



**Southwest Power Pool**  
**ECONOMIC STUDIES WORKING GROUP**  
**July 1<sup>st</sup>, 2015**  
**Net Conference**

**• SUMMARY OF ACTIONS TAKEN •**

1. Approved inclusion of Westar's Ninnescah Wind Project in the 2017 ITP10 models
2. Approved Staff's recommendation for defining economic needs
  - a. Up to 25 constraints per future based on ranking of flowgate congestion cost will be identified as economic needs
  - b. Constraints with less than \$50,000 in annual congestion cost will be excluded as needs
3. Approved the Staff's recommendation for identifying policy needs (status quo)
  - a. A shortfall of renewable mandates or goals by utility, by state will be identified as policy needs
  - b. This only applies to mandates or goals based upon energy or capacity required to be deliverable



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**• MINUTES •**

**Agenda Item 1 – Administrative Items**

**Agenda Item 1a - Call to Order, Introductions**

Chair Alan Myers (ITC Great Plains) called the meeting of the Economic Studies Working Group (ESWG) to order at 8:30 AM, welcomed those in attendance, and asked for introductions.

There were 46 web conference participants and 1 telephone participant representing 10 of 12 ESWG members. (Attachment 1 – July 1<sup>st</sup>, 2015 Attendance List)

**Agenda Item 1b – Receipt of Proxies**

Alan Myers (ITC Great Plains) asked for any proxy statements. Two proxies were identified; Al Tamimi (Sunflower) named Tom Hesterman (Sunflower) as his proxy. (Attachment 2 – Proxies)

**Agenda Item 1c – Review of Agenda**

Chair Alan Myers (ITC Great Plains) presented the agenda for review and asked for any additions or corrections. (Attachment 3 – July 1<sup>st</sup>, 2015 Agenda)

**Kurt Stradley (LES) made a motion; seconded by Kip Fox (AEP-Transource) to adopt the agenda. The motion was approved unanimously.**

**Agenda Item 2 – 2017 ITP10 Resource Additions**

Paul Dietz (WERE) presented a resource addition request to the group for the Ninnescah Wind Project. Westar has signed a PPA for 200 MW with the owner of this wind farm. There is a network transmission request being studied, and NextEra has a Generation Interconnection request at the Thistle substation. The first MW of power is expected to flow by December 2016. Paul made a recommendation that the ITP10 Model be updated to reflect this wind project. (Attachment 4 – Ninnescah Wind Project Westar)

**Paul Dietz (WERE) made a motion; seconded by Kurt Stradley (LES) that for the sake of accuracy in the models, the Ninnescah wind project will be included in the 2017 ITP10. The motion was approved unanimously.**

**Agenda Item 3 – ITP Resource Plan**

Kelsey Allen (SPP Staff) gave an update on the ITP resource plan. Staff will send out a PPA data review later in the week requesting fleet PPA's needed for the 2017 ITP10 Resource Plan Phase 2 capacity margin calculations. SPP Staff will also be sending out a data request for plant specific data for the renewable capacity accreditation; SPP Staff has leveraged information from the 2015 Long Term Reliability Assessment (LTRA) and plans to send the request out in early July. (Attachment 5 – 2017 ITP10 Resource Plan)

**Agenda Item 4 – 2017 ITP10 Scope**

**Agenda Item 4a – Data Inputs and Methodologies**

Kelsey Allen (SPP Staff) gave a recap of the assumptions that have been approved by the ESWG. Discussion began with the conventional machine minimum capacity, this is not surveyed as a part of the generation review. There were concerns about how the market monitor will view differences between what is being offered in market bids versus what is modeled in the ITP studies. SPP Staff recommended

reducing the minimum base load capacity for base load units to 25% to reflect potential operational minimums. Members requested more time to think about this topic. The group moved on to the needs assessments. For the economic needs assessment, SPP Staff recommends ranking the constraints based on flowgate congestion cost, and identifying up to 25 constraints, with over \$50,000 in annual congestion cost. The group expressed some concern over the \$50,000 congestion cost threshold, SPP Staff explained that there were a number of needs in the previous study with no economic benefit.

**Paul Dietz (WERE) made a motion; seconded by Kip Fox (AEP-Transource) to accept SPP Staff's recommendation for determining the economic needs. The motion was approved with one opposed, Alan Myers (ITC Great Plains) voted no for the following reason; he would have preferred to stick with the previous process for one more study.**

SPP Staff sent out a renewable survey to request renewable mandates and goals based on current regulations. The information gained from the survey feeds into the policy needs assessment, where the data is needed to calculate shortfall in the achievement of the renewable requirements of each future due to curtailment. In the 2015 ITP10 Study, SPP Staff assessed the curtailment of all renewable units. If all renewable units within a utility experienced less than 3% curtailment, then the utility had less than 3% renewable curtailment and no further assessment was necessary. Renewable units with greater than 3% curtailment were assessed in further detail. (Attachment 6 – 2017 ITP10 Data Inputs and Methodology)

**Kip Fox (AEP-Transource) made a motion; seconded by Paul Dietz (WERE) to keep the status quo for the Policy Needs Assessment Methodology. The motion was approved unanimously.**

Kip Fox (AEP–Transource) named Wayman Smith (AEP) as his proxy beginning at 10:00 AM.

#### **Agenda Item 4b – Futures**

Kelsey Allen (SPP Staff) began discussion on data inputs and how they would be impacted in a CPP future. The group was shown a variety of potential scenarios to consider, and how the key drivers would be implemented in each of those scenarios. SPP Staff asked the group to think about how certain variables, such as renewable energy, energy efficiency, and unit retirements would change depending on whether the CPP ruling is implemented on a state-by-state or a regional basis.

Discussion began with retirements. Because the inputs to the ITP studies are publically available, members of the ESGW advised against stakeholders providing actual retirements for the study. Also, it was brought up that not every company is involved in the process, and they may not take the opportunity to review the retirement's lists for reasonableness. A threshold could be set so that if a unit provides a large percentage of a company's total generation, then it will not be retired. SPP Staff will continue investigating retiring units based on age or size and bring back to the group.

Energy efficiency has already been included by many companies in their load forecasts. Based on this, some members feel that we could use the current forecast for Futures 1 and 2, and reduce the energy efficiency in Future 3. It was brought up that we need to be able to point out the energy efficiency amounts to be able to take credit for them in the emissions goal computation. Stakeholders were asked to investigate the current energy efficiency included in the current load forecast projections.

Staff is looking also into solar assumptions and is working to develop criteria around solar penetration for different areas.

#### **Closing Items**

Chair Alan Myers (ITC Great Plains) requested other items meriting discussion.

Kelsey Allen (SPP Staff) updated the group on upcoming meetings and locations:

July 9<sup>th</sup>, 2015: 8<sup>th</sup> Floor AEP Offices, Dallas, TX

August 19<sup>th</sup> – 20<sup>th</sup>, 2015: Magnolia Hotel, Denver, CO



September 23<sup>rd</sup>, 2015: 8<sup>th</sup> Floor AEP Offices, Dallas, TX

Kelsey Allen (SPP Staff) reminded stakeholders to look at how energy efficiency was modeled in their area.

There were no official action items from the meeting.

The meeting was adjourned at 11:30 AM.

Respectfully Submitted,

Kelsey Allen  
ESWG Secretary

Name	Attendance	Company	Email
Alan Myers	Webex		amyers@itcgreatplains.com
Bennie Weeks	Webex		bennie.weeks@xcelenergy.com
Bethany King	Webex		bking@empiredistrict.com
Bill Leung (NPRB)	Webex		bleung@bjleung.com
Brian Moix	Webex		bmoix@spp.org
Caitlin Shank	Webex		cshank@spp.org
Deral Danis	Webex		ddanis@cleanlineenergy.com
ed pfeiffer (quanta)	Webex		epfeiffer@quanta-technology.com
Eric Burkey (Ameren)	Webex		eburkey@ameren.com
Evan Racine-Johnson	Webex		eracine-johnson@gsec.coop
Gayle Freier	Webex		gferier@spp.org
Gimod Olapurayil	Webex		golapurayil@itctransco.com
Jason Chaplin (OCC)	Webex		j.chaplin@occcemail.com
Jason Schmidt (Xcel)	Webex		jason.e.schmidt@xcelenergy.com
Jeremy Severson (BEPC)	Webex		jseverson@bepc.com
Jody Holland	Webex		jholland@gridliance.com
John Bell (KCC)	Webex		j.bell@kcc.ks.gov
John Boshears (SPRM)	Webex		john.boshears@cityutilities.net
John Olsen	Webex		john.olsen@westarenergy.com
Jon Iverson	Webex		jiverson@oppd.com
Jon Shipman	Webex		jeshipman@oppd.com
Jordan Schmick	Webex		jordan.h.schmick@xcelenergy.com
Kaustubh Deshmukh	Webex		kdeshmukh@itctransco.com
Kip Fox	Webex		kmfox@aep.com
Kurt Stradley (LES)	Webex		kstradley@les.com
Landon Oliver	Webex		landon.oliver@gdsassociates.com
Lori Frisk-Thompson (BEPC)	Webex		lorift@bepc.com
Michael Massery (AECC)	Webex		michael.massery@aecc.com
Michael Watt (OMPA)	Webex		mwatt@ompa.com
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Natasha	Webex		nhenderson@gsec.coop
Pat McCool	Webex		patrick.mccool@kcpl.com
Paul Dietz	Webex		paul.dietz@westarenergy.com
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Tim Owens (NPPD)	Webex		tjowens@nppd.com
Tim Soles	Webex		tim_soles@oxy.com
Todd Tadych (DATC)	Webex		ttadych@atcllc.com
Tom Hestermann	Webex		tkhestermann@sunflower.net
Wayman Smith (AEP)	Webex		wlsmith1@aep.com
Amber Greb	Webex	SPP	
Kelsey Allen	Webex	SPP	
Juliano Freitas	Webex	SPP	
Chris Jamieson	Webex	SPP	

Heather Starns

Telephone

MJMEUC/CUS/SCMCN

1. Al Tamimi proxy to Tom Hesterman

**From:** Tamimi, Al [<mailto:atamimi@sunflower.net>]  
**Sent:** Tuesday, June 30, 2015 11:20 AM  
**To:** Myers, Alan K.; Hestermann, Tom; Bergmeier, Ray  
**Subject:** Proxi

Tom Hesterman has my proxi for the 1st meeting

2. Kip Fox proxy to Wayman Smith

Please allow Wayman Smith as my proxy for the remainder of the 7/1/15 ESWG meeting. I need to leave the meeting at 10 am

Thank you, Kip

Kip Fox  
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## ECONOMIC STUDIES WORKING GROUP

July 1<sup>st</sup>, 2015

Net Conference

• A G E N D A •

**8:30am – 11:30pm**

1. Administrative items
  - a. Call to Order, Introductions..... Alan Myers (5 minutes)
  - b. Receipt of Proxies ..... Kelsey Allen (1 minute)
  - c. Review of Agenda<sup>1</sup> ..... Alan Myers (1 minute)
2. 2017 ITP10 Resource Additions (Approval Item) ..... All (30 minutes)
  - a. Resource Addition Requests
3. 2017 ITP10 Resource Plan<sup>1</sup> ..... SPP Staff (15 minutes)
  - a. PPA Data Review
  - b. Renewable Accreditation Data Request
4. 2017 ITP10 Scope ..... SPP Staff (120 minutes)
  - a. Data Inputs and Methodology<sup>1</sup>
  - b. Futures Assumptions<sup>1</sup>
  - c. Portfolio Consolidation Methodology<sup>1</sup>
5. Closing Items ..... All (5 minutes)
  - a. Summary of Action Items (Kelsey Allen)
  - b. Future Meetings
    - i. July 9<sup>th</sup>, 2015: 8<sup>th</sup> Floor AEP Offices, Dallas, TX
    - ii. August 19<sup>th</sup> – 20<sup>th</sup>, 2015: Magnolia Hotel, Denver, CO
    - iii. September 23<sup>rd</sup>, 2015: 8<sup>th</sup> Floor AEP Offices, Dallas, TX

<sup>1</sup> Background Material Included



# Ninnescah Wind Project

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- Westar PPA between wind farm owner and Westar for 200 MW has been signed
- PPA announced by Westar on May 26<sup>th</sup>, 2015
- Network transmission request in study
- NextEra Generation Interconnection requested at Thistle substation
- First MW expected to flow by December 2016
- Westar recommends updating the ITP10 model to reflect this wind project

# 2017 ITP10 Resource Plan

SPP Staff

July 1<sup>st</sup>, 2015



# PPA Data Review

- **Request for fleet PPAs needed for Strategist resource plan**
  - Unit specific PPAs captured as ownership in generation review
- **Reserve obligations**
  - PPA modeled as capacity modifier or load modifier

# Renewable Capacity Accreditation

- **Approved use of SPP criteria**
- **Need plant specific data for accreditation**
  - **Staff has leveraged information from 2015 LTRA**
  - **Staff to send data request to review/address gaps**
    - **Targeting 7/2**

# 2017 ITP10 Data Inputs & Study Methodology

SPP Staff

July 1<sup>st</sup>, 2015



# Data Inputs & Study Methodology

- Load & Gen Review
- Renewable Survey
- System Topology
- Fuel Prices
- Emissions Prices
- DC Ties
- Hourly Load Profiles
- Hourly Renewable Profiles
- Benchmarking
- Resource Plan
  - Capacity accreditation
  - Capacity margin

# Approved Assumptions

- **Status quo hourly load profiles**
- **Maintain a 13.6% reserve margin for resource planning (As currently outlined in SPP criteria)**
- **Use actual calculated values for accreditation of wind resources with 3 years of historical data and follow SPP criteria for accreditation of future wind resources**
- **Follow SPP criteria for accreditation of solar resources**

# Approved Assumptions

- Utilize the status quo methodology for modeling of fuel, wind, and emissions prices. (Ventyx Reference Case for coal, oil, uranium and emissions prices. NYMEX futures and DOE growth rates for natural gas prices. \$8/MWh VOM and curtailment price for wind)
- Remove PROMOD must run flag on all base load units except nuclear for all futures



# Approved Assumptions

- **Approved the use of new “Other GI Firm” resources [not designated to a utility] to meet any potential renewable Mandate or Goal shortfalls**
- **Approved the use of prototypes from Lazard’s 2014 Levelized Cost of Energy Study (Version 8)**
- **Approved the use of 2012 hourly wind profiles from the NREL 2012 WIND toolkit dataset**

# Other Assumptions Discussed

- **Wind capacity factors for Phase 1 Resource Plan (Policy driven additions)**
  - **Utilize Regional, State, Zonal, or bus information provided for siting considerations in renewable survey**
    - **Use average of SPP capacity factors for each siting consideration type (existing modeled wind, NREL data)**
    - **Site specific NREL data for supplied bus level data**

# Data Inputs & Study Methodology

- **Conventional minimum capacity**
- **Resource plan**
  - Prototypes
- **Siting**
- **Generator Outlet Facilities**
- **Constraint Assessment**
- **Needs Assessments**
- **Project Selection**
- **Project Grouping**
- **Portfolio Consolidation**
- **Project Staging**
- **Benefit Metrics**
- **Sensitivities**

# Conventional Machine Minimum Capacity

- Not surveyed as a part of the generation review
- Discuss reduction of minimum capacity for base load units to reflect operational minimums
  - CPP Futures (or all futures)

2017 ITP10 Study Methodology

# NEEDS ASSESSMENTS

# Economic Needs Assessment

- **Economic, Policy, Reliability conducted in parallel**
- **The SCED will solve nodal LMPs**
- **Recommendation**
  - **Constraints ranked based on flowgate congestion cost**
  - **Up to 25 constraints based upon the ranking will be identified as economic need per future**
  - **Constraints with less than \$50,000 in annual congestion cost will be excluded as a need**

# Policy Needs - Renewable Survey

- SPP data request sent to utilities to survey anticipated renewable mandates and goals based on current regulations
- Utility-by-State Structure
- Feeds into other milestones:
  - Resource Plan – Phase 1: Additional renewables will be included in the plans, as needed, to meet the renewable Mandate and Goal projections
  - Policy Needs Assessment: Shortfall in the achievement of the renewable requirements of each future due to this curtailment will be identified

# Policy Needs Criteria

- **Evaluate utilities on an individual state by state basis, such as KCPL MO, KCPL KS, etc.**
  - **Assess deliverability of renewable units within the utility**
  - **Is utility meeting their renewable mandate or goal from the renewable survey?**
  - **A 3% curtailment buffer was added, consistent with the 2013 ITP20 and 2015 ITP10**
  - **ESWG approved this methodology on 4/10/14**



# Policy Needs Methodology

- **Screening**
  - **Assess curtailment of all renewable units**
  - **If all renewable units within a utility experience < 3% curtailment, the utility will have < 3% renewable curtailment**
- **For any renewable units with > 3% curtailment, the designated utility was assessed in further detail**
  - **Energy will be assessed on a by utility by state basis to determine if a utility is able to meet its mandate or goal**
  - **Only utilities with an energy or deliverability requirement will be assessed for curtailment**

# Policy Needs Example Results

Unit Name	Unit	Unit Curtailment	Company Curtailment	Renewable Mandate (GWh)	Renewable Output (GWh)
Gray Co WF	GMO	5.6%	0.7%	1,440	1,581
NM #4 WF	SPS	6.9%	3.6%	615	2,079

- **These are the only units curtailing more than 3%**
- **GMO still meets their renewable mandate, in spite of Gray Co WF curtailment**
- **SPS NM still meets their renewable mandate, in spite of New Mexico #4 WF curtailment**