IMPACTS OF THE CALLAWAY-BLAND TRANSMISSION LINE RIVER CROSSING ON BALD EAGLES AND WATERFOWL

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The purpose of this report is to identify the probable effects on bald eagles and waterfowl of Union Electric Company's proposed Callaway-Bland transmission line where it crosses the Missouri River.

The proposed route would cross the Missouri River valley east of the town of Chamois in a southearterly direction. The width of the river valley near this point is approximately 2.2 miles. The proposed line would cross the valley diagonally for a length of approximately 2.7 miles. The width of the Missouri River at the proposed crossing is approximately 0.3 miles (see ER(CPS) Figure 3.9-4, sheet 2, attached). Aerial photos taken in 1979 indicate that land use along the route within the river valley is devoted almost entirely to cropland. The only non-agricultural vegetation type along the route is a narrow strip (approximately 300 feet wide) of wooded habitat along each side of the Missouri River, and a narrow line of trees along Logan Creek and along an old stream course on the north side of Binggeli Island.

The 345-kv transmission line will be installed on double circuit galvanized towers similiar in design to the structure shown on ER(CPS) Figure 3.9-2 (attached).

Bald eagles are not known to breed in east central Missouri (Nordstrom et al. 1977) but some eagles that nest in northern states may overwinter in the area. Bald eagles have been observed during the winter in nearly all counties adjacent to the Missouri River and can be expected to occur occasionally in the winter near the proposed river crossing. The U.S. Fish and Wildlife Service began counducting midwinter eagle surveys in Missouri in 1978. During the 1978 and 1979 surveys 776 and 812 eagles were observed throughout Missouri. Many of these eagles were observed near large impoundments, waterfowl management areas or wildlife refuges. During the 1978 survey no bald eagles were observed along the Missouri River in east-central Missouri; 17 bald eagles were observed along the Missouri River between Jefferson City and St. Louis during the 1979 survey (Sojda, 1979). There are no known eagle roosting areas on the Missouri River near Chamois (Howard, 1979).

Although a variety of waterfowl species occur along the Missouri River bottomland, few waterfowl would be expected to nest along the route since the bottomlands are primarily active cropland. The site area lies within major north-south duck and goose migration corridors (Bellrose, 1976) and some waterfowl may stop to rest on the river near Chamois. Waterfowl would also be expected to follow the Missouri River during local east-west movements.

Collision with towers and lines is the primary source of potential impacts on eagles and waterfowl due to the transmission line river crossing. Electrocution, a common cause of mortality of bald eagles in the western states, occurs only if an eagle with a 6- to 8-foot wing span can make contact with any two phase conductors or one phase conductor and a ground wire (Nelson, 1975); this occurs most frequently on small single poles with single wooden cross arms. Electrocution would not be a hazard on this transmission line because of the wide spacing of the conductors.

Eagles have very keen eyesight and are active primarily during the daylight hours, and should therefore be able to avoid colliding with transmission lines. Collisions with structures have been know to occur (Snow, 1973a and 1974b). However, based on the few documented reports in the literature concerning eagle mortality at man-made structures (Avery et al., 1978) and the data reported by Snow (1973a and 1973b), it is expected that eagle collisions with transmission lines and towers are a minor factor in overall mortality and have little influence on population numbers.

The transmission line and towers are also a potential collision hazard to waterfowl and other bird species. Anderson (1978) reported that 0.2 to 0.4 percent of the waterfowl at a study site in central Illinois, were killed each fall by colliding with high voltage transmission lines that crossed a water body. Stout and Cornwell (1976) conducted a survey of nonhunting mortalities of fledged waterfowl throughout North America and concluded that 0.07 percent of two million reported mortalities was due to collisions with telephone and power lines. Factors that increase the frequency of collisions are large concentrations of waterfowl, adverse weather conditions and poor visibility, disturbance of flocks resting near the lines, and the presence of good waterfowl habitat beneath or adjacent to the line.

The overall importance of waterfowl mortality from collisions with transmission lines is probably minimal (Stout and Cornwell, 1976). Therefore, the potential impact on waterfowl from a single transmission line such as the proposed Callaway-Bland Transmission Line where it would cross the Missouri River valley is minor. The lack of attractive habitat near the line and the fact that the largest numbers of waterfowl near the site occur during migration at altitudes much higher than the proposed transmission line and towers also decrease the frequency of collisions.

References

Anderson, W. L., 1978. Waterfowl collisions with power lines at a coal-fired power plant. Wildlife Society Bulletin Vol. 6, No. 2, pp. 72-83.

Avery, M. L., P. F. Springer and N. S. Dailey, 1978. Avian mortality at man-made structures: an annotated bibliography. U.S. Fish and Wildlife Service FWS/OBS-78/58. U.S. Government Printing Office, Washington, D.C. 106 pp.

Bellrose, F. C., 1976. Ducks, geese and swans of North America. Stockpole Brooks, Harrisburg, Pennsylvania 544 pp.

Howard, G., 1979. Conservation Agent, Missouri Department of Conservation. Linn, Missouri. Personal communication (September 26).

Nelson, M., 1975. Power lines and birds of prey. Aware Magazine 52:9-12.

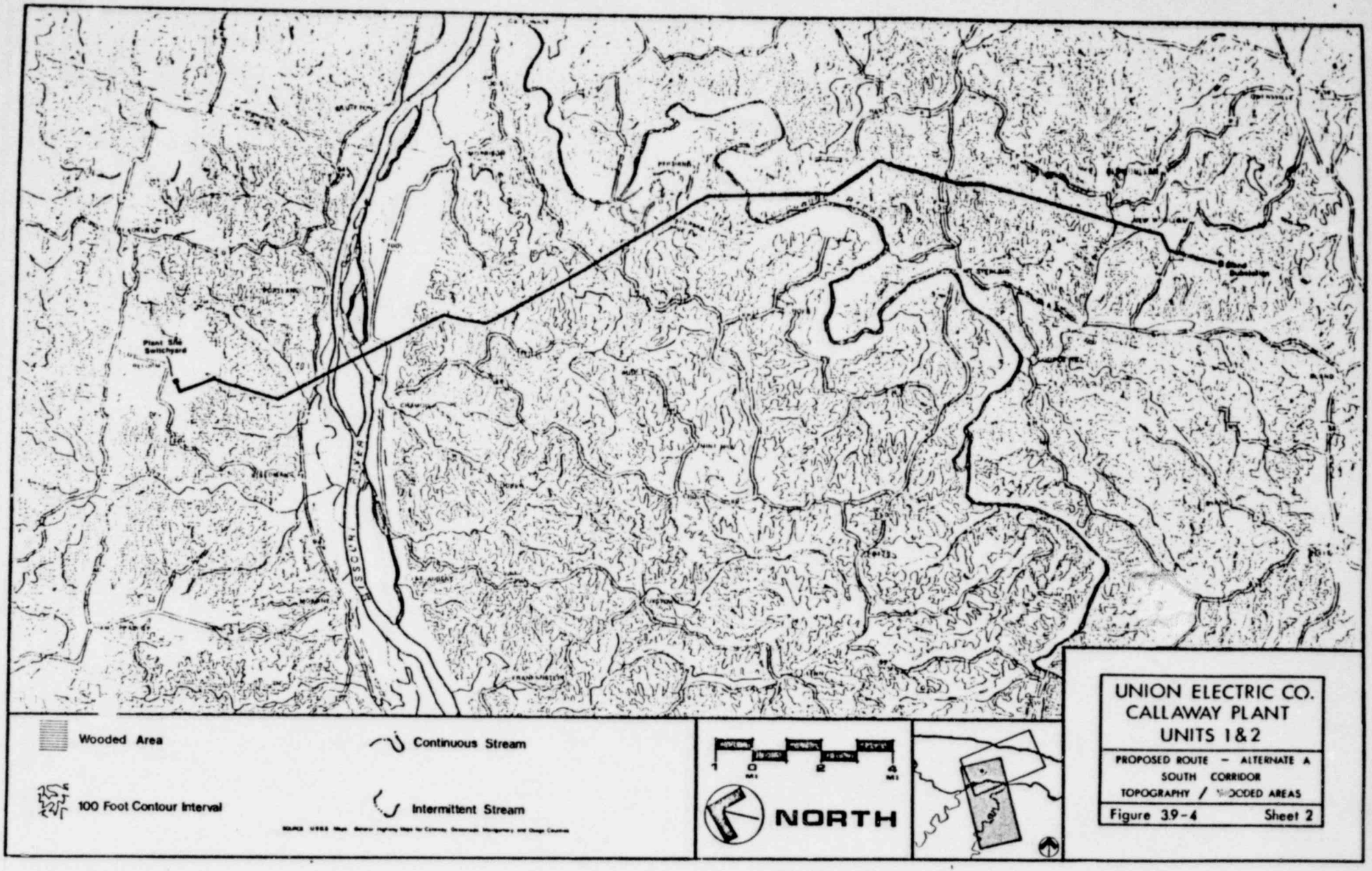
Nordstrom, G. R., W. L. Pflieger, K. C. Sadler, and W. H. Lewis , 1977. Rare and endangered species of Missouri. Missouri Department of Conservation and Soil Conservation Service. 129 pp.

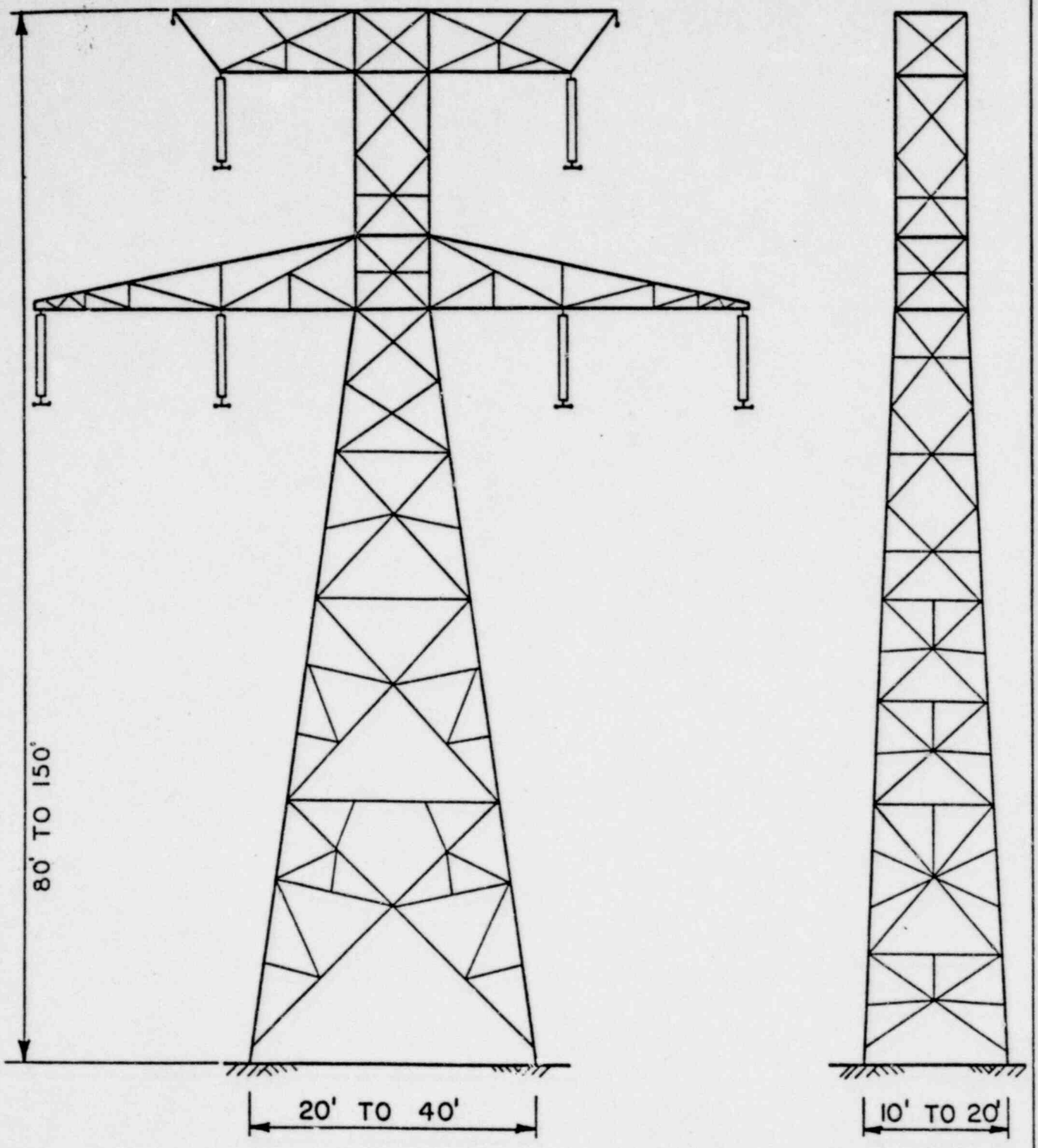
Snow, C., 1973a. Habitat management series for unique or endangered species, report number 7: Golden Eagle. Bureau of Land Management Technical Note T-N-239. 52 pp.

Snow, C., 1973b. Habitat management series for endangered species, report number 5: Southern Bald Eagle and Northern Bald Eagle. Bureau of Land Management Technical Note T-N-171. 58 pp.

Sojda, R., Jr., 1979. Staff Biologist, U.S. Fish and Wildlife Service, North Kansas City, Missouri. Written communication (April 3).

Stout, I. J., and G. W. Cornwell, 1976. Nonhunting mortality of fledged North American waterfowl. Journal of Wildlife Management 40(4):681-693.





UNION ELECTRIC CO.
CALLAWAY PLANT
UNITS 1&2

TYPICAL 345 - kv
TRANSMISSION LINE
STRUCTURE

Figure 3.9-2