Decision No. R20-0608-I

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

PROCEEDING NO. 20M-0008E

IN THE MATTER OF THE JOINT FILING OF RULE 3627 10-YEAR AND 20-YEAR REPORTS OF PUBLIC SERVICE COMPANY OF COLORADO, TRI-STATE GENERATION AND TRANSMISSION, AND BLACK HILLS ENERGY.

INTERIM DECISION OF ADMINISTRATIVE LAW JUDGE ROBERT I. GARVEY REQUIRING ADDITIONAL FILINGS

Mailed Date: August 19, 2020

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I. STATEMENT

1. On February 3, 2020, Public Service Company of Colorado (Public Service), Black Hills/Colorado Electric Utility Company (Black Hills), and Tri-State Generation and Transmission Association, Inc. (Tri-State) jointly filed a biennial transmission plan as required by Rules 3625 to 3627 of the Rules Regulating Electric Utilities, 4 *Code of Colorado Regulations* (CCR) 723-3 (Transmission Planning Rules).

2. Upon initial review of the joint biennial plan, the Commission found that supplemental information was necessary. The Commission directed Public Service, Black Hills, and Tri-State (the Utilities) to supplement the Joint 10-Year Transmission Plan and 20-Year Conceptual Scenario Report with additional information. The supplemental information was ordered to be filed within 60 days.

3. On April 7, 2020 by Decision No. C20-0213-I, Proceeding No. 20M-0008E was referred to an Administrative Law Judge for a recommended decision.

II. DECISION NO. C20-0213-I

4. In Decision No. C20-0213-I, the Commission required supplemental information and filings from the Utilities in the following general areas: (1) clarification and further information regarding each utility's plans to meet the requirements of §§ 40-2-125.5 and 25-7-105(1)(e)(VIII)(A), C.R.S.; (2) discussion regarding whether and, if so, how each utility intends to address policy initiatives in the Governor's Roadmap; (3) identification of anticipated organized market information as applied to each scenario; (4) information regarding the effects of technology advancements, specifically regarding storage capabilities over time; (5) clarifications regarding Distributed Energy Resources (DER) and distributed generation (DG); and (6) further detail concerning Local Distribution Company (LDC).

5. The Commission, consistent with Rule 4 CCR 3627(e) conceptual long-range scenarios, requested the utilities to analyze projected system needs for various alternatives, including without limitation, possible retirement of existing generation caused by environmental or other regulations. Revisions to § 40-2-125.5(3), C.R.S., through Senate Bill 19-236 provide for the likely possibility of retirement of existing generation to reduce carbon dioxide emissions by 80 percent from 2005 levels by 2030. The Utilities shall supplement the Joint 10-Year Transmission Plan with information relating to each utility's plan to address § 40-2-125.5(3), C.R.S., including without limitation, its instructions to reduce carbon dioxide emissions.

6. Second, the Commission for long-range planning under Rule 4 CCR 3627(e), required the Utilities to supplement the 20-Year Conceptual Scenario Report to include the information relating to whether and how the Utilities plan to make progress toward meeting the

Governor's Roadmap goal of providing customers with energy generated from 100 percent clean energy resources by 2040.

7. Third, the Commission required the Utilities to include additional analysis regarding organized market considerations. Specifically, to address considerations of organized market analyses that were made in each respective scenario. The Utilities were required to identify participation in potentially separate regional markets and additional discussion regarding the result of this divergent participation, including anticipated participation in energy imbalance market or day-ahead markets.

8. Fourth, the Commission required that supplemental information describe whether and if so how, the Utilities will address the anticipated effects of technology advancements, particularly regarding storage capabilities, on transmission and the proposed 10 and 20-year plans.

9. Fifth, the Commission required clarifications with respect to DER and DG. In addition, the Utilities were required to clarify whether and how modeling is being conducted for the respective scenarios regarding the DER and DG concepts

10. Sixth, the Commission required additional explanation regarding the elimination of the gas LDC described in Public Service's Scenario No. 5.

11. The Commission decided that the Joint 10-Year Transmission Plan and 20-Year Conceptual Scenario Report as supplemented with information required by this Decision shall include detailed descriptions of all models used, detailed reports of all inputs and constraints modeled, and explanations and copies of all outputs from the models. Additionally, updates shall include discussion of the Basis of Plan, Identified Issues, and any Resource Requirements including Costs, Quality Metrics, and Stakeholder Register.

III. THE PARTIES' FILINGS

A. Clarification and Information to meet requirements of § 40-2-125.5(3)

1. Black Hills

12. Black Hills states § 40-2-125.5(3), C.R.S., creates clean energy targets for qualifying retail utilities. A qualifying retail utility is defined as a retail utility providing electric service to more than five hundred thousand customers in this state or any other electric utility that opts in.

13. Black Hills does not meet this requirement and has not opted into the statutory requirements, as permitted by § 40-2-125.5(3)(b), C.R.S. The clean energy targets of § 40-2-125.5(3), C.R.S., are not currently applicable to Black Hills.

14. Although the targets do not apply to Black Hills, it states, it is exploring whether its opting into the statutory requirements would be in the best interests of its customers. Before it can determine whether to opt in, it needs clarification on a number of topics.

15. Black Hills continues that that it has no coal generation on its system, has met the State's 30 percent Renewable Energy Standard (RES) requirement, and is proposing to add significant new renewable resources.

2. Tri-State

16. Tri-State states § 40-2-125.5(3), C.R.S., requires qualifying retail utilities to meet certain clean energy targets related to reductions in carbon dioxide emissions associated with retail electricity sales. Tri-State is not a qualifying retail utility as defined by statute and it has no retail electricity sales. The clean energy targets set forth in the statute do not apply to Tri-State.

17. Tri-State is moving forward with its Responsible Energy Plan (REP), a transition to clean energy that will expand renewable generation and reduce greenhouse gas emissions

while ensuring reliable, affordable, and responsible electricity for its member cooperatives and public power districts.

3. Public Service

18. Public Service is a qualifying retail utility under § 40-2-125.5(3). C.R.S.

19. Public Service intends to bring forward its clean energy plan to reduce the carbon dioxide emissions from its electricity business by 80 percent below 2005 levels by 2030 in its next Electric Resource Plan (ERP) filing. This Clean Energy Plan will build on its Colorado Energy Plan, approved under the most recent ERP (Proceeding No. 16A-0396E), which will result in the early retirement of two coal-fired generating facilities with a combined generating capacity of approximately 660 MW, the addition of approximately 1,100 MW of wind generation, approximately 700 MW of solar generation and development of 275 MW of large-scale battery storage.

20. Public Service states that the Colorado Energy Plan alone will transform their electric system to more than 50 percent renewable energy by 2026 and is anticipated to achieve a 60 percent reduction in carbon dioxide emissions compared to 2005 levels.

21. As part of Public Service's planning process there are multiple drivers to the planning process, including accommodation of new resources, retirement of existing resources, compliance with state and federal rules and standards, replacement of aging infrastructure, public policy initiatives and, most importantly, maintaining a reliable and affordable electric grid.

22. Public Service's Transmission Planning and Resource Planning departments are coordinating efforts to generally identify the actions that will be necessary to meet Public Service's carbon reduction goals under § 40-2-125.5(3)(I), C.R.S. As part of that process, Public

Service's Transmission Planning has conducted analyses of the potential standalone generation injection capabilities of various locations on Public Service's transmission system.

B. How the Utilities Plan to Make Progress Toward Meeting the Governor's Roadmap Goal

1. Black Hills

23. Black Hills states that in Proceeding No. 20V-0159EG the Commission and interested parties can thus examine how the Ready EV Plan furthers the Governor's policy prerogatives.

24. Black Hills also states that the Commission and interested parties can address the Governor's Roadmap in its ongoing Renewable Advantage proceeding, Proceeding No. 19A-0660E, as well as in future ERP proceedings.

25. For transmission issues, Black Hills announced the intent to join the California Independent System Operator (CAISO) Western Energy Imbalance Market.

2. Tri-State

26. On January 15, 2020, Tri-State announced its REP, which will dramatically and rapidly advance the association's clean energy portfolio and its programs to serve its member electric cooperatives and public power districts.

27. Tri-State anticipates that it may begin discussing steps associated with the REP as early as its next ERP that is scheduled to be filed with the Commission on December 1, 2020.

28. Tri-State believes that the three conceptual long-range scenarios discussed in its portion of the Utilities' Joint 2020 Rule 3627 Report are consistent with the goals of the Governor's Roadmap.

a) Scenario #1 – Increased Role of Distributed Energy Resources – contemplates the increased role of a number of technologies that constitute renewable energy resources as defined in § 40-2-124(1)(a)(VII), C.R.S. Whether developed by Tri-State or its Colorado Members, such resources will play a role in meeting the Governor's Roadmap goal of 100 percent clean energy by 2040.

b) Scenario #2 – Increased East-West Interconnection – contemplates the possibility of new DC-Tie facilities and new DC transmission lines between the Eastern and Western Interconnections. Such improvements will provide an opportunity for Tri-State to tap-into renewable energy resources in the east through its participation in the Western Energy Imbalance Service so as to complement the renewable energy resources developed in Colorado to serve its Members' load.

c) Scenario #3 – Increased Energy Storage – contemplates significant advancement and growth of energy storage technology that not only could, in appropriate circumstances, defer or replace traditional transmission projects, but also potentially assist in the integration of variable renewable energy resources.

3. Public Service

29. Public Service believes that it is working toward meeting the Governor's Roadmap by exploring energy storage solutions through ongoing pilots through its Innovative Clean Technologies program first approved in Proceeding No. 09A-015E.

30. Public Service also looks to its Demand Side Management program which it states has a longstanding and successful track record of helping customers manage their energy usage more efficiently.

31. Public Service also continues to evaluate opportunities to build transmission, which will encourage and accommodate the electrification of other industries such as the transportation and oil and gas industry.

32. Public Service believes that it is difficult to anticipate the impact of the actions outlined in the Governor's Roadmap, but it will maintain a steady approach to safely modernizing the grid with renewable energy reliably, while keeping customers' energy bills low.

C. Identification of Anticipated Organized Market Information

1. Black Hills

33. The two most viable options for regional market participation have been the WEIM offered by the CAISO, and the WEIS offered by SPP. Both the WEIM and WEIS are energy imbalance markets where real-time energy imbalances are handled through a Security Constrained Economic Dispatch. Transmission service is similar in both markets and leverages unutilized transmission capacity in real-time to deliver imbalance energy, thereby maximizing the use of transmission capacity that would otherwise be a sunk cost.

34. Black Hills did not consider regional market scenarios in its 20-year conceptual scenario planning due to the high uncertainty surrounding participation in an RTO,

2. Tri-State

35. Tri-State views an RTO as the linchpin to a clean energy transition and an important and necessary element in the implementation of its REP.

36. Tri-State is already a member of SPP and placed its Eastern Interconnection facilities in SPP's RTO years ago, resulting in a positive experience and cost savings. Tri-State is joining seven other utilities in SPP's Western Energy Imbalance Service market and represents a step closer to a full RTO.

3. Public Service

37. Public Service continues to be involved in regional energy market development and participates in the JDA.

38. Public Service has no expectation of when or if an RTO will be developed and control the transmission system of the former MWTG footprint, or under what terms and conditions that transition may ultimately occur.

39. At this time, there are no plans to increase transmission transfer capability between the JDA participants and other CAISO WEIM utilities. Public Service will be evaluating the opportunities for future capability, whether based on new transmission construction or acquisition of transmission service, and such evaluations will include more robust considerations of production cost savings, renewable energy integration benefits, and savings in contingency reserves obligations.

D. Information Regarding the Effects of Technology Advancements

1. Black Hills

40. Black Hills has begun integrating storage into its transmission consideration processes and planning. Black Hills has commissioned a study to provide a technical overview of the current state of the energy storage industry, including types of commercially available energy storage technology that may be applicable as nonwire alternatives in Black Hills' transmission and distribution planning processes.

41. Black Hills expects energy storage to impact future distribution and transmission plans. At this time, Black Hills asserts that storage may pose greater opportunities for customer benefits on the distribution system, as opposed to the transmission system.

2. Tri-State

42. Tri-State regularly considers technology advancements, such as energy storage systems, as part of its transmission planning process. Tri-State also considers Flexible AC transmission system devices, high-temperature lowsag line conductors, and dynamic line rating

equipment in transmission planning. All of which are meant to enhance stability, controllability, and/or power transfer capability on the transmission system.

43. Tri-State believes energy storage will likely play an increasing role in Colorado's energy mix, and is a consideration in Tri-State's resource planning.

3. Public Service

44. Public Service does not anticipate an immediate impact on current planned projects in the ten-year plan.

45. Public Service believes as battery technology becomes more prevalent, opportunities may emerge for batteries to assist in mitigating operational and planning issues on the transmission system such as primary frequency response, regulation, and contingency spinning.

E. Clarifications Regarding DER Resources and DG

1. Black Hills

46. Black Hills considers "DG" to be a reference to renewable generators in Colorado, both retail and wholesale, to comply with the state's RES. Black Hills has transitioned to using the term "DER" in its documentation to refer to the interconnection of DG and other technologies such as energy storage systems.

47. Black Hills' transmission planning has started group discussions on the need to coordinate models for the purpose of studying potential back feed on the transmission system associated with DER loads. This is a new process and still in the discussion phase and is planned to be investigated further as the distribution planning group continues to refine and implement new distribution planning processes.

2. Tri-State

48. Tri-State views the terms "distributed energy resource" and "distributed generation" as being synonymous. From a transmission planning perspective, DER is generally located behind the meter on a Member System's distribution network.

49. An aspect of Tri-State's REP is an emphasis on increased flexibility for members to self-generate, which could lead to more behind-the-meter DER. Due to modeling initiatives at the WECC level which the Utilities participate in, transmission planning models will continue to be updated to reflect DER as levels increase.

3. Public Service

50. Public Service presumes the Commission intended instead to say "clarifying its use of DG as opposed to DER," as DG is the term the company used in its Scenario #3: High Penetration of Distributed Generation.

51. Public Service, focused primarily on DG solar in this particular Scenario in this report. Public Service also briefly explored a broader set of DERs under its Scenario #4, which covers the 100 percent Renewable Energy by 2040 goal set forth in the Governor's Roadmap.

F. Further Detail Concerning Local Distribution Company

1. Public Service

52. In order to demonstrate the significant potential impacts to the transmission system, Public Service included this LDC phaseout scenario in the original Rule 3627 Report. Public Service believes the gas LDC phaseout scenario would be unlikely and extremely challenging to implement. As highlighted in the Scenario, significant additional generation and thus transmission would be needed to replace the service provided by the company's gas LDC system.

53. Public Service offered this LDC phaseout scenario in the original Rule 3627 Report as a bookend to illustrate the dramatic nature of the potential implications on the transmission system. Public Service believes this scenario is unlikely, and that any future significant trend to reduce usage of the gas LDC system, if it comes to pass, would be many years away.

54. Further, Public Service believes that progress can be made to reduce the greenhouse gas footprint of customers of the existing gas system through measures such as increased natural gas energy efficiency measures, voluntary beneficial electrification programs, renewable natural gas, and continued efforts to reduce methane leakage on the LDC system as well as upstream of it.

G. Models, Modeling Outputs, and Additional Discussions

1. Joint Utilities

55. The Joint Utilities cannot provide the models used in the Joint 10-Year Transmission Plan and 20-Year Conceptual Scenario as they are considered Critical Energy Infrastructure Information (CEII) and require non-disclosure agreements with WECC to be provided. Additionally, model outputs cannot be provided due to each model's wide variety of model outputs, some of which are considered CEII, and are specific to the respective model.

IV. DISCUSSION

56. The Parties have filed additional information to address the clarification and further information regarding each utility's plans to meet requirements of §§ 40-2-125.5 and 25-7-105(1)(e)(VIII)(A), C.R.S. (Item A), but have failed to include the required Models, Modeling Outputs, and Additional Discussions (Item G) to determine if the additional

information has met the requirements of Decision No. C20-0213-I. The Parties shall be required to submit the Modeling Inputs and Outputs.

57. The Parties have filed additional information to address how the Utilities plan to make progress toward meeting the Governor's Roadmap goal (Item B), but have failed to include the required Models, Modeling Outputs, and Additional Discussions (Item G) to determine if the additional information has met the requirements of Decision No. C20-0213-I. The Parties shall be required to submit the Modeling Inputs and Outputs.

58. The Parties have filed additional information to address Identification of Anticipated Organized Market Information (Item C), but have failed to include the required Models, Modeling Outputs, and Additional Discussions (Item G) to determine if the additional information has met the requirements of Decision No. C20-0213-I. The Parties shall be required to submit the Modeling Inputs and Outputs.

59. The Parties have filed additional information to address Information Regarding the Effects of Technology Advancements (Item D), but have failed to include the required Models, Modeling Outputs, and Additional Discussions (Item G) to determine if the additional information has met the requirements of Decision No. C20-0213-I. The Parties shall be required to submit the Modeling Inputs and Outputs.

60. The Parties have clarified their definitions on DER and DG (Item E).

61. Public Service included a discussion of LDCs (Item F).

62. The Parties have failed to include Models, Modeling Outputs, and Additional Discussions (Item G) in the supplemental information. The Parties shall be given 30 days from that date of this Decision to supplement their filings with the required Modeling Inputs and Outputs.

V. ORDER

A. It Is Ordered That:

1. Public Service Company of Colorado, Black Hills/Colorado Electric Utility Company, and Tri-State Generation and Transmission Association, Inc. are ordered to supplement their filings with the Modeling Inputs and Outputs consistent with the discussion above.

2. The supplemental Modeling Input and Output filings shall be filed within 30 days of this Decision.

3. This Decision shall be effective immediately.

(S E A L)

THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

ROBERT I. GARVEY

Administrative Law Judge

ATTEST: A TRUE COPY

Doug Dean,
Director