>
<td>WebEx</td>
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<tr>
<td>Bill Leung</td>
<td><a href="mailto:bleung@bleung.com">bleung@bleung.com</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>Brian Johnson</td>
<td><a href="mailto:bajohnson1@aep.com">bajohnson1@aep.com</a></td>
<td>WebEx</td>
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<tr>
<td>Brian Rounds (AESL)</td>
<td><a href="mailto:brian.rounds@aeslconsulting.com">brian.rounds@aeslconsulting.com</a></td>
<td>WebEx</td>
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<tr>
<td>Brooke Keene (SPP)</td>
<td><a href="mailto:bkeene@spp.org">bkeene@spp.org</a></td>
<td>WebEx</td>
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<tr>
<td>Bruce Grey</td>
<td><a href="mailto:bruce.grey@nee.com">bruce.grey@nee.com</a></td>
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<tr>
<td>Bruce Walkup (AECC)</td>
<td><a href="mailto:bruce.walkup@aecc.com">bruce.walkup@aecc.com</a></td>
<td>WebEx</td>
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<tr>
<td>Chris Jamieson</td>
<td>SPP</td>
<td>Phone</td>
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<tr>
<td>Clayton Mayfield (SPP)</td>
<td><a href="mailto:cmayfield@spp.org">cmayfield@spp.org</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>David Busse (Liberty-Empire)</td>
<td><a href="mailto:david.busse@libertyutilities.com">david.busse@libertyutilities.com</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>Doug J</td>
<td><a href="mailto:doug.jasa@kcpl.com">doug.jasa@kcpl.com</a></td>
<td>WebEx</td>
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<tr>
<td>Gayle Nansel</td>
<td><a href="mailto:nansel@wapa.gov">nansel@wapa.gov</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>Jason Edwards</td>
<td><a href="mailto:jedwards@dm3psc.com">jedwards@dm3psc.com</a></td>
<td>WebEx</td>
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<tr>
<td>Jason Kemper</td>
<td><a href="mailto:Jason.Kemper@edf-re.com">Jason.Kemper@edf-re.com</a></td>
<td>WebEx</td>
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<tr>
<td>Jason Mazigian (BEPC)</td>
<td><a href="mailto:jmazigian@bepc.com">jmazigian@bepc.com</a></td>
<td>WebEx</td>
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<tr>
<td>Jeremy Severson</td>
<td><a href="mailto:jseverson@bepc.com">jseverson@bepc.com</a></td>
<td>WebEx</td>
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<tr>
<td>Jerry Bradshaw (SPRM)</td>
<td><a href="mailto:jerry.bradshaw@cityutilities.net">jerry.bradshaw@cityutilities.net</a></td>
<td>WebEx</td>
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<tr>
<td>Jim Jacoby (AEP)</td>
<td><a href="mailto:jwjacoby@aep.com">jwjacoby@aep.com</a></td>
<td>WebEx</td>
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<tr>
<td>Jody Holland</td>
<td><a href="mailto:jholland@gridliance.com">jholland@gridliance.com</a></td>
<td>WebEx</td>
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<tr>
<td>Josh Norton</td>
<td>SPP</td>
<td>Phone</td>
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<tr>
<td>Josie Daggett</td>
<td><a href="mailto:daggett@wapa.gov">daggett@wapa.gov</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>Kurt Stradley (LES)</td>
<td><a href="mailto:kstradley@les.com">kstradley@les.com</a></td>
<td>WebEx</td>
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<tr>
<td>Kyle McKinney</td>
<td><a href="mailto:kmckinney@gsec.coop">kmckinney@gsec.coop</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>Maria</td>
<td><a href="mailto:mtomac@bepc.com">mtomac@bepc.com</a></td>
<td>WebEx</td>
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<tr>
<td>Matt Rudy</td>
<td><a href="mailto:mrudy@itctransco.com">mrudy@itctransco.com</a></td>
<td>WebEx</td>
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<tr>
<td>Michael Wegner</td>
<td>ITC</td>
<td>Phone</td>
</tr>
<tr>
<td>Natasha Henderson</td>
<td><a href="mailto:nhenderson@gsec.coop">nhenderson@gsec.coop</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>Nate Morris (EMDE)</td>
<td><a href="mailto:nate.morris@libertyutilities.com">nate.morris@libertyutilities.com</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>Nikki Roberts</td>
<td><a href="mailto:nroberts@spp.org">nroberts@spp.org</a></td>
<td>WebEx</td>
</tr>
<tr>
<td>Nimai</td>
<td><a href="mailto:nimai.shanker@res-group.com">nimai.shanker@res-group.com</a></td>
<td>WebEx</td>
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<tr>
<td>Randy Collier (CUS)</td>
<td><a href="mailto:randy.collier@cityutilities.net">randy.collier@cityutilities.net</a></td>
<td>WebEx</td>
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<tr>
<td>Robert Tallman</td>
<td><a href="mailto:tallmarj@oge.com">tallmarj@oge.com</a></td>
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<tr>
<td>Rodica Donaldson</td>
<td><a href="mailto:rodica.donaldson@edf-re.com">rodica.donaldson@edf-re.com</a></td>
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<td>Ryan Baysinger</td>
<td><a href="mailto:ryan.baysinger@kcpl.com">ryan.baysinger@kcpl.com</a></td>
<td>WebEx</td>
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<tr>
<td>Ryan Yokley</td>
<td><a href="mailto:ryokley@sunflower.net">ryokley@sunflower.net</a></td>
<td>WebEx</td>
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<tr>
<td>Steve Hohman</td>
<td><a href="mailto:shohman@oppd.com">shohman@oppd.com</a></td>
<td>WebEx</td>
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<tr>
<td>Tim Owens</td>
<td><a href="mailto:tjowens@nppd.com">tjowens@nppd.com</a></td>
<td>WebEx</td>
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<tr>
<td>Zac Hager</td>
<td><a href="mailto:hagerzc@oge.com">hagerzc@oge.com</a></td>
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Antitrust: SPP strictly prohibits use of participation in SPP activities as a forum for engaging in practices or communications that violate the antitrust laws. Please avoid discussion of topics or behavior that would result in anti-competitive behavior, including but not limited to, agreements between or among competitors regarding prices, bid and offer practices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that might unreasonably restrain competition.

ECONOMIC STUDIES WORKING GROUP MEETING

May 23rd, 2019

Conference Call

• AGENDA •

Thursday, 1:00p.m. - 4:00p.m.

1. Administrative Items
   a. Call to Order, Introductions ................................................................. Tim Owens (5 minutes)
   b. Receipt of Proxies ............................................................................. Amber Greb (1 minute)
   c. Review of Agenda\(^1\) ....................................................................... Tim Owens (1 minute)
   d. Antitrust Reminder .......................................................................... Amber Greb (1 minute)

2. 2020 ITP Items .............................................................................................. SPP Staff (120 minutes)
   a. External Resource Plan\(^1\) (Approval Item) ..................................... Antonio Barber (30 Minutes)
   b. Renewable Siting Exceptions\(^1\) (Approval Item) ................................. Joshua Norton
      i. Basin Electric Power Cooperative
      ii. Liberty-Empire
      iii. Sunflower
      iv. Tradewind
      v. SPS
      vi. Aksamit Resource Management
      vii. AECC
      viii. Nextera
      ix. EDF
      x. Other Requests
   c. SPS Conventional Resource Plan Request\(^1\) ......................................... Bennie Weeks

3. Closing Items ................................................................................................ All (10 minutes)
   a. Summary of Action Items (Amber Greb)
   b. Engineering Planning Summit
      i. May 29\(^{th}\), 2019 – SPP Corporate Office – Little Rock, Arkansas

\(^1\) Background Material Included
c. Future Meetings

i. June 12-13, 2019: 41st floor AEP Office, Dallas Texas
ii. June 20, 2019: Conference Call (9:00 am)
iii. July 17-18, 2019: Hilton Des Moines Downtown, IA
iv. August 13-14, 2019: ITC Offices, Novi, MI
v. September 5-6, 2019: 41st floor AEP Office, Dallas Texas
vi. October 9-10, 2019: SPP Offices, Little Rock, AR
vii. November 6-7, 2019: 41st floor AEP Office, Dallas Texas
viii. December 11-12, 2019: 41st floor AEP Office, Dallas Texas
HELPING OUR MEMBERS WORK TOGETHER TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE.
2020 ITP External Resource Planning

Antonio Barber

May 23, 2019
Objective

• Discuss evaluation of the MTEP19 for use in the External Resource Plan

• Provide high level details of MTEP19

• Seek approval of source(s) for the 2020 ITP External Resource Plan
Evaluation of MTEP19 Futures

• SPP staff reviewed the appropriateness of utilizing the MTEP19 resource plan for external entities

• Evaluated the following for MISO and TVA
  • Conventional Resource Plan Additions
  • Existing Renewables
  • Renewable Resource Plan Additions
  • Generation Resource Retirement Assumptions
Confidentiality

- MISO’s Legal Team has advised SPP that for any information from the MTEP19 to be used in the ITP database, SPP should continue the practice of requiring execution of the Joint SPP-MISO CEII NDA prior to release.

- For this reason, the details used for evaluation of the MTEP19 model cannot be posted in a public forum.
External Presentation

• Full Presentation with additional MTEP19 details on GlobalScape
  • Stakeholders must have a fully executed Joint SPP-MISO CEII NDA in order to access the presentation
MTEP 19 Future Definitions

• Continued Fleet Change (CFC)
  • Demand and energy growth rates are modeled at a level equivalent to a 50/50 forecast.
  • Natural gas prices are consistent with industry long-term reference forecasts.
  • Renewable additions continue along current trends. Wind & solar serve 20% of MISO energy by 2033.
  • Maturity cost curves for renewable resources reflect some advancement in technology and supply chain efficiencies.
  • Oil and gas generators retired at the useful life limit age. Coal units will be retired reflecting age and historical retirement trends beyond age limits. Nuclear units are assumed to have license renewals granted and remain online.
  • Demand-side management programs modeled to reflect growth and technical potential of current programs.

Source: MTEP19 Futures Summary291183
MTEP 19 Future Definitions

• Limited Fleet (LFC)
  • Footprint wide, demand & energy growth rates are low; however, as a result of low natural gas prices, industrial production along the Gulf Coast increases.
  • Natural gas prices are low due to increased well productivity and supply chain efficiencies along with low demand & energy.
  • Low demand & energy and natural gas prices reduce the demand for and economic viability of new generation technologies.
  • Thermal generation retirements are driven by unit useful life limits. Nuclear units are assumed to have license renewals granted and remain online.
  • Lower levels of demand-side management programs are assumed due to low demand & energy.

Source: MTEP19 Futures Summary291183
MTEP 19 Future Definitions

• Accelerated Fleet Change (AFC)
  • Demand & energy grows at a high rate due to a robust economy; however, as a result of high natural gas prices, industrial production along the Gulf Coast decreases.
  • Natural gas prices are high due to increased demand.
  • Retirements, economics, and potential regulations drive renewable additions. Maturity cost curves for renewable technologies applied reflecting advancement in technologies.
  • Oil and gas generators will be retired in the year the age limit is reached. Coal units will be retired reflecting age and economics. Nuclear units are assumed to have license renewals granted and remain online.
  • A 20% carbon reduction for current levels is modeled to reflect future national or state-level carbon regulation.
  • High demand & energy levels and carbon regulation drive greater potential for demand-side management programs.

Source: MTEP19 Futures Summary291183
**MTEP 19 Future Definitions**

- Distributed and Emerging Technologies (DET)
  - Demand and energy forecast begins at level equivalent to a 50/50 forecast and has high growth rate to reflect adoption of electric vehicle technology on a broader scale. Energy grows faster than demand reflecting smart charging.
  - Natural gas prices are consistent with industry long-term reference forecasts.
  - Generation siting shows a strong preference for localized energy and capacity self-sufficiency within state jurisdictions.
  - Maturity cost curves for renewable technologies applied reflecting advancement in technologies and supply-chain efficiencies. Renewable additions reach 25% of MISO energy by 2033, the increase from 20% as defined in Continued Fleet Change future comes primarily from solar.
  - Increased deployment of energy storage devices is driven by economies of scale resulting from commercial mass production of lithium ion batteries and other viable technologies.
  - Oil and gas generators will be retired in the year the age limit is reached. Coal units will be retired reflecting age and economics. Nuclear units are assumed to retire when current licenses expire unless there has been a recent significant investment.
  - Demand-side management programs grow in scale and scope due to technological advancement and load growth.

Source: MTEP 19 Futures Summary 291183
Recommendation

• SPP Staff recommends utilizing the MTEP19 retirement assumptions and resource plan additions for MISO areas and TVA.
  • MISO’s Continued Fleet Change Future for the 2020 ITP Future 1
  • MISO’s Accelerated Fleet Change Future for the 2020 ITP Future 2
Wind Exception Request

2020 ITP

ESWG

Jeremy Severson

May 2019
BEPC Exception Request - 2020 ITP

• Need/Request:
  – SPP request for stakeholder exceptions or suggestions to siting plan

• Stakeholder materials on requested exceptions must include:
  – Generation interconnection status
  – PPA, firm service, or utility ownership information -
  – Status of necessary regulatory filings and/or approvals
  – Procurement of financing
  – PTC safe harbor eligibility
  – Additional supporting information (public announcements, etc.)
GEN-2016-017 Info

- GEN-2016-017:
  - 250 MW request on the Leland Olds - Ft. Thompson 345 kV line
    - GI completed in the DISIS 2016-001 study
    - Fully executed GIA
  - PPA, firm service, or utility ownership information
    - NA
  - Status of necessary regulatory filings and/or approvals
    - NA
  - Procurement of financing
    - NA
  - PTC safe harbor eligibility
    - NA
  - Additional supporting information (public announcements, etc.)
Location

GEN-2016-017

2020 ITP
Wind Siting
(Future 2 2030)

SPP
Southwest Power Pool

??

Legend:
- 0 - 75
- 76 - 175
- 176 - 275
- 276 - 550
- 551 - 1300
Request

BEPC requests that SPP consider an exception for GEN-2016-017 for siting in the 2020 ITP study due to:

• Fully executed GIA
• Signed and public GIA
• In service date in 2020
Liberty-Empire’s Plan

- A public announcement made October 31, 2017 in coordination with regulatory filings in Liberty-Empire’s four jurisdictions
- Generation Interconnection requests submitted and await study in the 2017 DSIS queue
  - King’s Point - up to 150MW
    - GEN-2017-060
    - Interconnection at LaRussell Energy Center substation
  - North Fork Ridge – up to 198MW
    - GEN-2017-082
    - Interconnection at Asbury substation
  - Neosho Ridge – up to 301MW
    - GEN-2017-009
    - Interconnection at new proposed Neosho County to Caney River substation
Liberty-Empire’s Plan

- Regulatory Filings
  - Missouri
    - CCN filed in October, 2018
    - Non-unanimous settlement agreement reached
    - Hearings were in mid April
    - Decision expected by May 31, 2019
  - Arkansas
    - CCN filed in November, 2018
    - Unanimous settlement agreement reached
    - Hearings waived
    - Order expected by May 31, 2019
  - Oklahoma
    - Settlement agreement reached
  - Kansas
    - To be addressed in future rate case filings
Liberty-Empire’s Plan

- RFP was issued for site development on October 18, 2017 and bids were received December 15, 2017.
  - RFP selection and contracts signed
    - King’s Point and North Fork Ridge – October 11, 2018
    - Neosho Ridge – November 16th, 2018
- Wind additions will be owned assets
- Tax equity partners have been identified and signed agreement terms are in place.
- Projects will be PTC eligible
  - Project developers have received safe harbor turbines
- Signed road use and turbine siting agreements are in place for King’s Point and North Fork Ridge
- Press Releases
  - [http://www.empiredistrict.com/Wind](http://www.empiredistrict.com/Wind)
Mingo 345 kV (BUS 531451)

Solomon Forks Wind

GEN-2015-065 – 202.4 MW

GEN-2016-067 – 73.6 MW

Sunflower has completed construction for the interconnection. The wind facilities are constructed and in place. The initial energization was completed on 4/18/2019. Solomon Forks Wind is currently undergoing additional testing and transformer soaking. Sunflower and the developer have been in ongoing communication to complete the interconnection process this summer.

Sunflower Wind Project – 276 MW’s under construction by Mortenson. COD planned for 7/16/2019.

- Generation interconnection status – Signed GIA for GEN-2015-065/GEN-2016-067 (SA#3483). Facilities under construction – In service date: 5/30/2019
- PPA, firm service, or utility ownership information – 260 MW’s of contracted PPA’s (100 MW with Target, 160 MW with T-Mobile) – balance is merchant
- Status of necessary regulatory filings and/or approvals – Complete as needed
- Procurement of financing: tax equity financing complete
- PTC safe harbor eligibility – 100% qualified for PTC
- Additional supporting information (public announcements, etc.)

Mingo 115 kV (BUS 531429)

East Fork Wind

GEN-2015-064 – 197.8 MW

Sunflower construction for the interconnection as well as windfarm construction is currently on target for a Commercial Operation Date in April 2020. An Engineering and Procurement Agreement has been completed with significant investments.

East Fork Wind Project – 198 MW’s under construction by Mortenson. COD planned for 4/20/20 (Foundations and civil complete) – turbine deliveries begin this summer

- Generation interconnection status – Signed GIA for GEN-2015-064 (SA#3482). Facilities under construction – In service date: 3/15/2020
- PPA, firm service, or utility ownership information – 30 MW’s of contracted PPA’s (Brown-Forman), 130 MW Proxy Revenue Swap (Allianz), balance is merchant
- Status of necessary regulatory filings and/or approvals – Complete as needed
- Procurement of financing: tax equity financing to close in October
- PTC safe harbor eligibility – 100% qualified for PTC
- Additional supporting information (public announcements, etc.)


ITP20 Renewable Exception Requests

5/17/2019 Tradewind Energy, an Enel Green Power company
Endorsements

Recommend keeping the following as proposed (supporting details in appendix):

- GEN-2011-008, 200 MW, POI Clark County 345 kV
- GEN-2015-046, 300 MW, POI Tande 345 kV
- GEN-2016-115, 300 MW, POI KCPL Holt County 345 kV
Exception Request – Hoskins 345 kV

Recommendation: Add full amount of both GEN-2016-021 and GEN-2016-043 (530 MW total) in all four futures. GEN-2016-043 (not a Tradewind project) has a signed GIA and two publicly announced PPAs.

- Generation interconnection status: GEN-2016-021 GIA negotiation with TO complete, interconnection upgrades in progress (being built by GEN-2016-043 under JTDA)
- PPA, firm service, or utility ownership information: No public information available
- Status of necessary regulatory filings and/or approvals: No major discretionary permits required
- Procurement of financing: Not yet secured, anticipate balance sheet financing
- PTC safe harbor eligibility: Eligible (2021 COD => 80% PTC)
- Additional supporting information (public announcements, etc.): Mature project with more than 18,000 acres under control, 2021 COD

<table>
<thead>
<tr>
<th>Hoskins 345 kV</th>
<th>F1 2025 MW</th>
<th>F1 2030 MW</th>
<th>F2 2025 MW</th>
<th>F2 2030 MW</th>
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<tr>
<td>Preliminary Plan</td>
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<td>Exception Request</td>
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30/05/2019
Exception Request – Sooner-Rose Hill 345 kV

Recommendation: **Add** 300 MW site to all futures

- Generation interconnection status: GIA executed, no upgrades required beyond POI, POI under construction and on schedule for 2019 completion
- PPA, firm service, or utility ownership information: No public information available
- Status of necessary regulatory filings and/or approvals: DNHs received from FAA. County CUP secured. Currently negotiating terms for an Action Permit with Kansas Department of Wildlife, Parks, & Tourism.
- Procurement of financing: Not yet secured, anticipate balance sheet financing
- PTC safe harbor eligibility: Eligible
- Additional supporting information (public announcements, etc.): Was approved as an exception in 2019 ITP. Mature project, near construction ready, 2020 COD.

<table>
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<tr>
<th>Sooner-Rose Hill 345 kV</th>
<th>F1 2025 MW</th>
<th>F1 2030 MW</th>
<th>F2 2025 MW</th>
<th>F2 2030 MW</th>
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</table>
Thank you
Appendix – Endorsed Project Detail

GEN-2011-008, 200 MW, POI Clark County 345 kV

Recommendation: Keep full 200 MW site in all futures as posted

- Generation interconnection status: GIA executed, no upgrades required beyond POI, all milestone payments made, all upgrades complete, interconnection facilities partially complete

- PPA, firm service, or utility ownership information: No public information available

- Status of necessary regulatory filings and/or approvals: No major discretionary permits required

- Procurement of financing: No public information available

- PTC safe harbor eligibility: Eligible

- Additional supporting information (public announcements, etc.): Mature project, no public announcements expected until start of construction
Appendix – Endorsed Project Detail

GEN-2015-046, 300 MW, POI Tande 345 kV

Recommendation: Keep full 300 MW site in all futures as posted (assumes GEN-2016-151 already included in base models and therefore not shown as part of the siting plan)

- Generation interconnection status: GIA executed, no upgrades required beyond POI, all milestone payments made, ATP for construction has been provided, POI construction on schedule for 2020 completion. Also endorsed by connecting utility.

- PPA, firm service, or utility ownership information: PPAs signed for full 300 MW project, counter party(s) not public

- Status of necessary regulatory filings and/or approvals: All local approvals have been obtained. PSC Certificate of Site Compatibility for a wind conversion facility has been issued. Expect associated PSC Transmission Line Corridor Certificate and Route permit to be approved and issued by 5/31/2019

- Procurement of financing: Not yet secured, anticipate balance sheet financing

- PTC safe harbor eligibility: Eligible

- Additional supporting information (public announcements, etc.): Mature project, on schedule for 2020 COD, no public announcements expected until start of construction.
Appendix – Endorsed Project Detail

GEN-2016-115, 300 MW, POI KCPL Holt County 345 kV

Recommendation: Keep full 300 MW site in all futures as posted

- Generation interconnection status: Waiting for facility study, only breaker at POI required.
- PPA, firm service, or utility ownership information: Build-transfer contract executed for full project (see announcement), 2020 COD
- Status of necessary regulatory filings and/or approvals: CCN filed (see announcement)
- Procurement of financing: Equity: Sourced, Debt: Ongoing
- PTC safe harbor eligibility: Eligible
- Additional supporting information (public announcements, etc.): Ameren announcement. MO PSC Notice.
Siting Plan Exception Request
2020 ITP 10 ESWG Meeting, May 23, 2019
Summary of exception request

EDFR Recommendation for Pauline-Moore 345 kV wind additions

<table>
<thead>
<tr>
<th>Siting Plan Assumption</th>
<th>F1 2025 MW</th>
<th>F1 2030 MW</th>
<th>F2 2025 MW</th>
<th>F2 2030 MW</th>
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-In addition to the 300 MW Milligan Wind Project being built for 2020, EDFR is aware of 606.3 MW additional wind IRs (906.3 MW total) in SPP’s queue in the DISIS or Facilities Study Stage, at Pauline-Moore 345 kV.
-We recommend including 300 MW in both futures and inclusion of the most advanced of these later queued IRs (GEN-2016-096) for both years of Future 2.
Status Items for GEN-2015-088 (Milligan)

• Generation interconnection status
  - GEN-2015-088 has a fully executed and funded GIA and is listed as On Schedule.
  - The Joint Transmission Development Agreement is also fully executed with NPPD and the Tobias Switching Station (POI) is being self-built for a 2020 In-Service Date.

• PPA, firm service, or utility ownership information
  - Information not shared publicly

• Status of necessary regulatory filings and/or approvals
  - FAA DNHS received
  - Consultation meetings with USFWS and Nebraska Game and Parks Commission held from 2015-present- no wildlife permits required
  - Saline County CUP acquired.
    - Saline Co. meeting minutes showing permit granted: http://www.co.saline.ne.us/posting_files/pdfs/board/minutes/2016/20161004_161055_board_minutes.pdf
    - Saline Co. meeting Minutes showing permit extended: http://www.co.saline.ne.us/posting_files/pdfs/board/minutes/2018/20180306_111120_board_minutes.pdf

• Procurement of financing
  - Balance sheet financed.

• PTC safe harbor eligibility
  - Confirmed, 2020 safe harbor turbines secured and eligible

• Additional supporting information (public announcements, etc.)
Status Items for GEN-2016-096

- Generation interconnection status
  - Facilities Study Stage
- PPA, firm service, or utility ownership information
  - No public information available
- Status of necessary regulatory filings and/or approvals
  - No public information available
- Procurement of financing
  - No public information available
- PTC safe harbor eligibility
  - No public information available
- Additional supporting information (public announcements, etc.)
  - NA
SPP Proposed Siting

- **F1 - 2025**
  - 511.8 MW total in SPS zone
  - Proposed sites are in the *northern area* (upper panhandle) of SPS zone

- **F1 – 2030**
  - 810.8 MW total in SPS zone
  - The additional 299 MW is in the *northern area* (upper panhandle) of SPS zone

- **F2 - 2025**
  - 810.8 MW total in SPS zone
  - All in *northern area* (upper panhandle) of SPS zone

- **F2 – 2030**
  - 1059 MW total in SPS zone
  - The additional 248 MW is in the *northern area* (upper panhandle) of SPS zone

*Northern area of SPS zone is highly congested*
Sagamore Wind

- Located in southern area of SPS zone at Crossroads 345kV in New Mexico
- 522 MW (COD December 2020)
- Final regulatory approval (NM-March 21, 2018, TX- April 27, 2018)
- DSIS (GEN-2016-123, 124, 125 – DSIS 2016-02)
- PTC safe harbor eligible
- Finance – SPS has and will continue to finance the Sagamore Wind project in a manner similar to other regulator approved utility assets. Sagamore Wind is fully financed as evidenced in the 2018 10-K

- All documentation provided to SPP staff
SPS Exception Request

• F1 – 2025/2030; F2 – 2025/2030 (both futures/all years)
  • Move 358.8 MW proposed in the northern area of the SPS zone to Sagamore Wind location

• F1 – 2030; F2 – 2025/2030
  • Same as above plus an additional 163.2 MW at Sagamore location (522 MW total)
    – Taking 163.2 MW from a 299 MW proposed site in the northern area
  • Move remaining 135.8 MW to be located at Border-TUCO 345kV
GEN-2014-039

Siting Plan Exception
- Generation interconnection status
  Milligan 3 Wind Farm signed GIA with NPPD and SPP in 2016 (GEN-2014-039). The utility interconnect facility is constructed.
- PPA, firm service, or utility ownership information
  Power purchase agreement is in place with a C&I customer
- Status of necessary regulatory filings and/or approvals
  Not sure what is needed here
- Procurement of financing
  Financing to be compete Q4 2019 or Q1 2020
- PTC safe harbor eligibility
  PTC eligibility was established in 2016 via safe harbor purchase of turbine equipment
- Additional supporting information (public announcements, etc.)
Wildhorse Wind

• Generation interconnection status
  • IA On Schedule
• PPA, firm service, or utility ownership information
  • PPA between Wildhorse wind and AECC
• Status of necessary regulatory filings and/or approvals -NA
• Procurement of financing - NA
• PTC safe harbor eligibility - NA
• Additional supporting information (public announcements, etc.)
  • https://www.southerncompany.com/content/dam/southern-company/pdf/southernpower/Wildhorse_Wind_Facility_factsheet.pdf
SPP Exceptions – Renewable Siting

2020 ITP ESWG

May 2019

Bruce Grey (NEER Transmission Services)
NEER Exception Request – 2020 ITP

• **Need/Request:**
  – SPP request for stakeholder exceptions or suggestions to siting plan

• **Stakeholder materials on requested exceptions must include:**
  – Generation interconnection status
  – PPA, firm service, or utility ownership information
  – Status of necessary regulatory filings and/or approvals
  – Procurement of financing
  – PTC safe harbor eligibility
  – Additional supporting information (public announcements, etc.)
ENDORSEMENTS

Recommend keeping the below projects

• GEN-2015-057: Minco V

• GEN-2017-179: Pretty Prairie (aka Silver Lake)

• GEN-2016-068: Skeleton Creek (aka Blackwell 2)
Minco V Wind [GEN-2014-056]: Project Moving Forward

Recommendation: Keep full 250 MW site in all futures as posted

1. Nameplate capacity: 250 MW

2. POI: Minco 345kV

3. Generation interconnection: GIA executed

4. Target COD: December 2020 (delayed based on FAA permitting)

5. PPA: Executed

6. Regulatory filings and/or approval: Awaiting DNHs

7. Procurement of financing: Will be financed in December 2020

8. PTC safe harbor eligibility: Eligible –project received safe harbor turbines

9. Additional supporting information (public announcements, etc.): On hold due to conversations with the DoD and Air force mitigation plan being negotiated
Pretty Prairie Wind [GEN-2017-179]: Information

Recommendation: Keep full 220 MW site in all futures as posted

1. Nameplate capacity: 220 MW
2. POI: Gordon Evans 138 kV
3. Generation interconnection: Pending Interim - GIA in May/June 2019
4. Target COD: December 2019
5. PPA: Executed
6. Regulatory filings and/or approval: All necessary filings are on target
7. Procurement of financing: Will be financed in December 2019
8. PTC safe harbor eligibility: Eligible – project received safe harbor turbines
Skeleton Creek Wind [GEN-2016-068]: Information

Recommendation: Keep full 250 MW site in all futures as posted

1. Nameplate capacity: 250 MW
2. POI: Woodring 345 kV
4. Target COD: December 2019
5. PPA: Executed
6. Regulatory filings and/or approval: Awaiting DNHs
7. Procurement of financing: Will be financed in December 2019
8. PTC safe harbor eligibility: Eligible – project received safe harbor turbines
SPS Change Request to the Resource Plan Phase 2

May 23, 2019
ESWG – Bennie Weeks
SPP Proposed Siting – RP2

• F1 – 2025
  – 946 MW new conventional (4 CTs)
• F2 – 2023
  – 1114 MW new conventional (5 CTs)
• F2 – 2025
  – 853 MW new conventional (3.5 CTs)
• F2 – 2030
  – 1114 MW new conventional (5 CTs)

• The need is driven by the gas and coal retirement assumptions
Delaware Basin
SE New Mexico Load Growth

Monthly MW Peak Comparison by Year, Carlsbad-Hobbs Regions

- 2011 MW Peak
- 2012 MW Peak
- 2013 MW Peak
- 2014 MW Peak
- 2015 MW Peak
- 2016 MW Peak
- 2017 MW Peak
- 2018 MW Peak
- 2019 MW Peak
SPS Exception Request

- The load growth is due to oil and gas production in the Delaware Basin
- Assumed retirements impacts SPS available generation in SE New Mexico
- Oil and gas load has a 90% load factor
- Requires continuous rotating mass on the transmission system for stability
- SPS needs a combined cycle to provide stability

- SPS is requesting to replace 3 of the proposed CTs with a combined cycle facility