

ORIGINAL



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July 21, 2016

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Arizona Corporation Commission  
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Phoenix, AZ 85007

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Re: Notice of Filing – Joint Comments of Tucson Electric Power Company and UNS Electric, Inc. In the Matter of *The Commissions Ninth Biennial Transmission Assessment ("BTA")*, pursuant to A.R.S 40-360.02G, *Of The Adequacy Of Existing And Planned Transmission Facilities To Meet Arizona's Energy Needs In A Reliable Manner*  
Docket No. E-00000D-15-0001

Pursuant to the Commission's July 5, 2016 request for comments in the above-referenced BTA docket, Tucson Electric Power Company and UNS Electric, Inc. hereby submit the attached Joint Comments.

If you have any questions or comments, please contact me at (520) 884-3680.

Sincerely,

Melissa Morales  
Regulatory Services

cc: Kent R. Simer, Project Manager (email)  
Zachary Branum, Staff Engineer (email)

Arizona Corporation Commission  
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Ninth Biennial Transmission Assessment 2016-2025 Staff Report

Draft dated July 5, 2016

Tucson Electric Power Company and UNS Electric, Inc. (the "Utilities")

Joint Comments

E-00000D-15-0001

The Utilities appreciate the opportunity to comment on the draft Ninth Biennial Transmission Assessment ("Draft 9<sup>th</sup> BTA") that has been posted for public comment. Below please find our joint recommendations and suggestions as requested by your notice dated July 5, 2016. Strikethroughs indicate deletion of text from Draft 9<sup>th</sup> BTA. Double-underlines indicate text to add.

1. General Conclusions, Section 3, at Page iii. The Utilities suggest the following revisions:

"3. There are no definitive answers at this time to the question of reliability issues regarding coal plant retirements, especially when considered in combination with increased reliance on renewable generation that will have significant impact throughout the western interconnection. The opportunity to coordinate within the scope and timeline of the 2016 WestConnect Regional Study Plan, to include interregional coordination, will enhance the credibility of the Arizona reliability study by allowing broader geographic coverage. The WestConnect study plan includes development of regional base transmission plan models plus four scenarios<sup>1</sup> aimed at addressing the potential impact on bulk electric system stability of actual and proposed coal plant retirements, as well as the increased use of solar photovoltaic and wind generation, which do not provide inertia benefits. More detail on the WestConnect study scope is available in Section 5.4.1. of this report.

Since this potential issue is still unfolding, it will require continued monitoring of and participation in states' compliance activities along with WECC and regional modeling and study efforts going forward."

2. Recommendations, Section (1)(d)(f), at Page vii. The Utilities recommend deleting subsection (f) and replacing it with the following language that has been pre-coordinated with other stakeholders:

~~f. For TEP to file the SWAT CRATF study report on behalf of the Arizona utilities within 30 days of completion as directed in Decision No. 74785.~~

"f. Suspend the requirement for TEP to file the SWAT CRATF report on behalf of the Arizona utilities within 30 days of completion as directed in Decision No. 74785. Utilities shall participate in WestConnect Regional Planning process and coordinate the Arizona reliability study with WestConnect study and scenario results, and TEP will report relevant findings on behalf of the utilities in future BTA proceedings."

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<sup>1</sup> Section 3.2 of the WestConnect Regional Study Plan states, "WestConnect regional assessments are centered on base cases and scenarios, which when taken together provide a robust platform that is used to identify the potential for regional transmission needs and emerging regional opportunities".

3. Recommendations, Section (1)(g), at Page viii. The Utilities recommend the following addition as a new subsection (g):

“g. Staff recommends that the Commission suspend the requirement to describe the driving factor(s) for each transmission project, including the system load level range at which each transmission project is anticipated to be needed for each load growth or reliability driven transmission projects.”

4. Efficacy of Commission-Ordered Studies, Introduction, at Page 4 and 5. The Utilities recommend removal of “RMR” as this requirement was eliminated in the Seventh BTA, along with any other references to the requirement for RMR studies to be removed. The additions below also correct the year for TEP’s study.

“The Commission has ordered the following studies to be performed as part of the BTA: SIL, MLSC, RMR, Ten Year Snapshot, and Extreme Contingency Analysis. The principal purpose of the Commission-ordered studies is to assure the certainty of the conclusions and recommendations within the BTA.”

“Arizona Public Service (“APS”) and Tucson Electric Power (“TEP”) performed the Extreme Contingency studies for 2016 and projected 2025 (“APS”) and projected 2024 (“TEP”) system conditions.”

5. Adequacy of System to Reliability Support Wholesale Market, Section 4, at Page 6. The Utilities recommend the following revisions:

“The WestConnect Planning Management Committee is tasked with ensuring ~~Order No. 1000 and comply compliance~~ with FERC Order No. 1000 requirements, WestConnect released its first regional transmission plan on December 16, 2015 and has begun work on the 2016-2017 planning cycle.”

6. Purpose and Framework, Section 1.2, at Page 2. The Utilities recommend addition of the phrase below:

“These studies include; a study on effects of DG and EE installations on future transmission needs, System Import Limit (“SIL”)/Maximum Load Serving Capability (“MLSC”), Reliability Must Run (“RMR”) if certain triggers are met, the Ten Year Snapshot study...”

7. Ten Year Plans, Section 2.1, at Page 8. The Utilities recommend updating the names of the guidelines:

“Arizona Utilities perform technical analysis in accordance with the NERC TPL and TOP standards, ~~WECC Regional Reliability Standards for System Planning and WECC Minimum Operating Reliability Criteria~~, guidelines established at the state level, and their own internal planning criteria, guidelines and methods.”

8. Santa Cruz Import Assessment, Section 3.3.1.2, at page 24. The Utilities recommend the following additions and removal of the provision below since this requirement no longer applies:

“With the completion of the radial ~~conversion from~~ 115 kV line to 138 kV, the area load serving capability increased to 159 MW under normal conditions, through a combination of the radial

transmission delivery capability and 61 MW of local combustion turbine generation at Valencia Substation in Nogales.”

~~“In addition to the import assessment, the Commission directed required studies be filed for Santa Cruz addressing “continuity of service issues. However, in the Seventh BTA, Staff recommended suspension of efforts to upgrade reliability to a continuity of service definition for Santa Cruz County due to high cost of capital upgrades for new transmission required to achieve such a level of reliability, and the low customer density in these service areas.”~~

9. Import Assessments Requiring RMR Studies, Section 3.3.2, at Page 27. The Utilities recommend adding the following:

“In the Seventh BTA, Staff suspended the requirement for performing RMR studies in every BTA and implemented criteria for restarting such studies based on a biennial review of factors such as...”

10. Regional Transmission Planning – WestConnect, Section 5.1 at Page 51. The Utilities recommend the insertion of “South Dakota” as the member of WestConnect, and the insertion of “WAPA” as to the entities actively participating in planning activities:

“The members of WestConnect include utility companies which provide transmission services within the western interconnection, particularly Arizona, New Mexico, Colorado, Wyoming, Nevada, ~~and California~~ and South Dakota.”

“APS, SRP, TEP, ~~and SWTC~~ and WAPA actively participate and coordinate on planning activities through the WestConnect Planning Management Committee as well as through the Southwest Area Transmission Subregional Planning Group (“SWAT”).”

11. SWAT Subregional Planning Group, Section 5.1.1, at Page 52. The Utilities recommend the insertion of the acronym “CATS”:

“SWAT is a subregional transmission planning group that started in 2004 from the expansion of the Central Arizona Transmission Study (“CATS”) Group...”

12. Coal Reduction Assessment Task Force, Section 5.1.1.6, at Page 56. The Utilities recommend a correction to the date of formation of the CRATF:

“The Coal Reduction Assessment Task Force (“CRATF”) was formed in February ~~2014~~2013 at the initiative of the SWAT stakeholders for the purpose of assessing the reliability impacts of anticipated as well as hypothetical coal retirements in the southwest. In the Eighth BTA, the CRATF reported on the first phase of a reliability study and was ordered in Decision 74785 to file the results of the study within 30 days of completion. Currently being led by Tucson Electric Power, the ultimate goal is to evaluate the impacts from reduced availability of coal generation within the scope and timeline of the WestConnect Regional Study Plan. Progress on the CRATF study is discussed in Section 5.4.1. of this report.”

13. Role of WestConnect, section 5.2.1, at Page 57. The Utilities recommend the following additions to the second paragraph:

“Under the Order No. 1000 planning process the existing WestConnect planning efforts are expanded to include regional reliability assessments, production cost modeling to identify economic needs, analysis of proposed regional projects that meet reliability, economic and/or public policy needs, and application of binding cost allocation methodologies for eligible projects. Prior to Order 1000, the WestConnect STP Agreement established a Planning Management Committee (“PMC”) made up of one representative of each of the signatory parties. A new Order 1000 PMC was subsequently established with representation according to the WestConnect Planning Participation Agreement (“PPA”) that superseded the STP.”

14. 2015 Abbreviated Cycle - Regional Transmission Plan, Section 5.2.1.1, at Page 57. The Utilities recommend the following additions:

“On January 6, 2015 WestConnect outlined their planning process for the 2015 Regional Study Plan. The planning process laid out the seven primary steps of the study plan being developed to comply with the Order No. 1000 requirements. WestConnect worked with Subregional Planning Groups and Transmission Owners and stakeholders to develop a 10-year, 2024 heavy summer power flow base case that was used to conduct a reliability assessment incorporation of regional reliability to identify transmission needs to meet based on the NERC TPL standards for N-1 outages.  
“

15. 2016 Regional Transmission Plan, 5.2.1.2, at Page 58. The Utilities recommend the following additions and deletions:

“The WestConnect Regional Transmission Planning Cycle is biennial and with the exception ~~for~~ of the abbreviated 2015 plan, the biennial cycle will commence in even-numbered years to align with its interregional neighboring planning regions and ~~WECC’s~~ each region’s planning process, with 2016 being the first full Planning Cycle. On February 17, 2016 WestConnect published an updated Business Practice Manual~~82~~

Assessments will be conducted for reliability, economic, and public policy based on power flow and production cost models. WestConnect is currently focusing their efforts on the development of the 10-year, 2026 Heavy Summer Base Case using WECC models as the starting point of the 2016 Regional Transmission Plan. Additional ~~reliability~~ scenario models being developed...”

16. Relationship to the BTA Process, 5.2.3, at Page 59. The Utilities recommend the addition of “interregional”:

“Where the ACC BTA focuses on intrastate impacts of planned transmission projects, Order No. 1000 will also help ensure the state’s transmission owners consider regional and interregional transmission projects in assessing the most efficient and cost effective means to meet transmission needs of their customers.”

17. Coal Reduction Assessment Task Force, Section 5.4.1 at Page 65. The Utilities recommend the following revisions:

"The Coal Reduction Assessment Task Force ("CRATF") was established in February 2013 to facilitate a study process for the proposed CPP rulemaking. Key issues to be addressed were concerns over the loss of "inertia" associated with coal plant retirements, what was believed to be an accelerated timeline for compliance, the impact on Path Ratings, and the retirement of other significant generation resources, such as the San Onofre Nuclear Generating Station ("SONGS") and several once-through-cooled natural gas fuel generators along the California coast. Phase I of the study work was completed and a summary of the findings was included in the Eighth BTA. The results ~~predicted~~ indicated that high coal reduction with high renewable penetration would significantly increase the risk of system instability. Overall, there is a limit to the number of coal plants that can be retired unless some portion of that capacity is replaced with gas fired capacity or other resources that compensate for loss of inertia and dynamic reactive capability.

"The CRATF report presentation at the 9<sup>th</sup> BTA Workshop No. 1 recommended greater consideration of intra- and inter-regional power transfers, additional coordination ~~with~~ among the regional planning groups and state processes, coordinating the Arizona reliability study with the WestConnect 2016-17 Regional Planning Process and a formal inclusion of a utilities CPP compliance plan scenario in the WestConnect study plan.

In Decision No. 74785, the Commission directed TEP to file the SWAT Coal Reduction Assessment Task Force ("CRATF") study report on behalf of the Arizona Utilities within 30 days of completion of the study. If the CRATF study is not finalized or if it does not include specific recommendations on maintaining Arizona transmission system reliability, Arizona utilities were directed to jointly produce or procure an informational report to identify minimum transmission requirements to maintain adequate system reliability in a fifth year coal reduction scenario. On behalf of Arizona Utilities, TEP made an information filing in the current docket and presented at Workshop I on the status of the final Study Report and efforts made since the Eighth BTA.

Since the Eighth BTA, ~~CRATF the Arizona utilities have~~ has taken the opportunity to coordinate within the scope and timeline of the WestConnect Regional Study Plan, beginning with submittal of an "Arizona Utilities CPP Compliance" scenario during the December 2015 submittal window. That scenario was broadened to include all WestConnect participating utilities. The title was therefore changed to the "CPP – WestConnect Utility Plans" scenario. CPP requirements are being considered and incorporated into the WECC TEPPC Common Case and study plans. Four Two base transmission plan and two CPP compliant scenario power flow models s ~~are being included in the current study plan. Two additional scenario production cost models will also be developed and analyzed. The power flow and production cost scenarios are respectively shown in Tables 16 and 17.~~

<b>Case Name</b>	<b>Case Description and Scope</b>
<del>2026 Heavy Summer Base Case</del>	Summer peak load conditions during 15:00 to 17:00 MDT, with typical flows throughout the Western Interconnection – traditional case build
<del>2026 Light Spring Base Case</del>	Light load conditions with high wind generation – traditional case build
<del>CPP – WestConnect Utility Plans</del>	Reflect individual WestConnect member utility plans for CPP

**CPP – Heavy RE/EE Build Out**

~~compliance – export stressed hour from PCM~~  
~~Additional – coal – retirements, additional RE/EE, minimal new natural gas generation – export stressed hour from PCM; include transient study for frequency response check~~

Table 16 - CPP scenarios included in WestConnect evaluation

<u>Case Name</u>	<u>Power Flow Case Description and Scope</u>
<u>2026 Heavy Summer Base Case</u>	<u>Summer peak load conditions during 1500 to 1700 MDT, with typical flows throughout the Western Interconnection – traditional case build</u>
<u>2026 Light Spring Base Case</u>	<u>Light load conditions with high wind generation – traditional case build</u>
<u>CPP – WestConnect Utility Plans</u>	<u>Reflect individual WestConnect member utility plans for CPP compliance</u>
<u>CPP – Heavy RE/EE Build Out</u>	<u>Additional coal retirements, additional RE/EE, minimal new natural gas generation – include transient study for frequency response check</u>

Table 17 - CPP power flow scenario cases included in WestConnect study plan

<u>Case Name</u>	<u>Production Cost Model Case Description and Scope</u>
<u>2026 Base Case</u>	<u>Business-as-usual case based on WECC 2026 Common Case with additional regional updates from WestConnect members.</u>
<u>High Renewables</u>	<u>California 50% RPS with regional resources (Wyoming wind and New Mexico wind) and increase WestConnect state RPS requirement beyond enacted with other resources</u>
<u>CPP – WestConnect Utility Plans</u>	<u>Reflect individual WestConnect member utility plans for CPP compliance</u>
<u>CPP – Market-based Compliance</u>	<u>Model CO2 price in WestConnect to achieve mass-based regional CPP compliance</u>
<u>CPP – Heavy RE/EE Build Out</u>	<u>Additional coal retirements, additional RE/EE, minimal new natural gas generation</u>

The WestConnect Utility Plans scenario originated as the Arizona study plan from Phase I, and became the template for other WestConnect subregional planning groups and states to use for their inclusion in the WestConnect Study Plan.”

18. Arizona CPP Impacts, Section 5.4.3, at Page 68. The Utilities recommend the following revisions to add San Juan Generating Station, and to delete "SGS" to ensure accuracy of the paragraph:

"An October 2014 plan approved by the EPA to bring the SGS San Juan Generating Station into compliance with the Regional Haze Rule, calls for the closure of Units 2 and 3 by December 2017.

~~"TEP Owns 49.5% of unit 1 and 100% of Unit 2 of the Springerville Generating Station."~~

19. Efficacy of Commission Ordered Studies, Section 6.2.2, at Page 77. The Utilities suggest correcting the year of TEP's extreme contingency analysis to 2024, instead of 2025:

"TEP's extreme contingency analysis indicates TEP can withstand each extreme contingency outage. Study results show that TEP can withstand these extreme contingencies under the 2016 and ~~2025-2024~~ system conditions."

20. Recommendations, Section 7(2)(d)(vi), at Page 84. The Utilities recommend the deletion of subsection 2(d)(vi) and replacing it with the additions below:

~~For TEP to file the SWAT CRATF or other coal reduction study report on behalf of the Arizona utilities within 30 days of completion as directed in Decision No. 74785.~~

"vi. Suspend the requirement for TEP to file the SWAT CRATF report on behalf of the Arizona utilities within 30 days of completion as directed in Decision No. 74785. Utilities shall participate in WestConnect Regional Planning process and coordinate the Arizona reliability study with WestConnect study and scenario results, and TEP will report relevant findings on behalf of the utilities in future BTA proceedings."

21. Recommendations, Section 7(2)(d)(vi), at Page 84. The Utilities recommend the addition of subsection (g) below:

"g. The suspension of the requirement to describe the driving factor(s) for each transmission project, including the system load level range at which each transmission project is anticipated to be needed for each load growth or reliability driven transmission projects."