



City of Grand Island

Tuesday, April 28, 2009

Council Session

Item E4

**Public Hearing Concerning Acquisition of Utility Easements for
North Route Transmission Line Work**

Staff Contact: Gary R. Mader; Wes Nespor

Council Agenda Memo

From: Gary R. Mader, Utilities Director
Wesley Nesor, Asst. City Attorney/Purchasing

Meeting: April 28, 2009

Subject: Approval to Proceed with Transmission Line Easement Acquisitions – North Route Transmission Line Work

Item #'s: E-4 & G-7

Presenter(s): Gary R. Mader, Utilities Director

Background

The Electric Department has electric distribution substations connected at various distances along a 115 kV transmission loop. The loop generally runs along the outer edge of the urban area, providing power to the substations and providing power supply redundancy by use of the looped configuration. A map of the transmission system is attached for reference. Substations reduce voltage from the 115,000 volt level to 13,800 volts for distribution to individual customers across the City. Substations “E,” located north of Swift on the east side of the loop, and “F,” located north of Menards on the west side of the loop, are the newest substations. They were placed in initial service in 2001, and completed in 2007.

Power Generation and regional interconnections to NPPD are concentrated on the south and east side of the transmission system loop. The northern portion of the transmission loop has no interconnections. And while it can sustain a single line segment loss contingency, any additional failure could result in loss of several major substations, resulting in power loss to major portions of the City. With power plant and regional grid interconnections, the southern portion of the transmission loop has more redundancy.

Recognizing that the City is continuing to grow, that future transmission line construction will occur and that reliability improvement is always important, Substations “E” and “F” were constructed with provisions to accept additional 115 kV transmission interconnections. In the long range plan of the Electric Department, these substations are designed for new transmission interconnections as future load growth may require.

Advantage Engineering (AE) was contracted in 2006 to perform a Transmission and Substation System Study for the City of Grand Island Utilities Department (GIUD).

Various alternatives and solutions were analyzed for the logical and economic expansion of the GIUD's 115 kV transmission loop, power interconnections with Nebraska Public Power District (NPPD), substations, distribution, and communications. The system study period was ten (10) years (2006-2016) taking into account projected City expansion and load growth. When fully implemented, the major substation and transmission requirements should be satisfied through 2027.

The Transmission and Substation System Study was completed in 2007 and contained a detailed analysis of previous studies and reports; surrounding area power provider plans; State wide planned improvements; Contractual obligations; the City's comprehensive development plans; system capabilities and capacities; land use issues; and schedule related items. The study resulted in recommendations to expand the GIUD's transmission system to serve load growth and assure reliability. The results of the Transmission and Substation System Study were presented to the Grand Island City Council on January 8, 2008.

Discussion

One of the system improvements identified in the Transmission and Substation System Study was the need for providing a second 115 kV power supply to GIUD's Substation F. In the study it was recommended that a new 115 kV line be constructed to connect the open 115 kV transmission bay at GIUD's Substation F to the Nebraska Public Power District (NPPD) St. Libory Junction northwest of the City. The new 115 kV line would be approximately 7 miles in length and would require that GIUD select a route for the new line and obtain new transmission line easements necessary to construct the line. This new transmission line would improve the reliability of the entire GUID transmission system by providing an additional connection to the regional electric grid, to the north.

A comprehensive field study was conducted of the area between the existing GIUD Substation F and the NPPD St. Libory Junction Substation Site. As a result of the field analysis, five alternate routes were selected and evaluated for the project. The evaluation of each route included a technical evaluation, a land use evaluation, an environmental evaluation, and an economic evaluation. Alternate Route 5 was evaluated as the most effective and efficient route available.

A presentation was made during a Council Study Session on April 21, 2009 summarizing the findings of the route study.

Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Move to approve
2. Refer the issue to a Committee
3. Postpone the issue to a future date
4. Take no action on the issue

Recommendation

City Administration recommends that the Utilities Department and Advantage Engineering be authorized to proceed with the engineering and other services for this project according to the terms of the agreement entered into with Advantage Engineering. Additionally, City Administration recommends that the Utilities Department be authorized to proceed with all permitting and regulatory actions necessary for the project and to take the necessary steps to acquire the interests in real estate needed to complete the project.

Sample Motion

Move to authorize the Utilities Department and Advantage Engineering to take the necessary steps to complete the North Route Transmission Line project.

