

Decision No. R14-0845

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

PROCEEDING NO. 14M-0110E

IN THE MATTER OF COMMISSION RULE 3627 RELATED TO ELECTRIC TRANSMISSION FACILITIES PLANNING, 4 CODE OF COLORADO REGULATIONS 723-3.

PROCEEDING NO. 13M-1167E

IN THE MATTER OF BLACK HILLS CORPORATION SENATE BILL 07-100 DESIGNATION OF ENERGY RESOURCE ZONES AND TRANSMISSION EXPANSION PLAN.

PROCEEDING NO. 13M-1183E

IN THE MATTER OF PUBLIC SERVICE COMPANY OF COLORADO SENATE BILL 07-100 DESIGNATION OF ENERGY RESOURCE ZONES AND TRANSMISSION PLANNING REPORT.

**RECOMMENDED DECISION OF
HEARING COMMISSIONER
PAMELA J. PATTON
ADDRESSING THE 2014 TEN-YEAR
TRANSMISSION PLAN AND
THE 2014 TWENTY-YEAR
CONCEPTUAL SCENARIO REPORT**

Mailed Date: July 18, 2014

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A. The Commission Orders That:12

I. STATEMENT

A. Procedural History

1. Rule 3627, 4 *Code of Colorado Regulations* 723-3 of the Commission’s Rules Regulating Electric Utilities, requires Public Service Company of Colorado (Public Service), Tri-State Generation and Transmission Association, Inc. (Tri-State), and Black Hills/Colorado Electric Utility Co. (Black Hills) (collectively, Utilities) to file, on February 1 of each even year, a 10-year transmission plan and a 20-year conceptual scenario report. The purpose of the Rule 3627 transmission planning process is to coordinate the planning for additional electric transmission in a comprehensive, transparent, and statewide manner.¹ This process allows for meaningful input by stakeholders representing governmental, environmental, financial, and other interests and promotes the state’s interest in the development of a transmission system sufficient to satisfy the needs of Colorado citizens.² The plans and reports filed pursuant to Rule 3627 inform the Commission of the transmission projects each utility is proposing and the reasons for each project, the extent to which each utility has coordinated its planning with other transmission

¹ Decision No. R12-1431, issued December 13, 2012 in Proceeding No. 12M-0102E, ¶ 10. Decision No. R12-1431 became a decision of the Commission by operation of law and is incorporated here.

² *Id.*, ¶ 12.

providers, and the stakeholder outreach undertaken by each utility.³ This Decision considers the adequacy of the Joint Ten-Year Transmission Plan and the Joint Twenty-Year Conceptual Scenario Report filed by the Utilities on February 3, 2014.

2. By Decision No. C14-0186-I, mailed on February 19, 2014, the Commission designated Commissioner Pamela J. Patton as the Hearing Commissioner, invited interested parties to file comments by March 28, 2014, and invited the Utilities to file response comments by April 25, 2014. The Commission also consolidated the proceedings pertaining to the Senate Bill 07-100 (SB 100) reports filed by Public Service and Black Hills on October 31, 2013, with the instant proceeding. The Commission found the SB 100 planning activities are part of the larger coordinated Rule 3627 transmission planning effort.

3. Colorado Independent Energy Association (CIEA) and Interwest Energy Alliance (Interwest) filed comments. Public Service and Black Hills, jointly, and Tri-State filed response comments.

B. Stakeholder Workshop

4. By Decision No. R14-0509-I, mailed May 13, 2014, the Hearing Commissioner scheduled a workshop for June 9, 2014. The purpose of the workshop was to discuss both the Joint Ten-Year Transmission Plan and the Joint Twenty-Year Conceptual Scenario Report among the interested participants. Representatives of all three Utilities, CIEA, Interwest, Colorado Energy Office, the Colorado Office of Consumer Counsel, and Western Electricity Coordination Council (WECC) attended that workshop.

5. Mr. Keegan Moyer, Manager of Transmission Expansion Planning at WECC, attended the workshop at the invitation of the Commission. WECC is the regional entity

³ *Id.*, ¶ 13.

responsible for coordinating and promoting bulk electric system reliability in the Western Interconnection. Mr. Moyer discussed WECC's use of models in transmission planning, its 20-year transmission planning process, and the role of its Environmental Data Task Force.

6. Mr. Moyer explained WECC uses two primary types of models in transmission planning: a power flow model and an economic model. A power flow model, also known as a reliability analysis model, analyzes energy flow through the transmission grid for a single hour of the year, usually assuming a particular stress condition. The utilities and other transmission planning entities provide the data, including engineering information for all lines, substations, equipment, generation, and load levels specific to the condition under study. An economic model, also known as a production cost model, simulates the hourly operation on an economic basis of an electric grid for a given year. Mr. Moyer also explained the process by which an interested party may access and review these models.

7. Regarding the 10-year plans and the 20-year conceptual planning reports at issue in this proceeding, Mr. Moyer noted WECC's opportunity to review and be informed by these documents. Mr. Moyer opined the 20-year conceptual planning report was robust in its consideration of a wide range of future scenarios, including those developed through the Colorado Coordinated Planning Group (CCPG) and WECC.

C. Ten-Year Transmission Plan

8. The fundamental questions in this proceeding are whether the 2014 Ten-Year Transmission Plan (Plan) complies with the requirements of Rule 3627 and whether it is adequate to meet present and future transmission needs of Colorado citizens in a reliable manner. The Hearing Commissioner defines "adequate" in the context of Rule 3627(h) as satisfactory and sufficient. In making this evaluation, the Plan, written comments filed by CIEA and Interwest,

response comments filed by the Utilities, and oral comments made at the June 9, 2014, workshop are considered below.

1. Benefits of New Transmission Projects

9. Both Interwest and CIEA interpret Rule 3627(b)(I)—which requires the Utilities to demonstrate the Plan efficiently utilizes the transmission system on a best-cost basis considering both the short-term and long-term needs of the system—as requiring the Utilities to *quantify* the benefits of new transmission projects contemplated in the ten-year plan. Interwest argues these benefits may include increased reliability, reduced line losses, reduced emissions, and generation diversity. Interwest argues the rule requires the Utilities to model these projected benefits based on financial assumptions and compare them to projected costs.

10. Rule 3627(b)(I) defines best-cost basis as “balancing cost, risk and uncertainty and includes proper consideration of societal and environmental concerns, operational and maintenance requirements, consistency with short-term and long-term planning opportunities, and initial construction cost.” The Hearing Commissioner finds Rule 3627(b)(I) does not require utilities to quantify best cost metrics. She also agrees with the Utilities that best cost quantifications as proposed by Interwest would require significant assumptions, necessitating a level of detail not contemplated by Rule 3627(b)(I). Further, reliable quantitative analyses may not be feasible in regards to transmission projects identified in advance of interconnecting generation, when the costs of this generation are unknown.

11. The Hearing Commissioner further finds the purpose and scope of transmission planning documents of Southwest Power Pool (SPP) and Pacificorp, which Interwest presents as examples of quantitative analysis of transmission benefits, differ from the scope and purpose of the Plan. First, SPP’s transmission planning occurs in the type of market not existing in

Colorado. Second, PacifiCorp's quantification of transmission benefits is at the preliminary stage of development. PacifiCorp also addresses benefits of proposed transmission in conjunction with interconnecting generation. This is not always possible in Colorado, because SB 100 promotes identification of transmission projects in advance of actual generation development.

12. The Hearing Commissioner finds the qualitative analysis of transmission system benefits⁴ contained in the 2014 Plan complies with Rule 3627(b)(I). However, in future ten-year transmission plans, the Utilities shall include additional details to assist the Commission and stakeholders representing governmental, environmental, financial, and other interests to obtain information on best-cost issues. For example, the Utilities state they evaluated environmental considerations, estimated capital and annual costs, and other criteria during their economic feasibility study.⁵ Future ten-year transmission plans also shall discuss how the Utilities analyzed and incorporated these and other best-cost considerations into their planning efforts. This additional information may be provided in the form of web links to studies (rather than contained in the ten-year plan), through designated utility contacts, or other means.

2. Alternatives

13. CIEA states it submitted five timely and detailed proposed alternatives during the development of the plan to the Utilities through the CCPG. These alternatives were: a 2017 in-service date for segments of the Lamar-Front Range project so that new generation can interconnect to either Lamar or Burlington substations; strengthening Colorado-New Mexico ties to allow for greater exports in the Four Corners market region; San Luis Valley-Front Range Alternatives; and radial generation tie extension and system integration. CIEA states its intent

⁴ Ten-year transmission plan, pp. 66-68.

⁵ *Id.*, p. 67.

was to initiate a discussion at the CCPG on the merits of pursuing certain policy goals, including connecting Colorado to neighboring markets. CIEA argues that the Utilities did not evaluate substantively the five alternatives and instead advised CIEA to pursue these studies on its own.

14. Rule 3627(c)(VI) requires ten-year transmission plans to address the consideration of alternatives:

The related studies and reports for each new transmission facility identified in the transmission plan including alternatives considered and the rationale for choosing the preferred alternative. The depth of the studies, reports, and consideration of alternatives shall be commensurate with the nature and timing of the new transmission facility.

Rule 3627(g)(II) and Decision No. R12-1431 also require the Utilities to solicit stakeholder input in regards to alternative solutions during the development of the ten-year plan “*when objectives and needs are being identified*” by the Utilities (emphasis added). These alternative solutions may include technical alternatives to specific transmission projects (such as conductor size and transmission voltage) or may include input and suggestions related to public policy.⁶ Some of the alternatives proposed by stakeholders may fall within the scope of a 10-year plan, some fall within the scope of a 20-year conceptual long-range scenario report, and some fall outside the parameters of the transmission planning process.⁷ The Utilities must be ready to support their classifications on proposed alternatives.⁸

15. The term “alternatives,” as used within Rule 3627, contemplates many types of alternatives and input from stakeholders whose knowledge on transmission issues ranges from cursory to in-depth.⁹ Yet, this term must be read in conjunction with other portions of

⁶ Decision No. R12-1431, ¶¶ 46, 48, 51.

⁷ Decision No. R12-1431, ¶ 48.

⁸ *Id.*

⁹ *Id.*

transmission planning rules and the overall purpose and intent of these rules. Further, the purpose of the rule is to help guide the Utilities in determining their responses to alternatives offered by interested parties.

16. The Hearing Commissioner agrees with Tri-State that the five proposals presented by CIEA are not “alternatives” within the scope of the ten-year transmission plans.¹⁰ These proposals reflect broad, statewide policy considerations, such as export of Colorado generation into other markets, and do not address any objectives or needs identified by the Utilities during the development of the 2014 ten-year plan and therefore are beyond the scope of that plan.¹¹ In addition, as Tri-State points out, CIEA proposals (2) and (3) pertain to transmission that may be needed for energy export out of state rather than Colorado native load. The Hearing Commissioner agrees with Tri-State that energy export is beyond the scope of the ten-year plan.¹² The Hearing Commissioner finds that, in response to the proposed alternatives, the Utilities referenced existing technical information and the need for new studies, including the estimated cost of these studies. The Hearing Commissioner finds the Utilities fairly considered these proposals.

17. The Hearing Commission also notes CIEA may pursue its proposals through other avenues. For example, CIEA may work with the CCPG’s Conceptual Work Group and present

¹⁰ Even if the five CIEA proposals were within the scope of the ten-year plan, the Hearing Commissioner finds the Utilities (and the CCPG as a whole) adequately considered these proposals due to the short time between the receipt of these proposals in August 2013 and the due date for the ten-year plan in February 2014. It is true Rule 3627 has no specific deadline for stakeholders to submit their proposals or alternatives, yet the rules also contemplate the scope of any response will depend on the particulars of stakeholder input. The Hearing Commissioner agrees with the Utilities that technical studies relevant to CIEA proposals could not be completed in the time remaining in the planning cycle.

¹¹ However, a discussion of proposals that do not correspond to any objectives or needs identified in the 10- year transmission plan may be useful in the context of the 20-year conceptual scenario or another forum.

¹² See, Rules 3627(b)(II) and (c)(II), which discuss the requirements of the ten-year plans in the context of the system load forecasts and other native load needs.

the results in its comments on the next 20-year scenario report. In addition, CIEA may request base cases from the Utilities¹³ and run system models independently, using its own assumptions.

3. Stakeholder Outreach

18. The Hearing Commissioner finds the stakeholder outreach conducted by the Utilities complies with Rule 3627 and Decision No. R12-1431, ¶¶ 63-64. She also encourages the Utilities to take additional steps in their future transmission planning plans. For example, the Utilities may be able to present information relevant to their transmission planning efforts during meetings held by local governments and civic organizations, or during franchising discussions with municipal authorities. Intensive and proactive outreach to local governments, business owners, property owners, residents, and other affected stakeholders is especially important during the siting and routing stages of transmission projects.

4. Information Links

19. Rule 3627(a)(III) permits the Utilities to cite in the transmission plan a web address providing direct access to required information, in lieu of filing voluminous information. The address must remain active until the next biennial filing. The Hearing Commissioner finds several web addresses listed in the filings are inactive as of the mailed date of this Decision. Therefore, the Utilities have not complied with Rule 3627(a)(III) in regards to these web addresses. The Hearing Commissioner orders the Utilities to submit revised filings containing corrected web addresses within ten days of the mailed date of this Decision and to keep these web addresses active at least until the next biennial filing due February 1, 2016.

¹³ Decision No. R12-1431, ¶ 41, requires the Utilities to provide, upon request, base cases to interested parties that have signed applicable confidentiality agreement(s) with WECC.

5. Conclusion

20. As mentioned above, the purposes of Rule 3627 are to ensure quality electric transmission planning in Colorado and that the transmission system is sufficient to satisfy the needs of Colorado citizens.¹⁴ To the extent CIEA argues these purposes have not been met because (in its opinion) additional transmission projects should have been approved by the Commission or built, the Hearing Commissioner disagrees. The pace of transmission approval or construction is not necessarily indicative of the quality of transmission planning. Rather, electric transmission planning embodies a complex and deliberate balance between costs, energy to be transported, and electrical, mechanical, civil, performance, and environmental factors.¹⁵ Public policy considerations, including low load growth projections and utilities' compliance with renewable energy standards, are also important. With the exception of inactive web addresses discussed above, the Hearing Commissioner finds the ten-year transmission plan satisfies the requirements of Rule 3627, Decision No. R12-1431, and underlying policies. Therefore, subject to the Utilities filing corrected web addresses, the Hearing Commissioner finds the ten-year transmission plan to be adequate within the meaning of Rule 3627.¹⁶

D. Twenty-Year Conceptual Planning Scenario Report

21. The goal of the 20-year conceptual scenario report is to present a long-term vision of the evolution of a transmission system in Colorado and to consider a variety of scenarios that could have a significant impact on the design of the Colorado transmission system.

¹⁴ Decision No. R13-1431, ¶ 12, citing Decision No. R11-0077, mailed January 21, 2011, at ¶ 9.

¹⁵ Electric Power Research Institute, EPRI AC Transmission Line Reference Book-200 kV and Above, Third Edition (the "Red Book"), Section 1-8.

¹⁶ The term "adequate" as used within Rule 3627 does not mean the ten-year plan only barely fulfills the requirements of the rule. Instead, in the context of Rule 3627, that term means the plan is satisfactory and sufficient.

High or low load forecasts, increased renewable energy portfolio requirements, and carbon regulations are examples of potential scenarios.¹⁷

22. The Hearing Commissioner finds that the 2014 scenario report complies with the requirements of Rules 3627(e)(I)-(IV). The report analyzes projected system needs for credible future events, including: reasonably foreseeable public policy initiatives; possible retirement of existing generation due to age, environmental regulations, or economic considerations; emerging generation, transmission, and demand limiting technologies; and load growth projections. The report includes a narrative summary¹⁸ and discusses 14 scenarios developed by the CCPG, WECC, Tri-State, and or Public Service. These scenarios consider potential impacts on the Colorado electric transmission system of, among other things, advanced carbon capture and sequestration, significant load growth, increased energy import and export, and high penetration of distributed generation.

23. 23. These scenarios are credible, detailed, and supported by analysis.¹⁹ In particular, “CCPG Scenario No. 3b: State Statute RES Levels” uses a power flow analysis,²⁰ with detailed one line diagrams created from that model. The Hearing Commissioner appreciates the effort expended to create a base case power flow model to serve as a reference from which to estimate the impacts of certain scenarios. The 20-year base case power flow model, although not precise, provides the Commission and other policymakers with useful information when considering Colorado’s energy future. Therefore, future conceptual long range scenario reports should contain at least one scenario that utilizes an updated 20-year base case power flow model.

¹⁷ Decision No. R12-1431, ¶ 92; *See also*, Transcript of the June 9, 2014 workshop, pp. 33-35.

¹⁸ *Id.*

¹⁹ Rule 3627(e) does not require detailed transmission planning studies. Decision No. R12-1431, ¶ 92.

²⁰ Twenty-year conceptual report, p. C10.

II. ORDER

A. The Commission Orders That:

1. The Joint Ten-Year Transmission Plan filed on February 3, 2014, by Black Hills/Colorado Electric Utility Co., Public Service Company of Colorado, and Tri-State Generation and Transmission Association, Inc. (collectively, Utilities) is adequate and in compliance with Rule 3627 4 *Code of Colorado Regulations* 723-3, subject to the Utilities filing corrected web addresses pursuant to ordering ¶ 3.

2. The Joint Twenty-Year Conceptual Scenario Report filed by the Utilities on February 3, 2014, complies with Rule 3627(e).

3. The Utilities are ordered to file revised plans containing corrected web addresses within ten days of the mailed date of this Decision and to maintain the web addresses at least until the next biennial transmission plan due February 1, 2016.

4. This Recommended Decision shall be effective the day it becomes the Decision of the Commission, if that is the case, and is entered as of the mailed date above.

5. As provided by § 40-6-109, C.R.S., copies of this Recommended Decision shall be served upon the parties, who may file exceptions to it.

a) If no exceptions are filed within 20 days after service or within any authorized extended period of time, or unless the decision is stayed by the Commission upon its own motion, this Recommended Decision shall become the decision of the Commission and subject to the provisions of § 40-6-114, C.R.S.

b) If a party seeks to amend, modify, annul, or reverse basic findings of fact in its exceptions, that party must request and pay for a transcript to be filed, or the parties may stipulate to portions of the transcript according to the procedure stated in § 40-6-113, C.R.S.

If no transcript or stipulation is filed, this proceeding is bound by the facts set out by the hearing commissioner.

6. If exceptions to this Decision are filed, they shall not exceed 30 pages in length, unless the Commission for good cause shown permits this limit to be exceeded.

(S E A L)



THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

PAMELA J. PATTON

Hearing Commissioner

ATTEST: A TRUE COPY

A handwritten signature in cursive script that reads 'Doug Dean'.

Doug Dean,
Director