Southwest Power Pool

ECONOMIC STUDIES WORKING GROUP

March 8, 2012

AEP Offices | 8th floor

1201 Elm Street, Dallas, TX 72501

• SUMMARY OF ACTIONS TAKEN •

1. The ESWG considered three questions from the FERC Order 1000 Task Force and provided informal recommendations.
2. The ESWG decided to reconsider the analysis section of the 2013 ITP20 scope and reconvene for scope approval.

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• MINUTES •

Agenda Item 1 – Administrative Items

Agenda Item 1a – Call to Order, Introductions

Vice Chair Kip Fox (AEP) called the meeting of the Economic Studies Working Group (ESWG) to order at 9:33 a.m., welcomed those in attendance, and asked for introductions (Attachment – Attendance List).

There were 24 in person participants and 16 web conference participants representing 11 of 13 members.

Quorum was declared at 9:50am following the arrival of the requisite number of voting members.

Agenda Item 1b – Receipt of Proxies

Tim Miller (SPP staff) received proxy statements (Attachment – Proxy Statements).

Agenda Item 1c – Review of Agenda

Vice Chair Kip Fox (AEP) presented the agenda for review and asked for any additions or corrections (Attachment – Agenda). No items were added or removed. Items 6, 7, 8, and 10 were moved up in the agenda to accommodate the schedules of various attendees.

Agenda Item 2 – Review of Past Action Items

Tim Miller (SPP staff) called the group's attention the action item list (Attachment – Action Items). Action Item 022 was modified to reflect that it referred to "inflation" rate rather than "interest" rates. An update of Action Item 023 was provided, in that the Model Development Working Group (MDWG) transmission models do not include Demand Side Management (DSM) or Energy Efficiency forecasts within their load forecasts. The status of Action Item 024 was requested of AEP and verified complete.

Agenda Item 3 – Consent Agenda

The Consent Agenda included the following requested Actions (Attachment – Consent Agenda):

Approval of Meeting Minutes – February 9, 2012

Vice Chair Kip Fox (AEP) asked for changes to the minutes. Roy Boyer (Xcel Energy) asked that specific comments from the 2013 ITP20 Scope discussion of that meeting reflect the comments of Xcel Energy. Vice Chair Kip Fox (AEP) recommended that staff make the requested changes and bring the minutes back for approval at a later date.

Agenda Item 7 – 2012 ITP10 EPA Sensitivity update

Charles Cates (SPP staff) explained the staff position that the scoping of the 2012 ITP10 EPA Sensitivity be delayed until the 2013 Policy Survey is completed by stakeholders and summarized by staff.

Agenda Item 8 – EPA Impact Assessment update

Joshua Phillips (SPP staff) presented the background, approach, and deliverables of the SPP EPA Impact Assessment. The group asked that a table be provided that identified the different scenarios and analyses being conducted. Specifically, the table should show which powerflow models were utilized and how the assessment utilizes or does not utilize the model scenarios 1 and 5 of the ITP Near Term process.

ACTION ITEM: Staff to develop and present the ESWG with a table showing the different scenarios and analyses conducted in the EPA Assessment. Specifically, the table should show which powerflow models were utilized and how the assessment utilizes or does not utilize the model scenarios 1 and 5 of the ITP Near Term process.

Agenda Item 6 – Metrics Task Force update

Kip Fox (AEP) presented an update of the Metrics Task Force (MTF) scope, deliverables, and status. He recommended that members solicit help from within their organizations to provide ideas regarding the different benefits being considered. Chair Alan Myers (ITC Great Plains, LLC) clarified that a substantial MTF update will be needed in July for both the ESWG and the Markets and Operations Policy Committee (MOPC).

ACTION ITEM: The ESWG directs the MTF to provide a substantial update to the ESWG so that a meaningful update can be provided to the MOPC in July, 2012.

Agenda Item 10 – Seams FERC Order 1000 Task Force update

Kip Fox (AEP) presented a summary of the FERC Order 1000 SPP Interregional Concepts being developed by the Seams FERC Order 1000 Task Force (SFOTF). He asked for the opinion of ESWG regarding three questions:

1. As for public policy, Order 1000 does not require the interregional process to address public policy requirements. However, does ESWG want to propose to include public policy in the interregional process, or address only reliability/economic issues in the interregional process?

The ESWG recommended that public policy be included in the interregional process.

2. While possibly useful, Order 1000 does not require adoption of processes for out-of-cycle review. (*See* Order 1000 at P 440). Requiring an out-of-cycle process may or may not be controversial to neighbors. ESWG Position?

The ESWG indicated that some level of give-and-take concerning the study cycles of each party involved in the interregional process.

3. Order 1000 does not require stakeholder involvement in the interregional coordination process, because stakeholders will be involved in each region's separate evaluation of a proposed interregional project. (*See* Order 1000 at P 465). ESWG Position?

The ESWG indicated that more information may be needed on this topic as there are many considerations in play.

Agenda Item 4 – 2013 ITP20

Agenda Item 4b – Future Weighting & Threshold Recommendation

Joshua Ross (SPP staff) reviewed the Analysis section of the 2013 ITP20 scope and provided a staff recommendation regarding the future weighting and threshold values that should be utilized to develop the recommended ITP20 transmission expansion plan. The recommendation was considered and rejected following group discussion. The ESWG requested that a transmission plan be developed for each of the five futures and that a recommended transmission plan be determined based upon these five different plans. Four options regarding the method by which to determine the recommended transmission plan were proffered as alternatives to the staff proposal.

1. Develop five different plans, one for each future. The recommended transmission expansion plan will be only those projects from the Business as Usual plan.
2. Develop five different plans, one for each future, with a weighting between each of those futures. Select the common elements with a system of weighting to narrow the projects plan down to one recommended transmission expansion.

3. Develop five different plans, one for each future. Take projects from the Business as Usual plan as the base of the recommended transmission expansion plan and use a weighting mechanism between the four remaining futures in order to find projects incremental to the Business as Usual future.
4. Develop five different plans, one for each future. The common elements of the five plans will form the recommended transmission portfolio.

A straw poll of those in attendance indicated that only options 2, 3, and 4 were of interest.

ACTION ITEM: Staff will schedule a follow-up meeting for the ESWG to decide the method by which to consolidate the five transmission plans to one recommended plan.

Agenda Item 4a – Scope

Chair Alan Myers (ITC Great Plains, LLC) asked if further items from the scope needed discussion with the group and, due to the length of the discussion, recommended any minor changes be sent directly to SPP staff. Roy Boyer (Xcel Energy) identified two issues that required group consideration. The first was concern regarding the use of renewable mandates and targets in Future 1 (Business as Usual). The second was the significant impact that Xcel expects to the SPS region due to the proposed Tres Amigas project. The group discussed the first concern and tentatively recommended that the wind siting process be utilized within Future 1 to address these concerns.

ACTION ITEM: Roy Boyer (Xcel Energy) will bring a proposal to the follow-up ESWG meeting regarding the impact that Xcel expects to the SPS region due to the proposed Tres Amigas project

Agenda Item 4c – Policy Survey

Due to time, this agenda item was not discussed.

Agenda Item 5 – 2013 ITP20 Future 4 "Combined Policy": Load Growth Approach

Tim Miller (SPP staff) provided a short introduction example of load growth treatment in Future 4 (Combined Policy).

Agenda Item 9 – 2013 ITP20 Future 5 (Joint future with Midwest ISO) update

Brett Hooton (SPP staff) relayed discussions with Midwest ISO staff and the status of the joint futures variables at the Planning Advisory Committee.

ACTION ITEM: When presenting recommendations from Midwest ISO regarding this future, SPP staff will ensure that clarity is provided whether the recommendation is from Midwest ISO staff or the Planning Advisory Committee.

Closing Items

The group reviewed the action items created during the meeting. The meeting was adjourned at 3:32 p.m. on Thursday, March 8, 2012.

Respectfully Submitted,

Tim Miller,

Secretary

Southwest Power Pool, Inc.

ECONOMIC STUDIES WORKING GROUP

March 8, 2012

AEP Offices | 8th floor

1201 Elm Street, Dallas, TX 72501

• ATTENDANCE LIST •

Southwest Power Pool, Inc.

ECONOMIC STUDIES WORKING GROUP MEETING

March 8, 2012

AEP Offices – Dallas, TX

• ATTENDANCE LIST •

Name	Company
Josh Ross	SPP
BARRY HUDDLESTON	CLEAN LINE ENERGY
Bill Reid	Climate Energy Project
Walt Cecil	MoPSC Staff
Mike Proctor	RSC Consultant
Ray Boyer	Xcel Energy
Al Tamimi	SEPC
Tom Hestermann	Sunflower Elec.
Charles Cates	SPP
Michael Wadt	OMPA
Alan Myers	ITC Great Plains
MIKE COLLINS	OKGE
MEENA THOMAS	TEXAS PUC
STEVE GAW	WIND COALITION
ADAM McKINNIE	MO PSC
TIM MILLER	SPP

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ECONOMIC STUDIES WORKING GROUP MEETING

March 8, 2012

AEP Offices – Dallas, TX

• ATTENDANCE LIST •

Name	Company
Jim Sanderson	KCC
Bruce Walkup	AECC
MITCHELL WILLIAMS	WFEC
Kip Fox	AEP
Paul Dietz	Westar Energy
Greg Sweet	Empire District
Jason Atwood	Ventyx
Lloyd Kolb	GSEC

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ECONOMIC STUDIES WORKING GROUP MEETING

March 8, 2012

AEP Offices – Dallas, TX

• ATTENDANCE LIST •

Name	Company
TELECONFERENCE	
DOUG COLLINS	OPPD
BENNIE WEEKS	XCEL/SPS
BRITTNEY MILLER	AR PSC
RANDY COLLIER	CITY UTILITIES
~~BENNY WEEKS~~	
JASON SHOOK	GDS/ETEC
KURT ~~STRADELY~~ STRADLEY	LES
DAN LENIHAN	OPPD
HAMID MAGHDAN	QUANTA TECH
TONY GOTT	AECI
BILL LEUNG	CONSULTANT
DAN HARTMAN	
TIM OWENS	NPPD
JAMES VERMILLION	AECI
BERNIE LIU	XCEL ENERGY
DAN JONES	SPP
MICHAEL RAY	SPP

Southwest Power Pool, Inc.

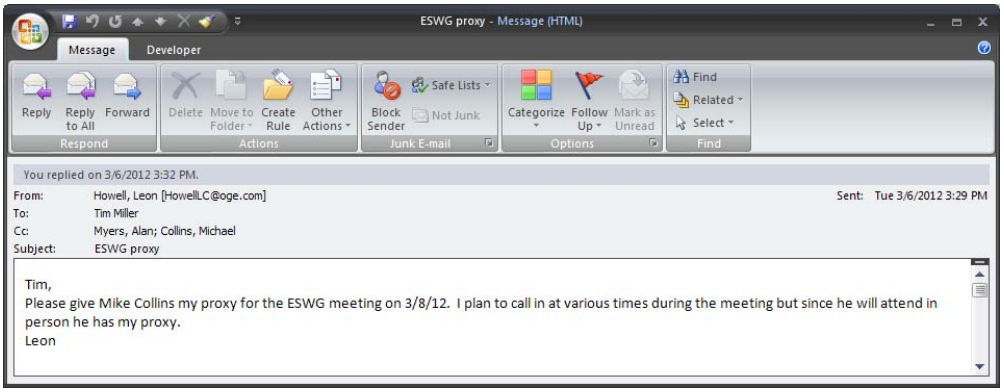
ECONOMIC STUDIES WORKING GROUP

March 8, 2012

AEP Offices | 8th floor

1201 Elm Street, Dallas, TX 72501

• PROXY STATEMENTS •



ECONOMIC STUDIES WORKING GROUP

March 8, 2012
AEP Offices | 8th floor
1201 Elm Street, Dallas, TX 72501

• A G E N D A •

9:30 am – 3:30 pm

1. Administrative items
    a. Call to Order, Introductions.....Alan Myers (10 minutes)
    b. Receipt of Proxies .....Tim Miller (1 minute)
    c. Review of Agenda .....Alan Myers (5 minutes)
2. Review of Past Action Items..... Tim Miller (5 minutes)
7. 2012 ITP10 EPA Sensitivity update.....Charles Cates (10 minutes)
8. EPA Impact Assessment update.....Joshua Phillips (30 minutes)
6. Metrics Task Force update.....Kip Fox (30 minutes)
10. Seams FERC Order 1000 Task Force update .....Kip Fox (15 minutes)
3. Consent Agenda (Approval Item)[1]
    a. Approval of Meeting Minutes – February 9, 2012.....Alan Myers (1 minute)
4. 2013 ITP20 .....Josh Ross (2.5 hours)
    b. Future Weighting & Threshold Recommendation (Approval Item)[i]
    a. Scope (Approval Item)[i]
    c. Policy Survey discussion
5. 2013 ITP20 Future 4 “Combined Policy”: Load Growth Approach..... Tim Miller (30 minutes)
9. 2013 ITP20 Future 5 (joint future with Midwest ISO) update .....Brett Hooton (10 minutes)

[1] Background Materials Included

Southwest Power Pool

ECONOMIC STUDIES WORKING GROUP

Pending Action Items Status Report

March 8, 2012

ID	Action Item	Date Originated	Status	Comments
002	For discussion at the next meeting Alan Myers and staff will outline work items for the group and discuss ESWG responsibilities per the group's charter.	Aug 2, 2011 ESWG	In Progress ESWG & Staff	
015	SPP staff coordinate meetings between the ESWG and CAWG and present a list of proposed locations at the April 5, 2012 ESWG teleconference.	Jan 12, 2012 ESWG	In Progress Staff	
016	Doug Bowman (SPP staff) will provide an update to the ESWG regarding the EIPC at the February 9, 2012 meeting.	Jan 12, 2012 ESWG	Complete	
017	Staff will make the solved powerflow models for the EIPC scenarios available to the ESWG as soon as possible.	Feb 9, 2012 ESWG	In Progress Staff	
018	Staff will provide a straw-man scope for the study at the March ESWG meeting and have staff on hand to discuss the EPA Impact Assessment currently underway.	Feb 9, 2012 ESWG	In Progress Staff	
019	Alan Myers (ITC Great Plains, LLC) and Tim Miller (SPP staff) will coordinate with Noman Williams (TWG Chair) and Rachel Hulett (SPP staff) and provide the ESWG with the EPA Impact Assessment scope if applicable.	Feb 9, 2012 ESWG	Complete	Call took place on Feb 17th, 2012.
020	Staff will provide a version of the 2013 ITP20 scope that addresses the changes suggested and discussed during the meeting.	Feb 9, 2012 ESWG	Complete	Sent to ESWG exploder on Feb 15th, 2012.
021	Staff should coordinate with MISO staff regarding the details of the modeling not reflected in the joint futures variable spreadsheet and report back to the group. The reported data should include things such as forced outage rate of potential new capacity additions, treatment of mercury in the assessment, hurdle rates, etc. In addition, provide information regarding the drop dead date with MISO on these items.	Feb 9, 2012 ESWG	In Progress Staff	
022	Staff should provide examples of the usage of the 2.5% inflation rate in relation to real and nominal values and show correspondence or inclusion of growth rates.	Feb 9, 2012 ESWG	In Progress Staff	

Deleted: interest

023	Staff request assumptions for energy conservation within the MDWG models for consistency with the policy survey (particularly for Future 4).	Feb 9, 2012 ESWG	Complete	MDWG models do not include DSM, energy efficiency, etc.
024	Staff to follow up with AEP regarding DC tie modeling options and suggest changes to the scope.	Feb 9, 2012 ESWG	Complete	
025	Alan Myers (ITC Great Plains, LLC) and Tim Miller (SPP staff) will draft a scope for the Metrics Task Force and provide it to the group in order to solicit involvement within the next ten days.	Feb 9, 2012 ESWG	Complete	

Deleted: In Progress Staff/AEP

SPP EPA Impact Assessment

ESWG Update

March 8th, 2011

Joshua Phillips
jphillips@spp.org
501.688.1761

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Alphabet Soup…

- Clean Air Act
  - Cross State Air Pollution Rule (CSAPR) aka “Casper”
  - Mercury and Air Toxics Standard (MATS)
  - Maximum Achievable Technology (MACT)
  - Best Achievable Technology (BACT)
  - Hazardous Air Pollutants (HAPs)
  - Electric Generation Unit (EGU)
- Clean Water Act
  - Cooling Water Intake Structures (CWA316b)
- Industrial Waste
  - Coal Combustion Residuals (CCR)

CSAPR Compliance Timeline

- Cross State Air Pollution Rule initially required compliance January 1, 2012
- Lawsuit postponed until at least April
- Further notice from EPA and others point to implementation in 2013 with State Assurance coming into force in 2014

MATS Compliance Timeline

- Existing sources generally will have up to 4 years to comply with Mercury and Air Toxics Standards (MATS)
  - This includes the 3 years provided to all sources by Clean Air Act (to March-April 2015)
  - Under Clean Air Act, state permitting authorities can grant additional year (to March/April 2016) as needed for technology installation
- EPA has provided a pathway for units deemed to be "reliability-critical" with an additional year to achieve compliance (to March/April 2017)

4th Year – CAA Section 112(i)(3)(B)

- CAA section 112(i)(3)(B) authorizes Title V permitting authorities (generally states) to grant permit providing up to additional year for compliance for installing controls
- EPA provided guidance indicating this 4th year should be broadly available
- Where a unit is retiring or deactivating, permitting authorities should consider information regarding reliability impacts that are the basis of request
- EPA will provide outreach to/support for state permitting authorities to support broad availability and expeditious implementation

5th Year – EPA Office of Enforcement Policy Memo

- To qualify for an owner/operator should:
  - Within 1 year of MATS effective date, provide notice of compliance plans to relevant Planning Authority
  - Timely submit request to EPA, with copy to FERC
  - Provide notice of request to relevant Planning Authority, PUC (if applicable) and state/tribal environmental authorities

Other Issues

- CSAPR Update
  - 13/30/2011 DC Circuit stayed
  - EPA will not require compliance while stay in effect
  - Revisions are being released. Most recent February 7th
- FERC white paper
- State/regional discussions

SPP Past Actions

- Letter sent in July 2011 outlining possible outcomes
  - Based on limited input from members in which SPP extrapolated impacts
- Joint ISO comments on MATS rules
- Letter sent in September 2011 outlining possible outcomes
  - Based on excluding generation not used
- Comments in NERC's 2011 LTRA
- More detailed survey of members regarding CSAPR

Direction

- **January SPC meeting directed several studies be undertaken.**
  1. **Impact Assessment against existing SPP models**
  2. **High Priority revision to ITP 10 beginning in April and concluding in April 2013**
  3. **Incorporation into ITP20**
- **Impact Assessment results will be shared at the April 9th SPC meeting.**

EPA Impact Assessment Objectives

- Assess EPA rules potential impact on meeting reliability criteria.
  - "EPA rules" collectively describes the Cross State Air Pollution Rule (CSAPR) and Mercury and Air Toxics Standards (MATS).
- Focus primarily on the potential impacts on near term transmission system reliability.
- Coordinate the results of the 2012 ITP10 and 2012 ITPNT as they correlate with the study horizon.

EPA Impact Assessment Methodology

- Develop possible scenarios for impacts regarding the EPA rules.
- Solicit member feedback regarding expected changes to their generation fleets based on the planned scenarios.
- Analyze scenario study results.
- Provide feedback to SPP members summarizing possible impacts of the EPA rules.

EPA Impact Assessment……

- Assesses steady state reliability for a single hour in each modeled scenario only.
- Does not re-dispatch generation resources to avoid violations of transmission facility ratings.
- Does not assess dynamic stability of the transmission system.
- Does not propose transmission solutions for potential reliability issues observed in the assessment.

EPA Impact Assessment Timeline

Activity	Target Completion Date
✓ Data Gathering	2/24/12
Model Development and Analysis	3/26/12
Documentation of Results	3/26/12
Presentation of Results	4/9/12

Other Study Efforts

- Re-evaluation of existing SPP transmission plan.
  - High priority study being planned to evaluate the impacts of the MATS and CSAPR on the 2012 ITP10 plan **(Expected to be completed by April 2013)**.
- Determining appropriate methods to integrate EPA rules into current SPP planning processes.
- Determining appropriate methods to integrate EPA rules into future planning process.

Joshua Phillips: 501-256-6326; jphillips@spp.org

QUESTIONS?

Metrics Task Force Update

March 2012

Scope

- **The following categories of benefits will be addressed:**

1. Reduced Capacity Reserve Requirements - as measured by reduced capacity margin (reserve) requirements. Capital cost impacts have been previously identified the group would focus on a methodology for calculating how transmission improvements would reduce reserves.
2. Improvements in Reliability - Improvements other than cost reductions from the elimination or delay of reliability upgrades which have previously been identified.
3. Improvement in Import/Export Limits- develop metrics that monetize increasing the import and export limits at the SPP borders.
4. Public Policy Benefits - develop methods and/or metrics for monetizing the benefits associated with those projects that are identified as Public Policy Projects.
5. Reduced Operating Reserve Requirements - develop metrics or methods that monetize the benefits associated a reduced operating reserve requirement in SPP.
6. Other benefits that can be monetized at the recommendation of the Task Force.

In addition, the MTF may identify any potential remedy benefits that the ESWG can discuss for potential inclusion in future Regional Cost Allocation Review.

Deliverables

- **The MTF scope of work and key deliverables include the following:**

1. A recommendation on which of the benefits identified above can be quantified in dollars.
2. Methodologies for the benefits identified above, including the allocation of the benefit to each SPP Zone (Reference the Southwest Power Pool Open Access Transmission Tariff, Attachment H, Section I, Table 1).
3. An estimate of the effort to calculate the benefits identified above.
4. A list of any issues identified from their efforts or any additional direction needed from other working groups.
5. A plan for gaining consensus on the metric assumptions and methodologies.
6. Progress updates at ESWG meetings.
7. A written report containing such recommendations, upon the completion of the effort, no later than the July 12, 2012 ESWG meeting.

Status

- 7 Task Force Members and Liaison Member
  - All encouraged to participate.
- Organizational Call on March 5th.
  - Well attended
- Conference call on March 19th
  - Purpose: Brainstorming 6 areas of Metrics
  - Homework assignment: Get metric ideas and bring them for brainstorming effort.
- Face-to-Face Meeting April 2nd
  - Purpose: Narrow brainstorming effort and focus on metrics that will work in each category.

FERC Order 1000
SPP Interregional Concepts

SFOTF

March 2012

Concepts

1. Identify and jointly evaluate interregional projects that meet regional needs or are more cost effective than regional projects
   - Incorporate procedures to analyze and review interregional facilities
     - Sharing of results of respective regional transmission plans and needs
     - Common timeline for joint evaluation
     - Review solutions to interregional issues
     - Review alternatives to regional solutions
   - Procedures must include specific studies that may be used (included but not limited to):
     - Economic analysis
     - AC analysis
     - FCITC analysis

2. Develop procedures to harmonize assumptions and models
   - Develop procedures to harmonize data, models, assumptions, planning horizons, and evaluation criteria

3. Develop timelines that allow projects to be analyzed in the "same general timeframe".
   - Develop timeline requirements
   - Develop process that allows for out of cycle review

Concepts Continued

4. Provide for the sharing of information regarding the respective needs of each region, and potential solution to those needs.
   - Develop procedures to require the sharing of needs and potential solutions along the seam
     - Include a response time requirement

5. Share planning data annually
   - Add an annual requirement to the JOAs regarding the sharing of planning data
   - Add additional data types not currently included in the JOAs
     - Economic planning data
     - Resource planning data
     - Data sensitivity requirements

6. Transparent process with stakeholder participation
   - Develop a stakeholder working group process to review interregional projects
     - Should mimic the stakeholder process for regional transmission planning
   - Expand the role of the IPSAC to include periodic updates throughout the planning cycle

Concepts Continued

7. Developer must first propose an interregional project in each regions regional transmission planning process
   - Unknown if this is a requirement of RTOs as well
   - Since the JCSP is a part of the regional transmission expansion plan this requirement may be met by default
   - Needs legal review

8. Interregional facility must be selected in both regions' regional transmission plan to qualify for interregional cost allocation
   - Since the JCSP is a part of the regional transmission expansion plan this requirement may be met by default

9. Maintain a website for interregional planning
   - Update Engineering Administration page to meet this requirement

Items for ESWG Consideration

1. As for public policy, Order 1000 does not require the interregional process to address public policy requirements. However, does ESWG want to propose to include public policy in the interregional process, or address only reliability/economic issues in the interregional process?
2. While possibly useful, Order 1000 does not require adoption of processes for out-of-cycle review. (*See* Order 1000 at P 440). Requiring an out-of-cycle process may or may not be controversial to neighbors. ESWG Position?
3. Order 1000 does not require stakeholder involvement in the interregional coordination process, because stakeholders will be involved in each region's separate evaluation of a proposed interregional project. (*See* Order 1000 at P 465). ESWG Position?

2013 ITP20

Josh Ross

ESWG

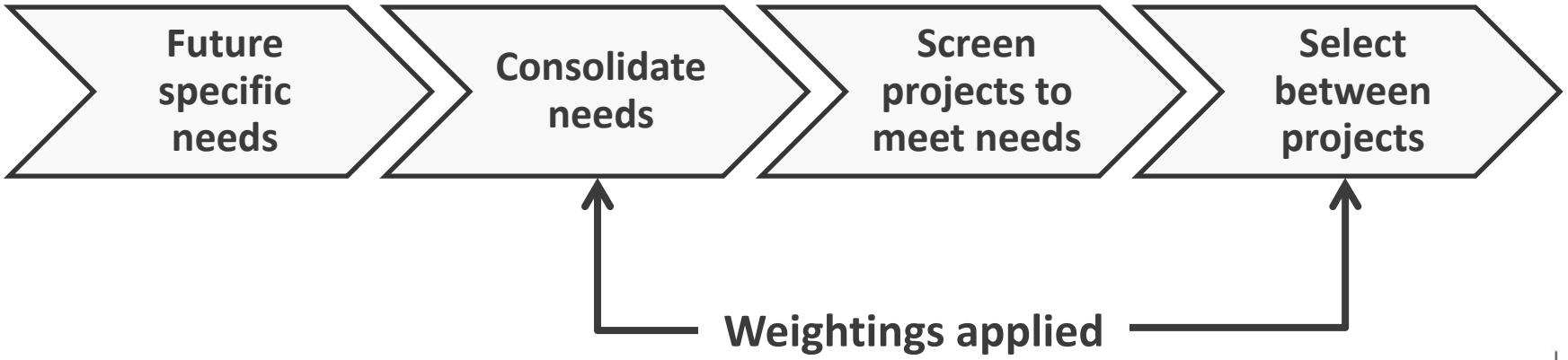
March 8, 2012

Southwest Power Pool

FUTURES WEIGHTING & THRESHOLD

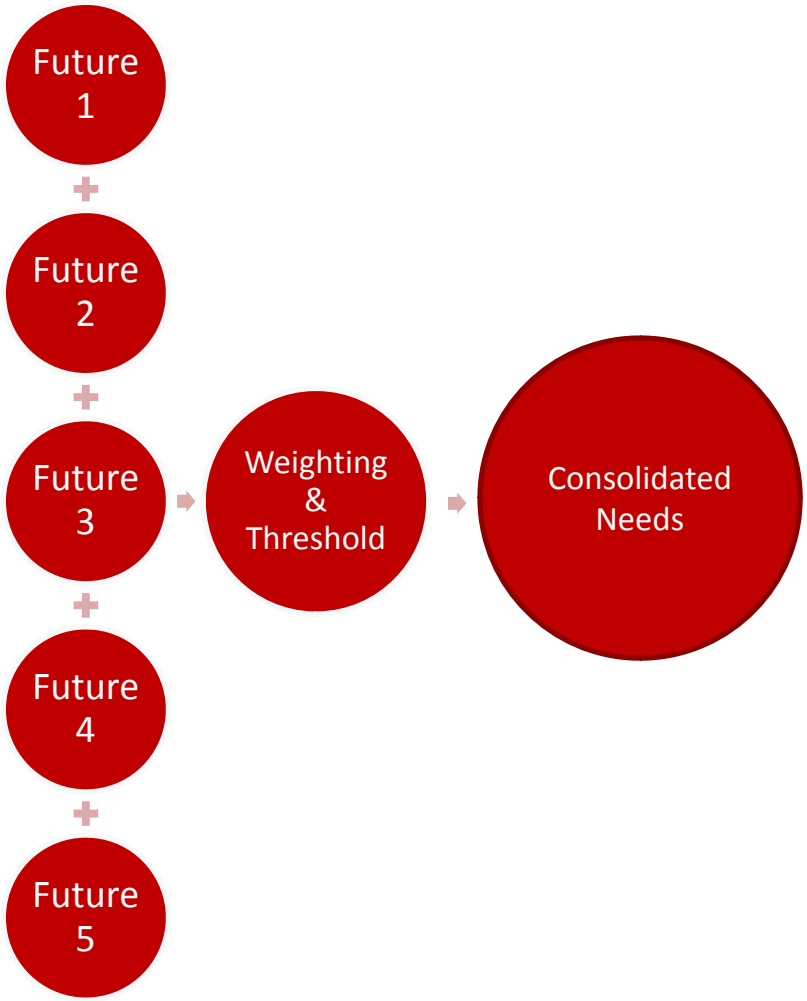
Futures Weighting – Voting Item

- Futures Weighting & Threshold
  - Drive consolidation of needs
  - Assist in selection between similar projects
  - Two proposals for consideration – voting item



Weighting Focuses Analysis

- **Weightings & threshold drive consolidation of needs**
  - **Needs from 5 futures**
  - **Some needs are not in all futures**
  - **Weighting and threshold help identify needs for further study**
  - **Goal: Transmission plan that is flexible for multiple futures**



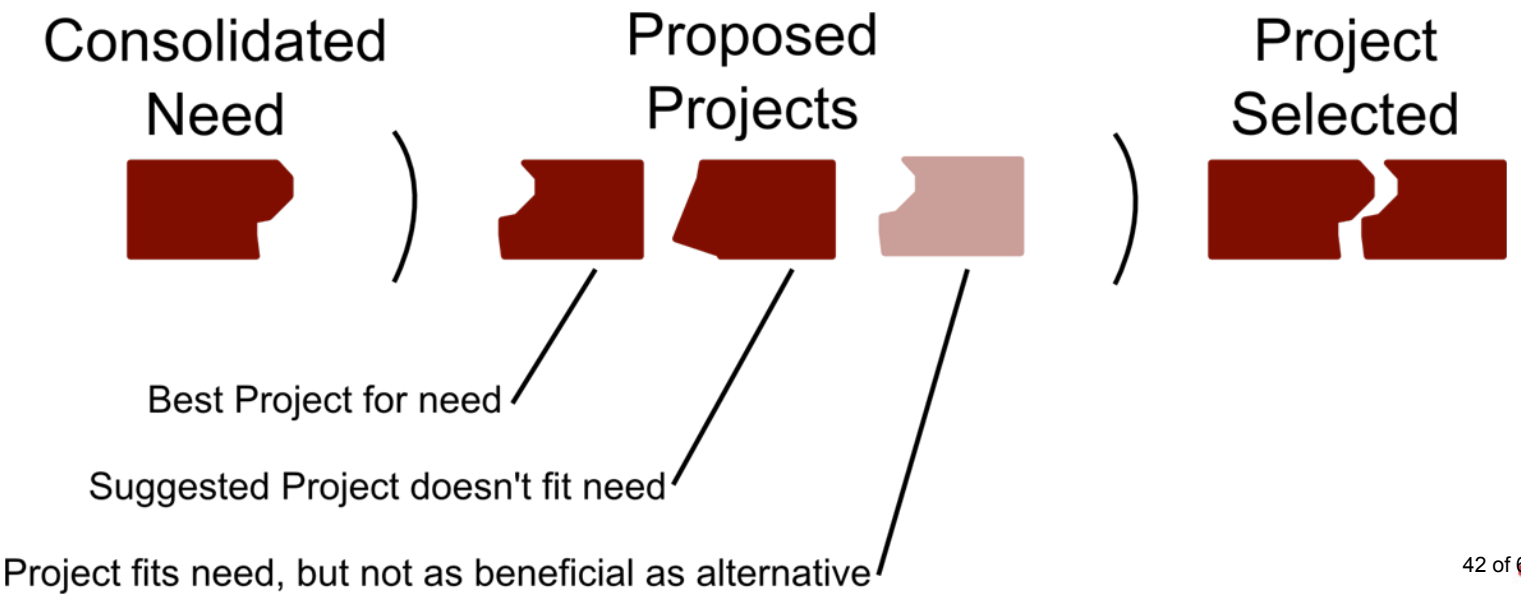
Example of Need Consolidation

- All reliability, economic, and policy needs will be included here
- Threshold = 60% in this example
- Need A arises in F1 & F2
  - 45% + 20% = 65% (Meets 60% threshold)
- Need C arises in F2, F3, & F5
  - 20% + 10% + 10% = 40% (Does not meet 60% threshold)

	Future 1	Future 2	Future 3	Future 4	Future 5		Further Study?
	45%	20%	10%	15%	10%	Score	
Need A	✓	✓				65%	Yes
Need B		✓	✓	✓		45%	No
Need C		✓	✓		✓	40%	No
Need D	✓			✓		60%	Yes

Weighting Drives Selection Between Projects

- Needs are consolidated across futures
- Projects that meet needs will be identified
- When multiple projects meet a need, projects will be selected based on weighted benefit



Example of Project Refinement

- Needs shown here have already been consolidated and meet the threshold for further study
- If only one project meets a need, that project will be studied further
  - Project 2 is only project that meets Need D

	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6
Need A				✓		
Need D		✓				
Need E					✓	✓
Need F	✓					
Need G		✓	✓			
Weighted Net Benefit		$20M	$40M		$35M	$50M
Further Study?	yes	yes	no	yes	no	yes

Example of Project Refinement

- If multiple projects meet a need, the project with the highest weighted net benefit will be studied further
  - Projects 5 & 6 both meet Need E, but Project 6 has higher weighted net benefit, and is selected for further study

	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6
Need A				✓		
Need D		✓				
Need E					✓	✓
Need F	✓					
Need G		✓	✓			
Weighted Net Benefit		$20M	$40M		$35M	$50M
Further Study?	yes	yes	no	yes	no	yes

Calculating Weighted Net Benefit

- This parameter is used only as a tie-breaker for multiple projects that meet the same need
- This parameter accounts for the value of how well a project performs across futures

Weighted net benefit =

(F1 Weight %)*(F1 Benefit – F1 Cost) +
(F2 Weight %)*(F2 Benefit – F2 Cost) +
(F3 Weight %)*(F3 Benefit – F3 Cost) +
(F4 Weight %)*(F4 Benefit – F4 Cost) +
(F5 Weight %)*(F5 Benefit – F5 Cost)

Futures Weighting – Option 1

	Future 1	Future 2	Future 3	Future 4	Future 5
Weighting	45%	20%	10%	15%	10%
Threshold = 60%					

- **Principles behind weighting:**
  - **Needs must be seen in BAU (F1) to qualify**
  - **Must be seen in more than just BAU to qualify**
  - **F2 + F3 shouldn't be unreasonably high; if a need arises in F2, it will probably arise in F3 as well**

Futures Weighting – Option 2

	Future 1	Future 2	Future 3	Future 4	Future 5
Weighting	29%	23%	22%	24%	2%
Threshold = 48%					

- **Principles behind weighting:**
  - **BAU (F1) is primary driver**
  - **Must be seen in more than just BAU to qualify**
  - **Needs seen in three unique future types qualify**
    - **F2+F4+F5, F3+F4+F5, F1+F2+F4**

Approval – Futures Weighting & Threshold

- **Staff recommends ESWG approve the following futures weighting and threshold (Option 1) for consolidation of needs and screening of projects in the 2013 ITP20:**

	Future 1	Future 2	Future 3	Future 4	Future 5
Weighting	45%	20%	10%	15%	10%
Threshold = 60%					

2013 ITP20 SCOPE

ITP20 Scope – Voting Item

- Will highlight changes made to scope since February 8 meeting
- Seeking ESWG approval of the scope – Voting Item

Model Topology

- Base topology will include:
  - All projects that have currently have NTC's or NTC-C's
- Base topology will NOT include:
  - 2013 ITPNT projects
    - Projects will not be finalized until January of next year. Are expected to have less impact when looking at EHV solutions for 20-year horizon.
  - ATP projects
    - No financial commitment at this time. Will leave these out of the base case and see if the need for them continues to arise.

Fuel & Emissions Prices

- Ventyx Spring 2012 Reference Case
  - Late April/early May release
  - Coal, oil, and uranium
  - CO_2*, SO_2, NO_X
- NYMEX futures with DOE growth rate for years 11-20
  - Natural gas
  - Coal, oil, and uranium futures may be used for preliminary resource planning calculations until Ventyx case is available

*CO_2 price will only be used in Future 4

Capital Costs

- February 8 ESWG
  - Discussed MISO-proposed capital costs for Future 5
  - Group consensus that DOE updated capital costs (AEO 2011) should not be used for Futures 1-4
- Futures 1-4 capital costs will be obtained from resource planning software package
  - Will be available in mid-April 2012

Sensitivities

- Sensitivities pursued
  - Natural gas price
  - Demand Level
  - Same approach that we used for these sensitivities in the 2012 ITP10
- Sensitivities no longer proposed
  - Items already addressed in other stages of the study
    - Low hydro
    - New DC interconnections
  - Drop in allowance cost based on EPA will alter this
    - Emission Tax

Timeline

ITP20	Group to review/endorse	Start Date	Completion Date
Futures & Scope	ESWG	December 2011	March 2012
Economic Input Assumptions	ESWG	January 2012	May 2012
Policy Survey	ESWG	February 2012	March 2012
Load Forecast Review	ESWG/TWG	February 2012	March 2013
Resource Plans Development & Review	ESWG	March 2012	August 2012
Model Development & Review	ESWG	April 2012	September 2012
Model Finalization	ESWG	September 2012	
Constraint Review	TWG	May 2012	August 2012
Economic Assessment Begins		Early September, 2012	
Project Development Request	ESWG/TWG	November 2012	December 2012
Final Reliability Assessment	TWG	February 2013	February 2013
Stability Assessment	TWG	January 2013	March 2013
Sensitivities Conducted	ESWG	January 2013	March 2013
Final Benefit Metrics Calculations	ESWG	March 2013	March 2013
Review draft report with recommended solutions	ESWG/TWG	March 2013	March 2013
	MOPC	April 2013	
Final report with recommended solutions	ESWG/TWG	May 2013	June 2013
	MOPC	July 2013	
	BOD		

Approval – Scope

- **Staff recommends ESWG approve the 2013 ITP20 scope**

Next Steps

- Presenting scope for TWG approval on March 20
- Policy Survey
- Resource Plan
- Load Forecast Review

Future 4 Load Growth Working Example for the 2013 ITP20
Presented to ESWG for March 8, 2012 meeting.
3/1/2012

Peak demand

An approach to the modeling of the demand response and energy efficiency in Future 4 is needed. The second tab of this workbook contains an example of how peak demand (MW) might be modeled for the combined policy future (Future 4) of the 2013 ITP20.

The load values are representive and reflect 2011 LTRA submittals for select areas within the SPP footprint. The values are presented for the sake of developing the approach - the values used in the 2013 ITP20 will be different and based upon the MDWG models.

Annual energy & load profiles

In addition to the method utilized for the peak, an approach is needed to determine the annual energy and load profiles used in Future 4.

Timeframe for decisions

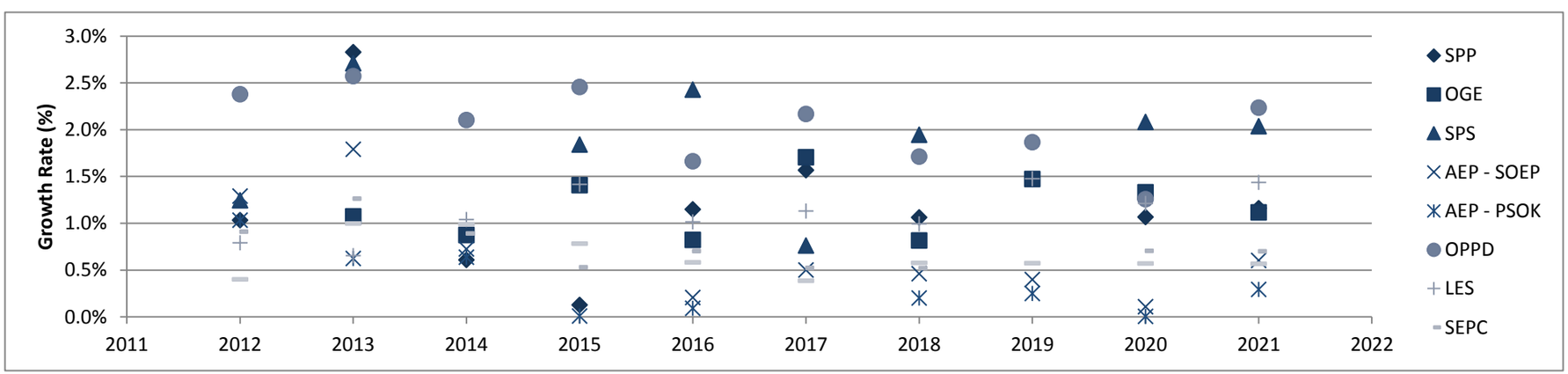
A decision regarding these items is needed at the April ESWG meeting, after which the resource plan development can begin.

Load Growth Approach in Future 4 (Combined Policy)
Actual numbers to be utilized in the 2013 ITP20 may differ, these values are representative only.
Values based on 2011 LTRA submittals
3/1/2012

This example works through a possible method of defining the zonal load growth forecasts for Future 4 of the 2013 ITP20.

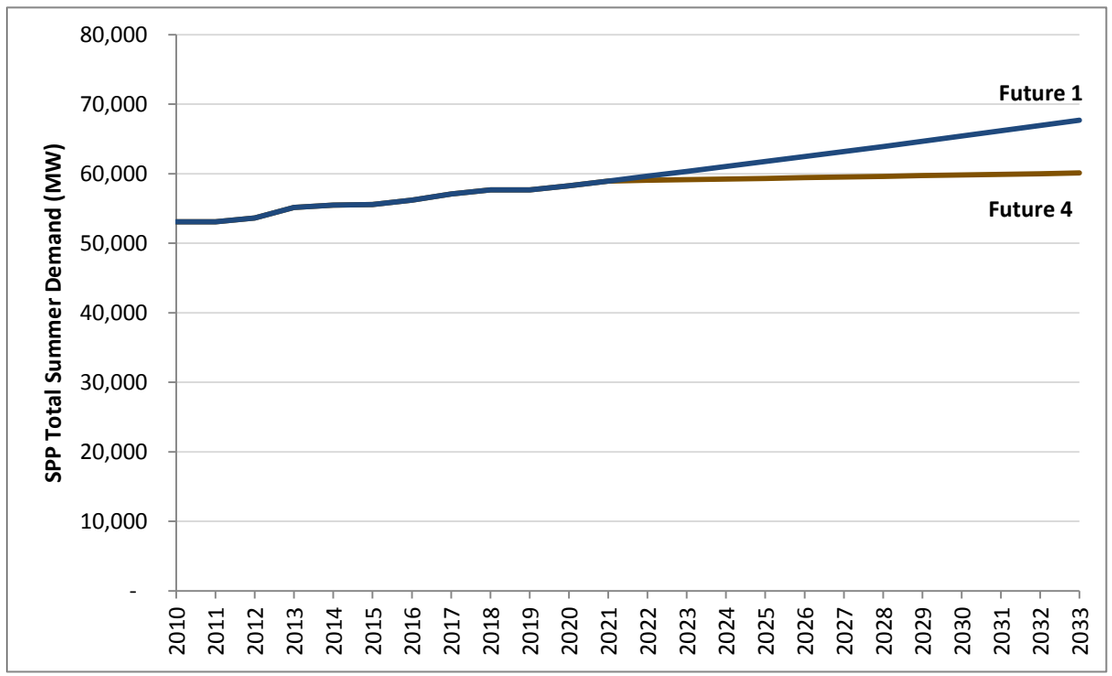
	Actual	Current	Projected									Terminal
Entity	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Growth
SPP	53,077	53,084	53,632	55,149	55,485	55,556	56,194	57,075	57,682	57,656	58,271	58,948	1.16%
OGE	6,171	6,054	5,874	5,937	5,989	6,073	6,123	6,228	6,278	6,371	6,456	6,528	1.12%
SPS	5,575	5,739	5,810	5,968	5,966	6,076	6,224	6,271	6,393	5,857	5,979	6,100	2.04%
AEP - SOEP	4,994	5,176	5,243	5,336	5,375	4,825	4,835	4,859	4,882	4,901	4,906	4,936	0.60%
AEP - PSOK	4,168	4,171	4,214	4,240	4,267	4,268	4,271	4,265	4,273	4,284	4,284	4,297	0.29%
OPPD	2,415	2,354	2,410	2,472	2,524	2,586	2,629	2,686	2,732	2,783	2,818	2,881	2.24%
LES	767	758	764	769	777	788	796	805	813	825	835	847	1.44%
SEPC	544	549	554	561	566	569	573	576	579	567	571	575	0.70%
KACY-BPU	501	499	501	506	511	515	518	520	523	526	529	532	0.57%

Growth rates differ by zone & year. Simple approach will use the terminal growth rate (in this sample 2020-2021) from the region to approximate a 1% load growth reduction for Future 4.



Using growth rate for next 20-years produces these values for each future - we have proposed a 1% reduction in the rate of load growth for the footprint.

Year	SPP (MW)	Growth Rate (%)	Future 1 (MW)	Adjusted Rate (%)	Future 4 (MW)
2010	53,077	na	53,077	na	53,077
2011	53,084	0.01%	53,084	0.01%	53,084
2012	53,632	1.03%	53,632	1.03%	53,632
2013	55,149	2.83%	55,149	2.83%	55,149
2014	55,485	0.61%	55,485	0.61%	55,485
2015	55,556	0.13%	55,556	0.13%	55,556
2016	56,194	1.15%	56,194	1.15%	56,194
2017	57,075	1.57%	57,075	1.57%	57,075
2018	57,682	1.06%	57,682	1.06%	57,682
2019	57,656	-0.04%	57,656	-0.04%	57,656
2020	58,271	1.07%	58,271	1.07%	58,271
2021	58,948	1.16%	58,948	0.16%	58,948
2022		1.16%	59,632	0.16%	59,043
2023		1.16%	60,325	0.16%	59,138
2024		1.16%	61,025	0.16%	59,233
2025		1.16%	61,734	0.16%	59,329
2026		1.16%	62,451	0.16%	59,425
2027		1.16%	63,176	0.16%	59,521
2028		1.16%	63,910	0.16%	59,617
2029		1.16%	64,652	0.16%	59,713
2030		1.16%	65,403	0.16%	59,809
2031		1.16%	66,162	0.16%	59,906
2032		1.16%	66,931	0.16%	60,002
2033		1.16%	67,708	0.16%	60,099



In order to translate this reduction into zonal breakdowns that are consistent with the different growth rates in each zone another step is needed.
This example assumes the Future 4 policies are in place in 2022.

A pro rata approach might be used to determine the appropriate zonal load levels under Future 4

Year	Future 1	Future 4	Difference
2021	58,948	58,948	-
2033	67,708	60,099	(7,609)
Growth	8,760	1,151	(7,609)

Ratio of Future 4 to Future 1 demand forecast growth

$$\frac{\text{Future 4 growth}}{\text{Future 1 growth}} = \frac{1{,}151}{8{,}760} = 13\%$$

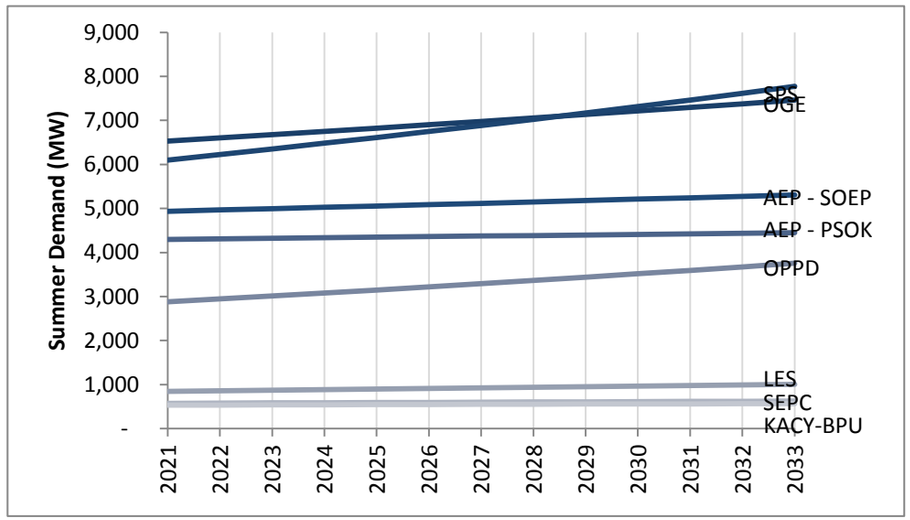
Applying this ratio to the load growth values in Future 1 yields zone specific load growths for Future 4

Future 1		assuming growth rate applied in 2022												Terminal
Entity	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Growth
SPP	58,948	59,632	60,325	61,025	61,734	62,451	63,176	63,910	64,652	65,403	66,162	66,931	67,708	1.16%
OGE	6,528	6,601	6,674	6,749	6,824	6,900	6,977	7,055	7,134	7,214	7,294	7,376	7,458	1.12%
SPS	6,100	6,225	6,352	6,481	6,613	6,748	6,885	7,025	7,168	7,314	7,463	7,615	7,771	2.04%
AEP - SOEP	4,936	4,966	4,996	5,026	5,056	5,087	5,117	5,148	5,179	5,211	5,242	5,274	5,305	0.60%
AEP - PSOK	4,297	4,309	4,322	4,335	4,347	4,360	4,373	4,386	4,399	4,411	4,424	4,437	4,450	0.29%
OPPD	2,881	2,945	3,011	3,079	3,147	3,218	3,290	3,363	3,438	3,515	3,594	3,674	3,756	2.24%
LES	847	859	872	884	897	910	923	936	949	963	977	991	1,005	1.44%
SEPC	575	579	583	587	591	595	600	604	608	612	617	621	625	0.70%
KACY-BPU	532	535	538	541	544	547	550	553	557	560	563	566	569	0.57%

Future 4		assuming growth rate applied in 2022												Terminal
Entity	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Growth
SPP	58,948	59,038	59,128	59,218	59,308	59,399	59,490	59,580	59,671	59,762	59,854	59,945	60,036	0.15%
OGE	6,528	6,537	6,547	6,557	6,566	6,576	6,585	6,595	6,605	6,614	6,624	6,634	6,644	0.15%
SPS	6,100	6,117	6,133	6,150	6,166	6,183	6,199	6,216	6,232	6,249	6,266	6,283	6,299	0.27%
AEP - SOEP	4,936	4,940	4,944	4,948	4,952	4,956	4,960	4,963	4,967	4,971	4,975	4,979	4,983	0.08%
AEP - PSOK	4,297	4,298	4,300	4,302	4,303	4,305	4,307	4,308	4,310	4,312	4,313	4,315	4,317	0.04%
OPPD	2,881	2,889	2,898	2,906	2,915	2,924	2,932	2,941	2,949	2,958	2,967	2,975	2,984	0.29%
LES	847	849	850	852	853	855	857	858	860	862	863	865	866	0.19%
SEPC	575	576	576	577	577	578	578	579	579	580	580	581	581	0.09%
KACY-BPU	532	532	533	533	534	534	534	535	535	536	536	536	537	0.07%

The load in Future 4 will grow slowly

Future 1



Future 4