

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Technical Conference on Environmental)	
Regulations and Electric Reliability,)	Docket No. AD15-4-000
Wholesale Electricity Markets, and)	
Energy Infrastructure)	

**Prepared Statement of Lanny Nickell
on behalf of Southwest Power Pool, Inc.**

**Technical Conference for the Central Region
March 31, 2015**

Introduction

My name is Lanny Nickell and I am employed by SPP as Vice President, Engineering and am directly responsible for providing strategic and tactical leadership to SPP’s Engineering department necessary to ensure successful completion of goals and essential functions assigned to that group, including the development of transmission expansion plans that ensure reliable and efficient usage of a regional transmission grid covering all or parts of eight states. My role requires me to oversee the coordination, tracking, and monitoring of approved transmission expansion projects, the performance of technical studies necessary to process requests for interconnection of generation resources and requests for long-term transmission service, and the provision of engineering support as necessary for members, customers, and regulators.

On behalf of Southwest Power Pool, Inc. (SPP), we appreciate the opportunity to discuss with the Commission the U.S. Environmental Protection Agency’s (EPA) proposed Clean Power Plan (CPP). As “guardians of reliability” for our region, SPP is keenly interested in working with the Commission, EPA, state economic regulators and environmental agencies, and the industry to proactively develop the final Clean Power Plan and facilitate compliance with that rule in a way that ensures continued reliable planning and operation of our nation’s power grid.

SPP believes the carbon emission reduction standards proposed by the CPP over a 10-year period beginning in 2020 will result in system changes and utilizations that are significantly different from those that have been occurring and have been anticipated. SPP believes that achieving the proposed standards will necessitate significant changes and additions to the existing transmission infrastructure.

We offer these comments to discuss the reliability implications of implementing the CPP without adequate proactive coordination and before necessary infrastructure is in place, offer practical solutions to mitigate those reliability implications, and propose the proactive role SPP believes the Commission must take to assure that reliability is properly maintained while facilitating efforts to comply with the EPA's proposed rulemaking.

SPP has three primary concerns with the proposed CPP. These concerns are: 1) its impact on reliability of the bulk electric system; 2) the timing proposed for compliance is infeasible; and 3) it will have material impacts on the market-based dispatch of electric generating units within the SPP region.

SPP believes that these concerns can be mitigated with: 1) the inclusion of a properly defined Reliability Safety Valve in the final rule; 2) more time before the imposition of interim goals to allow infrastructure to be planned and built; and 3) more emphasis on the development of regional compliance plans that will best co-function with established and evolving regional energy markets. In our opinion, FERC should publically support these mitigation measures and should encourage regional and interregional transmission development that aligns with the CPP goals.

Background on SPP

SPP is a Commission-approved Regional Transmission Organization (RTO) and is an Arkansas non-profit corporation with its principal place of business in Little Rock, Arkansas. SPP has 83 Members, including 14 investor-owned utilities, 11 municipal systems, 14 generation and transmission cooperatives, 8 state agencies, 12 independent power producers, 12 power marketers, 11 independent transmission companies, and 1 federal agency. As an RTO, SPP administers open access Transmission Service over approximately 48,930 miles of transmission lines covering portions of Arkansas, Kansas, Louisiana, Missouri, Nebraska, New Mexico, Oklahoma, and Texas. SPP administers its Integrated Marketplace, which is a centralized day-ahead and real-time energy and operating reserve market, with locational marginal pricing and market-based congestion management.

SPP is responsible for compliance with its FERC-approved Open Access Transmission Tariff (OATT) and North American Electric Reliability Corporation (NERC) Reliability Standards. SPP is regulated by FERC and is not subject to any EPA regulations, although SPP's member utilities that own generating assets are.

As a FERC-approved RTO, SPP's functions are centered on its reliability-based mission—"helping our members work together to keep the lights on...today and in the future." SPP is solely responsible, as the RTO, to comply with NERC reliability

standards applicable to the Reliability Coordinator, Balancing Authority, Transmission Service Provider, and Planning Coordinator for the area comprising the SPP Region. As such, SPP has the experience and expertise to be in the best position to provide information concerning reliability of the electric system in the SPP region.

SPP is independent from the interests of any specific member, or any group of like-minded interests and does not favor any form or type of generation over another. Because SPP's fundamental purpose is to maintain reliable electric service, it is keenly interested in the proposed CPP and any potential impacts on power grid reliability. SPP takes no position on the merits of the CPP, but has and will continue to consider, analyze, and offer its perspective on matters which SPP is concerned may negatively impact reliability of the power grid.

SPP's 2014 Reliability Impact Assessment of the Clean Power Plan

Following the issuance of the proposed CPP, SPP performed a reliability impact assessment. SPP published its assessment and submitted comments based on that assessment to the EPA on October 9, 2014¹. This assessment modeled 9 GW of Electric Generating Unit (EGU) retirements that were projected by the EPA in its own analysis to occur by 2020. SPP evaluated the transmission system flow impacts of these retirements both without adding replacement generation and with the addition of replacement generation. SPP included currently planned transmission upgrades in this assessment. SPP also evaluated the impacts of these retirements on future reserve margins, considering currently planned generator additions and retirements.

SPP's reliability impact assessment determined that additional generation beyond that which is currently anticipated will be needed to replace the retirements projected by the EPA. This additional generation will be needed to provide necessary power system voltage support and to meet required planning reserve margins. SPP's analysis also indicated that more electric transmission infrastructure will be needed to resolve transmission system overloads resulting from the necessary addition of new generation and changes in generation dispatch.

SPP's 2015 Supplemental Analysis of the Clean Power Plan

In addition to the October 9, 2014 Reliability Impact Assessment, SPP has recently undertaken a two-phase CPP analysis to independently evaluate resource

¹ SPP's comments and reliability assessment report can be found at http://www.spp.org/publications/2014-10-09_SPP%20Comments_EPA-HQ-OAR-2013-0602.pdf and <http://www.spp.org/publications/CPP%20Reliability%20Analysis%20Results%20Final%20Version.pdf>

planning measures that can be used to facilitate compliance with the proposed carbon emission goals, indicate generation within the SPP region at risk of retirement, identify resource mix impacts, and estimate the cost of compliance. Resource planning scenarios being evaluated by SPP include application of a carbon cost adder, logical augmentation of existing resource plans, and increased reliance on energy efficiency programs. SPP is evaluating both regional (phase one) and state-by-state (phase two) compliance plan scenarios. SPP recently shared results regarding the regional compliance assessment and is working to complete the state-by-state compliance assessment. We expect the state-by-state assessment to be completed early this summer.

Our assessment shows that regional compliance with the CPP is possible by 2030, with application of a carbon cost adder and development of resource plans appropriately augmented to drive down carbon emission. Under the regional compliance assessment evaluated, SPP identified approximately 9-14 GW of generation at risk for retirement beyond what had been anticipated in its most recent transmission planning evaluations. It should be noted that this study does not contemplate the ability of the existing transmission network to support these types of capacity and energy changes nor does it evaluate the amount of transmission necessary to deliver power to loads.

Reliability Implications of the CPP

SPP's concerns about the proposed CPP and its impacts on reliability of the grid are shared by other organizations responsible for maintaining reliability, many of which have completed analyses reaching the same conclusions. SPP is also aware of other reports that suggest minimal concerns about the reliability implications of the CPP. Many of the opinions contained in such reports not expressing reliability concerns are underpinned by the presumption that it is acceptable for RTOs, and others responsible for compliance with reliability standards, to accept more risks in the operating environment and point to previous examples where grid operators have successfully managed through difficult situations.

While grid operators have successfully dealt with adverse conditions for short periods of time, those situations typically involve increased risks, costs, and occasional interruption of customers. It is not appropriate to continue to rely on past examples of operational excellence as a long-term expectation. This is particularly true when transmission expansion can and should be relied upon to provide the most cost effective and robust long-term solutions. Based on significant project tracking data accumulated by SPP, it has taken up to 8.5 years in SPP's region to study, design, and construct transmission upgrades. The proposed CPP will expose, as early as 2020, the

transmission system to energy flows different from that which it has been previously planned to accommodate. Even with SPP's efforts to complete by 2017 a 10-year planning evaluation that contemplates the CPP implementation, it could be as late as summer of 2025 before the appropriate transmission system is in place. Despite SPP's best efforts, reliability risks incurred by implementing the CPP as proposed could last as long as 5 years, if not longer.

The electric industry has spent significant time, effort and money over the last decade or so, under FERC's guidance and leadership, improving how we plan and operate the system, in order to prevent another event like the 2003 blackout in the Northeast from occurring. Many reports about that event indicate that it cost \$10 billion in economic costs alone, contributed to 11 deaths, and lasted 2 days. Our country and our economy cannot afford another such event. Compliance with new environmental rules should not occur without the impacts on reliability being identified and addressed in advance.

To suggest that reliability concerns of SPP and other are overstated based on the fact that the CPP does not require generators to be retired misses the point. It is very unlikely, if not impossible, for existing coal-fired plants to operate at current levels and still comply with the interim and final environmental goals. As such, there will be more incentives for owners of those generators to avoid the high cost of operating these units by simply retiring them and seeking cost recovery. Even if those units are not retired but are withheld from the markets that need them to operate at certain times, there will be increased opportunity for failure to start and failure to operate the units. The best way to avoid this kind of increased reliability risk is to allow time for replacement generation and necessary enabling transmission infrastructure to be built before imposing reduced run-time restrictions or allowing them to be retired.

While some have suggested that the flexibility provided in the proposed CPP to states will reduce the chances of reliability concerns, if that flexibility is implemented without coordination and without an assessment of the interoperability of individual state plans, the risks could be even greater than if that flexibility was never afforded. It is easier to prepare for plans that are developed in a certain, more consistent manner than for those that are implemented in different ways, at different times and with differing levels of certainty. Plans developed by individual states with different measures and timing will cause unusual energy flows that will not be contained within the state boundaries wherein actions are expected to be taken. The final CPP should include a requirement to perform reliability assessments of the measures proposed in the development of state plans, before they are approved for implementation.

Relying on faith that current levels of reliability will be maintained despite increased stresses on the existing system is not responsible. SPP believes that there

are ways to make meaningful progress toward carbon emission reduction and still protect the reliability of the electric power grid. SPP has and continues to recommend more time to build infrastructure and the incorporation of the Reliability Safety Valve provisions as proposed by the ISO/RTO Council (IRC).

Need for Additional Infrastructure

While the Clean Power Plan as proposed does not directly require the retirement of existing generation assets, the EPA's projection of retirements utilized in SPP's analysis should not be disregarded as extreme or unrealistic. In fact, it is quite possible that the EPA's projections are conservatively low as demonstrated by results of SPP's recently completed supplemental analysis. Loss of generation, either in the form of temporary withholding from dispatch or permanent retirement, creates risks that, when anticipated, should be evaluated and addressed ahead of time. Currently, when future generation retirements and additions are expected, Planning Coordinators are expected to include them as assumptions in their planning models and identify any necessary transmission upgrades to accommodate the future generation changes. Today, in accordance with NERC reliability standards, SPP does not wait until after expected retirements or changes in generation dispatch occur to start planning and building appropriate transmission upgrades. Likewise, environmental regulations such as the proposed CPP should not be enacted before the risk impacts are studied and transmission and generation infrastructure is constructed as necessary to mitigate expected risks.

SPP's OATT requires that prior to the addition of any new generation capacity, it must be evaluated through a study for interconnection, and the entity seeking to construct the new generation must install appropriate transmission facilities necessary to interconnect new generation to the transmission network. In addition, additional transmission facilities may be needed in order for that generation capacity to be credited toward meeting SPP's minimum required planning reserves and to deliver energy as needed to consumers. In that instance, firm transmission service must be obtained to ensure deliverability. Transmission upgrades are often required to obtain firm transmission service.

Regardless of how much generation is actually retired by 2020 or any time after that, SPP is confident that additional transmission infrastructure will be needed to reliably integrate the expected new resource mix necessary to support the EPA's interim and final CPP goals, but cannot speak to specifically what expansion will be needed until after completion of appropriate planning studies with assumptions that accurately

reflect a CPP future². However, one only needs to consider SPP's history of transmission planning to know that even minor changes in assumptions, such as modest load growth changes and altering generation resources that accompany business-as-usual future assumptions, can cause upgrades costing hundreds of millions of dollars in order to meet NERC and SPP transmission planning standards.

SPP and its members have placed a high priority over the last 8-10 years on developing a transmission system capable of meeting reliability, economic, and public policy needs. Our members have invested over \$4 billion in transmission upgrades since 2006 and are expected to invest another nearly \$6 billion over the next 10 years based on SPP's regional transmission planning. However, SPP's transmission planning and the resulting upgrades approved for construction have primarily been based on business-as-usual future assumptions. The CPP will bring about a future that is anything but business-as-usual. Accordingly, the impacts and costs of adding new transmission to maintain reliability with implementation of a CPP-compliant future should not be taken lightly.

As stated previously, it has taken up to 8.5 years to study, design, and construct transmission infrastructure in SPP. SPP has repeatedly raised the concern that there is inadequate time to meet the interim goals of the proposed CPP that begin in 2020. If there is insufficient time to add necessary transmission infrastructure, not only is SPP at risk of violating NERC transmission planning standards, but also is at risk of violating NERC operating standards. Higher transmission loading not mitigated by transmission infrastructure leads to increased congestion and more opportunity for operator error and system failure. Inadequate infrastructure increases operating risks due to the need to adhere to an increased number of System Operating Limits (SOLs), Interconnected Reliability Operating Limits (IROLs), and operating guides.

SPP's premise that additional infrastructure will be needed should come as no surprise for those that have been following SPP's and others' historical transmission planning activities. SPP has not to date developed any transmission plans based on a future that is as potentially game-changing as the one expected to result from the CPP.

Many of the generator retirements projected by the EPA in the proposed CPP are located near the seam between SPP and its neighbors. I believe the most appropriate method for addressing many transmission system issues resulting from reduced generation capacity at the seam is through coordinated interregional solutions. Inter-regional transmission expansion will be necessary to cost-effectively facilitate delivery of renewables and natural gas across the seams between RTOs. Furthermore, many

² SPP is in the process of beginning a 10-year transmission planning evaluation that is expected to include assumptions related to implementation of the Clean Power Plan. That evaluation is expected to be completed with recommendations tendered for approval in January of 2017.

states have multiple RTOs and planning regions operating within their state boundaries that will have to take into account seams issues as they develop their state implementation plans.

SPP's Request for FERC's Assistance

FERC has a critical role in the reliable implementation of our nation's electric grid and should use the role and provide leadership to ensure that the CPP is implemented with reliability as the top priority. FERC should first publically recognize and support the reliability concerns expressed by SPP and others that have responsibility to ensure grid reliability. SPP also requests that FERC support and recommend to the EPA that the final CPP rule contain a properly defined Reliability Safety Valve as recommended by the IRC, that the imposition of interim goals not begin before necessary infrastructure is planned and built, and the final rule place more emphasis on the development of regional compliance plans that will best co-function with established and evolving regional energy markets.

FERC should continue to encourage all planning regions to perform collaborative regional and interregional planning as FERC has with its Order 1000 efforts. In addition, FERC should encourage planners to incorporate CPP-compliance assumptions in future planning efforts.

Summary

SPP appreciates the opportunity to discuss and present SPP's thoughts about the CPP. We appreciate the leadership the Commission has shown by holding its series of technical conferences on the CPP. Hopefully, the Commission will continue to stay engaged and focused on the reliability of the nation's electric grid.

The Commission has long demonstrated that it understands its critical role in ensuring the provision of reliable electric service in our country is of utmost importance. We welcome FERC's continued leadership role.

SPP is excited and pleased to be able to work with FERC, EPA, and others in our industry to accomplish our missions in the right way. Thank you for the opportunity to present.