

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

Application of Union Electric Company)
for permission and authority to)
construct, operate and maintain a 161) Case No. EA-91-56
kilo-volt (kv) transmission line in)
Camden County, Missouri.)

APPEARANCES: Steven R. Sullivan, Attorney at Law, Union Electric Company,
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HEARING

EXAMINER: Janet L. Sievert

REPORT AND ORDER

Procedural Schedule

Union Electric Company (UE) filed an application August 22, 1990, amended October 1, 1991, seeking authority to construct, operate and maintain a 161 kilovolt (kv) transmission line in Camden County, Missouri. All but 700 feet of the proposed transmission line route lies within UE's existing service area. The 700 feet of the route for which permission is sought by instant application is within the municipal limits of the City of Linn Creek (Linn Creek).

On October 5, 1990, the Commission issued an order and notice establishing an intervention deadline of November 5, 1990. Intervention was granted to Linn Creek. Pursuant to the procedural schedule, testimony was filed in this case and hearings held June 25-26, 1991. Briefs were filed pursuant to the briefing schedule.

Findings of Fact

Having considered all the competent and substantial evidence upon the whole record, the Missouri Public Service Commission makes the following findings of fact.

Union Electric Company is an investor-owned electric utility corporation and a public utility subject to the Commission's jurisdiction pursuant to Chapters 386 and 393, RSMo 1990, as amended. UE proposes to build a 161 kv transmission line in Camden County. All but 700 feet of the proposed line lies within UE's existing service area. The 700 feet of the route for which permission is sought, by the application, is within Linn Creek's municipal limits. Linn Creek opposes construction of the 161 kv transmission line on the basis that it will directly affect the health and well being of its residents and reduce the value of property and businesses in Linn Creek. Furthermore, Linn Creek asserts that the municipal franchise granted to UE does not cover the proposed project and on January 15, 1991, Linn Creek passed an ordinance prohibiting the construction or operation of a 161 kv transmission line within its city limits.

Necessity of Proposed Line

Pursuant to Section 393.170.1, RSMo 1990, the Commission has the authority to grant a certificate of convenience and necessity if it is necessary and convenient for public service. The evidence presented demonstrates that the need for the proposed line is two-fold: (1) to prevent overload of existing facilities, and (2) to provide reliability of service.

The proposed line is necessary to serve the growing demand for electricity south of the Grand Glaize Bridge at the Lake of the Ozarks. The 3-4% yearly growth in demand in that area has resulted in sub-transmission deficiencies south of the Grand Glaize Bridge. The proposed line is necessary

to prevent overloading UE's facilities beyond its emergency ratings. Such an overload will damage Union Electric's facilities requiring costly replacement and will also result in damage to customers' appliances and other electric facilities. Sufficient damage to company's facilities will result in loss of service to some of the customers south of the Grand Glaize Bridge including UE's customers in Linn Creek. As this load continues to grow, the number of customers who will lose service due to an overload outage will steadily increase.

Furthermore, the proposed line satisfies the reliability of service concern as to the customers south of the Grand Glaize Bridge. These customers are presently supplied by circuitry that exists at the Grand Glaize Bridge and extends approximately four miles south to near Route KK. This circuitry consists of single tower and single pole construction that carry two separate subtransmission feeder lines. As such, an outage in one tower or one pole along this quarter will put both feeder lines out of service. This will result, irrespective of whether such an outage occurs during peak conditions, in a loss of service to all 5,800 meter customers south of the Grand Glaize Bridge including UE's customers in Linn Creek. The outage will be expected to last anywhere from a number of minutes to a number of days until the tower or pole is replaced or repaired.

The addition of another supply line in this area is necessary to allow UE to serve the growing load south of the Grand Glaize Bridge and support UE's existing facilities. The proposed line will enhance the reliability of service to these customers and provide an additional source of electricity to the area that is served by the existing double line circuitry.

The Commission is of the opinion that the proposed line is necessary and convenient for the public service as it provides an alternative supply of

electricity to fulfill the growing demand for electricity in this area and provides an alternate source of electricity in case of an outage.

Route of Proposed Line

The proposed 3.2 mile route is designed to transverse primarily rugged hilly terrain that is heavily wooded except in the middle portion where the line crosses isolated homes on wooded lots and a small industrial area. UE's proposed line route is designed to be the most direct and least intrusive on the environment and landowners. The proposed line crosses Linn Creek for approximately 700 feet through an industrial park. No pole or tower will be located within the city limits as the line will cross the valley, within which Linn Creek lies, between towers located outside the city limits on high ground on each side of the valley. Homes within the city limits of Linn Creek are located 1/2 mile or more from the proposed line. Linn Creek opposes the placement of the line within its municipal limits based on the potential health hazard from electric and magnetic fields (EMF) generated by the transmission line to its residents and adverse effects on the behavior of livestock and breeding. EMF, in general, are phenomena associated with the flow of electric energy. Electric fields are associated with the voltage of a line while magnetic fields are associated with the current flow in a line. EMF surrounds all operating electrical devices including transmission lines, distribution lines and household appliances such as televisions, refrigerators and even light bulbs.

To resolve the EMF problem, Linn Creek proposes that UE build the transmission line outside the city limits approximately 1/2 mile south of UE's proposed route. Linn Creek asserts that the Commission should adopt the prudent avoidance theory, wherein absent quantitative evidence to the contrary safety concerns may dictate that high voltage facilities be located away from populated

areas. Additionally, Linn Creek criticizes UE for its failure to have written verification that alternative routes were considered and documentation why UE chose the proposed route over all other routes considered.

The Commission finds that the proposed route by UE should be permitted as it is designed to be the most direct and the least intrusive on property and landowners. The evidence demonstrates that Linn Creek's alternative route will transverse through the usable portions of several more wooded lots than does UE's proposed route and that an operating quarry's expansion in the direction of the alternative route could damage the line due to blasting and create an unsafe condition as to the line when the quarry's large equipment is operating.

The Commission also understands Linn Creek's concerns for EMF harm and its desire for the Commission to adopt the proposed prudent avoidance theory. However, the evidence presented demonstrated that there is no scientific basis for believing that EMF from power lines causes any adverse health effects. On the basis of the evidence, the Commission cannot conclude that electric and magnetic fields pose any known danger to human health or adverse effect on domestic animals' health or behavior. Neither can the Commission rightfully conclude that EMF emanations are harmless. The Commission appreciates Linn Creek's concerns, but it is also mindful of its responsibility to render decisions supported by the evidence. As indicated above, no scientific studies, expertise or other bodies of reliable evidence have been presented to this Commission which establish a positive link between EMF and negative health and biological effects. Barring the presentation of such evidence, the Commission cannot order UE to adopt preventative measures to combat a phenomena which, on the basis of the evidence presented may be relatively benign.

The Commission, however, agrees with Linn Creek's criticism of UE's lack of written verification of alternative routes considered for this line.

The Commission expects for a project of this magnitude that UE should have written verification that alternative routes were considered and why the proposed route was chosen over all others.

Conclusions of Law

The Missouri Public Service Commission has arrived at the following conclusions of law.

Union Electric Company is a public utility subject to the jurisdiction of the Commission pursuant to Chapters 386 and 393, RSMo 1990, as amended. The Commission has the authority pursuant to Chapter 393.170(1), RSMo 1990 to grant a certificate of convenience and necessity if it is necessary and convenient for the public service.

The Commission is of the opinion that UE should be granted authority to construct its proposed line as it is necessary and convenient for the public service and is designed to be the most direct and least intrusive route.

The Commission is satisfied that Union Electric has complied with Section 393.170(2), RSMo 1990 by having obtained a franchise from the City of Linn Creek. Therefore, the Commission determines that ordinance No. 90-072 - An Ordinance of the City of Linn Creek, Missouri, Governing 161 kv Transmission Lines does not invade the Commission's statutory authority to grant Union Electric a certificate of convenience and necessity. *In re: Union Electric Company v. City of Crestwood*, 499 SW2d 480 (Mo. 1973), *State ex rel. City of Kirkwood v. Public Service Commission*, 50 SW2d 114, 118 (Mo. 1932). However, the Commission determines that the legal question as to whether ordinance No. 90-072 supersedes the franchise is a question for the courts.

IT IS THEREFORE ORDERED:

1. That Union Electric Company be, and is, hereby granted a certificate of convenience and necessity to construct, operate and maintain 700 feet of the 161 kv transmission line to be built in the City of Linn Creek.

2. That Union Electric Company should file a metes and bounds description for the 700 feet of transmission line to be built in the City of Linn Creek within thirty (30) days of the effective date of this Report and Order.

3. That nothing in this order shall be considered as a finding by the Commission of the reasonableness of the expenditures herein involved, nor of the value for ratemaking purposes of the properties herein included nor as an acquiescence in the value placed on said properties by Union Electric Company. Furthermore, the Commission reserves the right to consider the ratemaking treatment to be afforded the facilities constructed pursuant to the certificate of convenience and necessity granted herein and its resulting cost of capital in any later proceeding.

4. That this order shall become effective on December 24, 1991.

BY THE COMMISSION

Brent Stewart

Brent Stewart
Executive Secretary

(S E A L)

Mueller, Rauch and McClure, CC.,
Concur and certify compliance
with the provisions of Section
536.080, RSMo 1986.
Steinmeier, Chm., and Perkins, C.,
Absent.

Dated at Jefferson City, Missouri
on this 13th day of December, 1991.

