Advice Letter No. 834
Black Hills Colorado Electric, LLC d/b/a Black Hills Energy
Appendix D – TCA Rider Recovery Projects

New Planned TCA Projects Pursuant to Decision C21-0814 in Proceeding No. 21AL-0516E, and Decision C22-0438 in Proceeding No. 22M-0005E

1. **Overhead Transmission Reliability Blanket:** This project reserves spending money for completing unplanned and emergency work throughout Black Hills' service territory in Colorado. As such, work is ongoing and there is no end date projected. This spending reserve is for 115 kV projects and are of varying lengths due to the unknown timing and location of when the work will be needed. Wired and non-wired alternatives are not considered for this work as this work is considered emergency restoration. Alternatives are considered in planning studies when looking at areas that have become problematic with multiple outages. Forecasted spend for 2022 is $393, 373.

2. **Transmission Substation Blanket:** This project reserves spending money for completing planned and unplanned work in transmission substations. As such, work is ongoing and there is no end date projected. Work includes switch, breaker and battery replacements and is necessary to maintain a safe and reliable system. This spending reserve is for 115 kV projects of various MVA ratings throughout Black Hills' Colorado service territory. Wired and non-wired alternatives are not applicable in this situation as there are no alternatives to substation equipment for maintaining required reliability. Alternatives are considered when the entire substation reaches end of life and is being evaluated for replacement. Forecasted spend for 2022 is $409, 665.

3. **COE Substation Rekeying Project:** This project includes 25 transmission substations throughout Black Hills' Colorado system and is part of a NERC requirement to replace existing locks with high impact, cut resistant locks. This project will provide the required enhanced security at substations. Wired and non-wired alternatives were not considered for this project as they cannot replace a physical key. Forecasted spend for 2022 is $172,227, and the project is projected to be in-service in Q1 of 2023.

4. **COE Transmission Pole Treatments:** This is a project to provide required treatments to extend the life of transmission poles currently in place. Pole treatments are conducted in tandem with the pole inspection cycle; planned on a 10-year cycle. If a pole passes inspection it is treated. This blanket project provides for spending money to cover the treatment of 115 kV transmission poles throughout all of Black Hill's Colorado service territory. Wired and non-wired alternatives are not considered for this project as they are not applicable to the work being performed. Treating poles is an industry accepted method for extending the life of poles. Alternatives will be considered when a span of poles reaches end of life and a project is being reviewed to rebuild that section of line. Forecasted spend for 2022 is $60,419. This is an ongoing project with no end date projected.

5. **COE LiDAR Remediation:** This is a project to cover the required maintenance of all 115 kV transmission lines throughout all of Black Hill's Colorado service territory. The purpose of this project is to "fly" the lines and return data. The data returned in a LiDAR survey across the 115kV system includes clearance issues, new hazards, etc. LiDAR surveys are targeted on a 5-year cycle. The results of this work drive future projects. Wired and non-wired alternatives are

not considered for this project as they do not provide a solution to required line maintenance and is considered part of normal maintenance for a line. Forecasted spend for 2022 is $430, 119. This is an ongoing project with no end date projected.

6. **NERC DMR Equipment:** This is a project to update protection equipment inside substations. This disturbance monitoring equipment is a requirement of NERC Standard PRC-002. Equipment will be installed at Baculite Mesa, West Station, Reader and Hyde Park substations. Wired and non-wired alternatives are not considered for this project. There is no alternative to the NERC required equipment. Forecasted spend for 2022 is $95,000. This project entered service in June 2022.

7. **Canon Plant 115/13.8 kV Transformer #2:** This project will add an additional 50 MVA distribution transformer to the existing Canon Plant substation. This project is a reliability driven project to meet the needs to current and long-term load growth. To meet the planned in-service date of 2026, a transformer will need to be ordered in early 2023. Non wires alternatives were considered as a solution to support load in an outage situation but were not chosen due to cost and ability to support long term load growth. Forecasted spend for 2022 is $1.2 million with an overall cost of $3.9 million.

8. **DOT Tap – DOT 115 kV Rebuild:** This project is a reliability driven project to replace ageing infrastructure. This 12-mile line NE of Pueblo was built in 1972 and is a long radial line feeding the chemical depot. Non-wired alternatives were considered but are not an applicable solution to replace to replace a radial feed. Wired alternatives, such as carbon core conductor, are being considered by the line design group in the design phase and will be chosen if they are the more cost-effective solution. Forecasted spend for 2022 is $150, 000 to start engineering. The overall project cost is estimated at $6 million by in-service in 2025.

9. **Pueblo Plant Distribution Substation Rebuild:** This project is driven by safety and reliability. The current substation has reached its capacity for load growth in the area and has become a reliability concern. Additionally, much of the equipment is obsolete and cannot be replaced when it fails. Any maintenance work in the substation requires an entire substation outage to complete to meet clearance requirements. This substation will be rebuilt with two 50 MVA 115/13.8 kV distribution transformers to support the reliability and load growth needs of the area. Non wires alternatives were considered but deemed not applicable as they do not provide a cost effective or reliable solution to a full substation replacement. The overall project cost is $7.6 million with a forecasted spend of $1.8 million in 2023 with an in-service date in 2024.