

**MONTANA-DAKOTA UTILITIES CO.
SOUTH DAKOTA PUBLIC UTILITIES COMMISSION
1ST SET OF DATA REQUESTS
ISSUED APRIL 4, 2019
DOCKET NO. EL19-009**

Question 2-4

Provide a description of any alternatives that MDU considered in regard to the two new projects.

Response:

The existing Bowdle Substation needed to be moved from its current location due to water inundation of the property. Because the substation needed to be moved, MDU could take advantage of the rebuild to improve the design of the substation and replace aged equipment. Transmission studies determined a need for improving the voltage stability and load serving capability of the 41.6 kV transmission system in South Dakota. These studies determined the need for a larger substation power transformer with a load tap changer (LTC). The alternative option to replacing the transformer with LTC involved rebuilding the existing lines to a higher operating voltage (69 kV) or rebuilding with much larger conductor.

The Leola Substation and the Ellendale to Leola 115 kV Line was identified in transmission planning studies as the least cost option for creating another source into our 41.6 kV transmission system in South Dakota. The alternative to this project is to rebuild the existing 41.6 kV lines to a higher operating voltage (69 kV) and converting all distribution substation taps to the higher voltage.

The option of rebuilding the existing transmission lines is much more expensive, 5 to 10 times as much.