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ARIZONA CORPORATION COMMISSION

ORIGINAL

April 14, 2021

Mr. Thomas K Chenal, Chairman
Arizona Power Plant and
Transmission Line Siting Committee
Assistant Arizona Attorney General
2005 North Central Avenue
Phoenix, Arizona 85004-1592

Arizona Corporation Commission

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AZ CORP COMMISSION
DOCKET CONTROL

RE: Golden Valley Transmission Line Project
Line Siting Application 188
Docket Control # L-00000F-21-0050-00188

Dear Chairman Chenal:

On March 19, 2021, utilities Division Staff (“Staff”) received your letter regarding UNS Electric, Inc.’s (“Applicant” or “UNSE”) Application for the issuance of a Certificate of Environmental Compatibility (“CEC”) for the Golden Valley 230-kilovolt (“kV”) Transmission Line Project (“Project”), to construct, operate and maintain a new 230 kV transmission line in Mohave County, Arizona.

This letter is Staff’s response addressing the question of whether the proposed project improves the reliability and/or safety of the operation of the grid and the delivery of power in Arizona.

PROJECT DESCRIPTION

On March 16, 2021, the Applicant filed an Application for the issuance of a CEC for its Golden Valley 230 kV Transmission Line Project. The project will consist of a new 230 kV transmission line of approximately 17 miles in length, located in Mohave County, near Kingman and Golden Valley, Arizona. All portions of the transmission line will be designed to accommodate double-circuit 230 kV transmission, however, portions will be constructed as either single-circuit 230 kV transmission, double-circuit 230 kV transmission, or double-circuit 230/69 kV transmission. There is an existing 69 kV line in the area where the project is planned to be located. In those areas where the structures are constructed as double-circuit 230/69 kV, the existing 69 kV line will be removed or topped to allow for existing distribution and/or communication facilities to remain in place.

The Applicant, along with the Bureau of Land Management (“BLM”), considered six alternatives for this project. Two of these routes are identified as the East Cerbat alternatives (E1 and E2), and the other four as the West Cerbat alternatives (W1, W2, W3 and W4). On the southern end of the proposed line, all six alternatives originate at either the existing Harris or McConnico substations, approximately three miles southwest of Kingman. To allow for the interconnection of the planned 230 kV transmission line, either interconnection point will require the expansion of the existing substation. UNSE has initiated conversations with the owner of the Harris Substation to purchase a portion of the land and interconnect into the existing substation. If those negotiations prove unsuccessful, the Applicant will interconnect into the existing McConnico Substation, owned by Western Area Power Administration (“WAPA”). On the northern end of the proposed transmission line, all six alternatives terminate south of Mineral Park Road, at the planned Mineral Park 230/69 kV Substation, approximately 10 miles northwest of Kingman. UNSE’s preferred route is the E1 East Cerbat Alternative, which aligns with BLM’s favored path.

The purpose of the Project is to improve system reliability by replacing aged equipment, and to provide a higher-voltage transmission system for the area, that will enable and enhance the Applicant’s ability to accommodate future electric service requests. The existing 69 kV transmission system, is not equipped to serve future energy demands in the northern area of UNSE’s service territory. New infrastructure is required to continue providing safe and reliable electric service in the area.

In 2018, Burns & McDonnell was retained by UNS Energy Corporation (“UNS Energy”) to perform a Saturated Load Study and Transmission Study for its subsidiary utility company, UNSE. The study included the following phases:

1. Available source data such as land use sets, provided by Mohave County, Kingman and Lake Havasu, geocoded billing data and substation data, provided by UNSE were used to create a grid map for the UNSE service territory. The Kilowatt (“kW”) per acre was then calculated by land use type in every grid.
2. Using the developed in the previous phase, future load requirements were forecasted as a function of land use and density. For those plans that did not provide an accurate picture of density or concentration of loads by zones, approximations were developed based on planning cases provided by UNSE in combination with available land use data. In addition, point loads such as mine loads or large urban development projects identified by the Applicant were included.
3. The loads identified in previous phases, were assigned to existing or planned substations, based on grid proximity to the substation, in order to identify potential transmission network options. Transmission upgrade options were considered based on the existing capability of the network and the need for additional capability to serve the forecasted loads. UNSE provided the 2018 Heavy Summer

power flow model and a contingency list file. An initial contingency analysis revealed low voltage at Willow Beach, Gold Strike and Boundary Cone 69 kV buses. These voltage violations were mitigated by adding the capacitor banks to the substations.

4. Two types of system upgrades were evaluated: one for the UNSE-planned projects in place, and the other with the required local overload mitigations, such as the reconductoring of the 69 kV line connecting North Kingman Tap to Pierce Ferry, via Golden Valley Tap, SoHi and Chloride, to accommodate the additional loads near that area.

Ultimately, the study concluded the planned 230 kV line connecting Harris and Mineral Park, was found to be necessary for reliability, and to support mine loads connected to the Mineral Park Substation. This line will bring the added capacity and reliability to the area North and West of Kingman. Currently, 69 kV lines serve the area. One of them, which is about 70 miles long, extending all the way to Hoover Dam, provides backup to the Kingman area in the event of a loss of feed from the south. The new 230 kV line will shorten this 69 kV line, and will assist in meeting energy demands in the Golden Valley area.

CONCLUSIONS AND RECOMMENDATIONS

Based on Staff's review of the Application, as well as the Applicant's response to a Staff issued data request, Staff believes that the proposed 230 kV Transmission Line Project could improve the reliability and the safety of the grid, and also the delivery of power in Arizona.

Staff recommends inclusions, as a condition to any CEC the Line Siting Committee may issue, of the standard cathodic study condition to evaluate the risk to any existing natural gas or hazardous liquid pipelines as follows:

When project facilities are located parallel to and within 100 feet of any existing natural gas or hazardous liquid pipeline, Applicant shall:

1. Ensure grounding and cathodic protection measurements are performed to show that the project's location, parallel to and within 100 feet of such pipeline, results in no material adverse impacts to the pipeline or to public safety, when both the pipeline and the project are in operation. The Applicant shall take appropriate steps to ensure that any material adverse impacts are mitigated. The Applicant shall provide Staff and file with Docket Control, a copy of the measurements performed and additional mitigation if any, that was implemented as part of its annual compliance-certification letter, and

2. Ensure that measurements are taken during an outage simulation of the project, that may be caused by the collocation of the project parallel to and within 100 feet of the existing natural gas or hazardous liquid pipeline. The measurements should either:
 - a. show that such simulated outage does not result in customer outages, or
 - b. include operating plans to minimize any resulting customer outages. The Applicant shall provide a copy of the measurement results to Staff and file with Docket Control as part of its annual compliance-certification letter.

If there are any questions, please contact me at (602) 542-6935, or Teresa Brown at (602) 542-0828.

Sincerely,



Elijah O. Abinah
Director
Utilities Division

On this 14th day of April, 2021, the foregoing document was filed with Docket Control as a Utilities Division Correspondance, and copies of the foregoing were mailed on behalf of the Utilities Division to the following who have not consented to email service. On this date or as soon as possible thereafter, the Commission's eDocket program will automatically email a link to the foregoing to the following who have consented to email service.

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By:



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