A. Black Hills Summary

Black Hills encouraged all interested parties to participate in the 2021 SB07-100 study process. An open stakeholder SB07-100 kickoff meeting was held in conjunction with the Q1 Black Hills Colorado Transmission ("BHCT") Transmission Coordination and Planning Committee ("TCPC") on March 30, 2021, to inform stakeholders of the proposed study plan and to provide an opportunity for suggestions and feedback on the study process. Follow-up e-mails and calendar invites were sent for the Q2, Q3 and Q4 stakeholder meetings, to invite stakeholders to respond with their input while updating them on the progress of the study work. These meetings occurred June 29, 2021, September 28, 2021, and December 14, 2021. Meeting notices and presentations were distributed via e-mail and posted on the Black Hills Open Access Same-Time Information System ("OASIS") page at http://www.oatioasis.com/bhct/ as well as on a Colorado SB07-100 webpage established on the Black Hills Corporation website:

https://www.blackhillsenergy.com/our-company/transmission-rates-and-planning.

For the 2021 SB07-100 cycle, Black Hills selected to re-evaluate the resource injection capacity from ERZ-5, which initially was performed as part of the 2013 SB07-100 cycle. That decision was based on the completion of transmission system upgrades since that time, as well as ongoing interest to develop generation in the area as indicated by Black Hills' generation interconnection queue. The transmission system was evaluated under 2030 peak summer load levels to identify any significant adverse impact to the reliability and operating characteristics of the WECC bulk transmission system and, more specifically, to the Black Hills and surrounding transmission systems. Steady state voltage and thermal analyses examined system performance without additional projects to establish a baseline for comparison. Performance was re-evaluated with resource injections modeled and compared to the baseline performance to determine the impact of the injections on area transmission reliability.

The power flow analysis was performed with pre-contingency solution parameters that allowed adjustment of load tap-changing ("LTC") transformers, static VAR devices including switched shunt capacitors and reactors, and DC taps. Post-contingency solution parameters allowed adjustment of DC taps and automatically switched shunt devices, as well as adjustment of manually switched shunt devices outside the study area. Area interchange control was disabled and generator VAR limits were applied immediately for all solutions. The solution method implemented was a fixed-slope decoupled Newton solution.

Black Hills SB07-100 Conclusions

Black Hills utilized an open and transparent process in conducting its 2021 Colorado Senate Bill 07-100 study. Stakeholders were provided several opportunities for involvement and input into the study process and scope. Through this process, Black Hills believes it has fulfilled the requirements of Colorado Senate Bill 07-100, codified at C.R.S. § 40-2-126.

Baculite Mesa 115kV Substation: The 2030HS study results indicated that the BHCE transmission system could accommodate a 150MW injection at the Baculite Mesa 115kV substation with no required upgrades, assuming all planned projects are in service. Any injection beyond that will cause overloads on the Baculite Mesa – Airport Memorial Park 115 kV line following the N-2 Contingency of the Baculite Mesa – West Station 115 kV #1 & #2 lines.

Boone 115kV Substation: Additionally, the study results indicated that the BHCE transmission system could accommodate a 160MW injection at the Boone 115kV substation. Higher levels of injection into this substation caused overloads on Xcel's Boone 230/115kV transformer during the N-2 contingency of the Boone – Nyberg 115 kV line and the Boone – Dot Tap – Nyberg 115 kV line.

Hogback 115kV Substation: The analysis also looked at injections at the planned Hogback 115kV substation. The results indicated that the BHCE transmission system could accommodate a 100MW injection at this location. Higher levels of injection into this substation caused overloads on the Hogback – Canon West 115 kV line. Injection limits into this area may vary greatly depending on local Canon City load, Turkey Creek PV output, and proposed transmission upgrades that may occur in the next five to 10 years. As injections increased beyond the 100 MW value, there were overloads on the Canon West 230/115 kV transformer, Canon City – Hogback 115 kV line, Hogback 115/69 kV transformer, Canon City – Skala 115 kV line, and Portland – Skala 115 kV line.

Reader 115kV Substation: The analysis indicated that the Reader 115 kV substation could allow for 200 MW of injection. However, this analysis hinges on assumptions that generation retirements and additions in the Comanche area were captured and modeled correctly. Additionally, this injection limit can be impacted by the amount of generation that is entering the system from the Peakview and Rattlesnake wind farms south of the Pueblo system. As generation in the area increases, the risk of overloads in the area will increase following the loss of the Comanche – Daniels Park 345 kV double circuits. In this analysis, the Tundra 345 kV generation was included and flow through the Pueblo 115 kV system was at its peak during the Comanche – Daniels Park 345 kV & Daniels Park – Tundra 345 kV outage. This occurred because losing the 345 kV backbone from Comanche to Denver area load caused the generation to flow through the underlying 230 and 115 kV systems.

West Station 115kV Substation: The last injection point that was included in the analysis was the West Station 115kV Substation. The results indicated that the BHCE transmission system could accommodate a 200 MW injection at this location. In previous study work, high injections at the West Station substation caused issues on the Fountain Valley – Midway 115 kV line. A project to rebuild this line and address limiting substation equipment has increased the rating on the line when compared to previous years' studies.

Designate Energy Resource Zones

On November 24, 2008, Public Service filed with the Commission an information report that identified its five ERZs within Colorado. Four of the ERZs identified by PSCo are located in close geographical proximity to the Black Hills system, specifically ERZs 2, 3, 4 and 5. In the 2011 SB07-100 study report, Black Hills identified two ERZs (ERZ-1 and

ERZ-2), both of which were located within the PSCo defined ERZ-5. In order to avoid confusion, Black Hills has adopted the five PSCo defined ERZs within Colorado.

Develop plans for the construction or expansion of transmission facilities necessary to deliver electric power consistent with the timing of the development of beneficial energy resources located in or near such zones.

Black Hills identified the impacts of the various resource scenarios on the Black Hills transmission system and identified projects that ensure reliable delivery of beneficial energy resources from the designated ERZ-5 to customer loads.

Consider how transmission can be provided to encourage local ownership of renewable facilities, whether through renewable energy cooperatives as provided in Colo. Rev. Stat. § 7-56-210, or otherwise.

The identified new transmission projects will facilitate renewable resource development in ERZ-5 in excess of Black Hills' forecasted resource needs. The studied resource injections are in relatively close proximity to Black Hills' customers and would be facilitated by a direct physical connection to the Black Hills electric system.

Submit proposed plans, designations, and applications for Certificates of Public Convenience and Necessity to the Commission for simultaneous review.

Black Hills believes that the 115 kV transmission projects it has identified to facilitate the reliable delivery of beneficial energy resources to customer load are "in the ordinary course of its business" and do not require CPCNs, pursuant to Colo. Rev. Stat. §§ 40-2-126(3) and 40-5-101. The resource injection amounts identified in this report are indicative of potential system performance under the evaluated scenarios, but should not be construed to reflect firm system capability. In-depth analysis and coordination is required to establish a more comprehensive projection of potential system performance following implementation of the identified system upgrades.