GILPIN GROUP
Environmental Consulting and Planning

EAST KENTUCKY POWER COOPERATIVE

(Kentucky 59 Fayette)

ENVIRONMENTAL REPORT FOR THE PROPOSED SMITH TO SIDEVIEW (North Clark) ELECTRIC TRANSMISSION PROJECT

May 2006

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1.0 INTRODUCTION

East Kentucky Power Cooperative (EKPC) of Winchester, Kentucky is a non-profit electric generation and transmission cooperative headquartered in Winchester, Kentucky that provides electric power to 16 locally based electric distribution cooperatives. The distribution cooperatives distribute power to over 489,000 electric consumers in 89 counties located across the central and eastern portions of Kentucky. EKPC has requested financing from the U.S. Department of Agriculture (USDA), Rural Utility Service (RUS) to construct and maintain an electric transmission line and associated facilities in northeastern, central, and southeastern Clark County, Kentucky. RUS must complete an environmental analysis and prepare an Environmental Assessment (EA) in accordance with its *Environmental Policy and Procedures for Implementing the National Environmental Policy Act* (7 CFR Part 1794), prior to approving the financing assistance for the proposed project.

GILPIN GROUP - Environmental Consulting & Planning of Wellsville, New York was contracted by EKPC to conduct an environmental investigation and analysis, and prepare a report that can be adopted by the RUS as an EA to meet RUS's environmental regulations for complying with the *National Environmental Policy Act of 1969*. The EA will serve as a detailed written record of the environmental analysis completed for the proposed project and will be used to determine whether preparation of an Environmental Impact Statement is necessary. The EA incorporates a detailed description of the proposed project, and copies of portions of USGS topographic maps locating the project, along with a discussion of the need and alternatives considered for the proposed action. A discussion of the affected environment within the project area, the environmental impact of the proposed action, and the mitigation of potential environmental impacts is also included.

2.0 PROPOSED ACTION & FEDERAL DECISION TO BE MADE

EKPC has requested financing assistance from RUS for the proposed construction of an electric transmission line and related facilities in Clark County, Kentucky. The proposed federal action related to EKPC's proposed electric project would be RUS's granting of financing assistance for the construction of the proposed facilities. RUS's decision to be made based on the environmental analysis outlined in the EA would be whether to implement the proposed action and grant the financing assistance for the construction of the proposed electric facilities.

3.0 PROJECT DESCRIPTION

3.1 TRANSMISSION LINE

The proposed Smith to Sideview Electric Transmission Line would be designed for double circuit 345/138 kilovolt (kV) operation and would be approximately 18.68 miles in length. The new transmission line would be supported by approximately 114 double circuit structures consisting of two and three pole Corten steel that would have an average height of 100 feet aboveground (See TRANSMISSION SUPPORT STRUCTURE DIAGRAMS, Appendix B). The proposed new transmission line would require a 150-foot wide right-of-way (ROW) and the average span between support structures would be 750 feet. The majority of the proposed new transmission line would be constructed to double circuit specifications, however, roughly 1.3 miles of the proposed line would be constructed as single circuit 345 kV. Fiber optic cable would also be installed on the proposed transmission for remote substation communication.

Construction of the new line would involve rebuilding 15.9 miles of existing single circuit 69 kV transmission line supported by double H-frame and triple wood pole structures on existing 100-foot wide ROWs along two separate sections of the proposed route. The existing lines within these two sections would be dismantled and replaced by the proposed new transmission line. The proposed new line would utilize the existing 100-foot wide ROW within these two sections and would require acquisition of an additional 50 feet of ROW width. The ROW for the proposed transmission line would encompass approximately 339.6 acres of land, of which 192.7 acres would utilize existing ROWs. The total estimated cost of constructing the proposed new transmission line would be $20,000,000.

3.2 NORTH CLARK COUNTY SUBSTATION

EKPC is proposing the construction of a new electric substation in connection with the proposed transmission line on the northern end of the proposed transmission line route. This proposed new substation would be constructed for 345 kV operation and its estimated cost of the construction would be approximately $3,900,000. EKPC is proposing to purchase a maximum of 30 acres of land for the proposed new substation, less than 20 acres of which would be affected by the proposed construction activity. The area occupied by the proposed new substation would be approximately 18 acres, which would be covered with crushed stone to a depth of approximately six inches. The electrical equipment associated with the new facility would be placed on concrete pads approximately two feet in thickness and would be surrounded by a gated seven-foot high security chain linked fence topped with three strings of barbed wire one foot in height. The electric transformers located inside the fenced boundary would contain non-PCB insulation and cooling fluid. A containment area would be installed under the transformers that would have sufficient capacity to hold the insulation/cooling fluid

in the event of a leak or spill. The type of containment that would be installed has yet to be designed. Remote communication with the proposed new substation would be by way of a fiber optic cable installed on the proposed new transmission.

Access to the proposed substation site to allow the construction and maintenance of the new facility would be by way of a permanent entrance drive from Donaldson Road with a maximum length of 2,000 feet. This entrance drive would have a width of approximately 16 feet and would be covered with crushed stone to allow the ingress and egress of construction and maintenance vehicles. For more detailed information regarding the proposed station access road, refer to Section *3.5 CONSTRUCTION & MAINTENANCE PROCEDURES,* in this document.

3.3 JK SMITH 345 CT YARD SUBSTATION

EKPC is proposing the construction of a new electric substation as part of the proposed electric transmission project for 345 kV operation on the southern end of the proposed transmission line route. The proposed new substation would be located adjacent to one of EKPC's existing substations on industrial land associated with its existing J.K. Smith Electric Generating Station. The proposed site for the new substation has been previously graded in association with other construction activities associated with the generating station. The proposed new substation would occupy a maximum of 18 acres of land, which would be covered with crushed stone to a depth of approximately six inches. The electrical equipment would be placed on concrete pads and would be enclosed with a gated seven-foot high chain linked security fence topped with three strings of barbed wire one foot in height. The electric transformers located inside the fenced boundary would contain non-PCB insulation and cooling fluid. A containment area would be installed under the transformers that would have

sufficient capacity to hold the insulation/cooling fluid in the event of a leak or spill. The type of containment that would be installed has yet to be designed. Access for the construction and maintenance of the substation would be accomplished by existing entrance drives located in the area. Remote communication with the proposed new substation would be by way of a fiber optic cable installed on the proposed new transmission line.

3.4 PROJECT LOCATION

The proposed project area is located in northeastern, central, and southeastern Clark County, Kentucky (See *PROJECT AREA LOCATION MAP*, Page 6). The proposed route for the new electric transmission line extends westerly on new and existing electric utility line ROWs from the proposed new JK Smith 345 CT Yard Substation (See Section *3.3* above) located at EKPC's existing Smith Electric Generating Station, east of the unincorporated community of Bloomingdale in southeastern Clark County. Just east of Muddy Creek Road the proposed route turns northerly following new and mostly existing utility line ROWs to the proposed new North Clark County Substation (See Section *3.2* above) located in northeastern Clark County near the Bourbon County/Clark County/Montgomery County Line, north of Donaldson Road (See *PROJECT REFERENCE MAPS*, Appendix A).

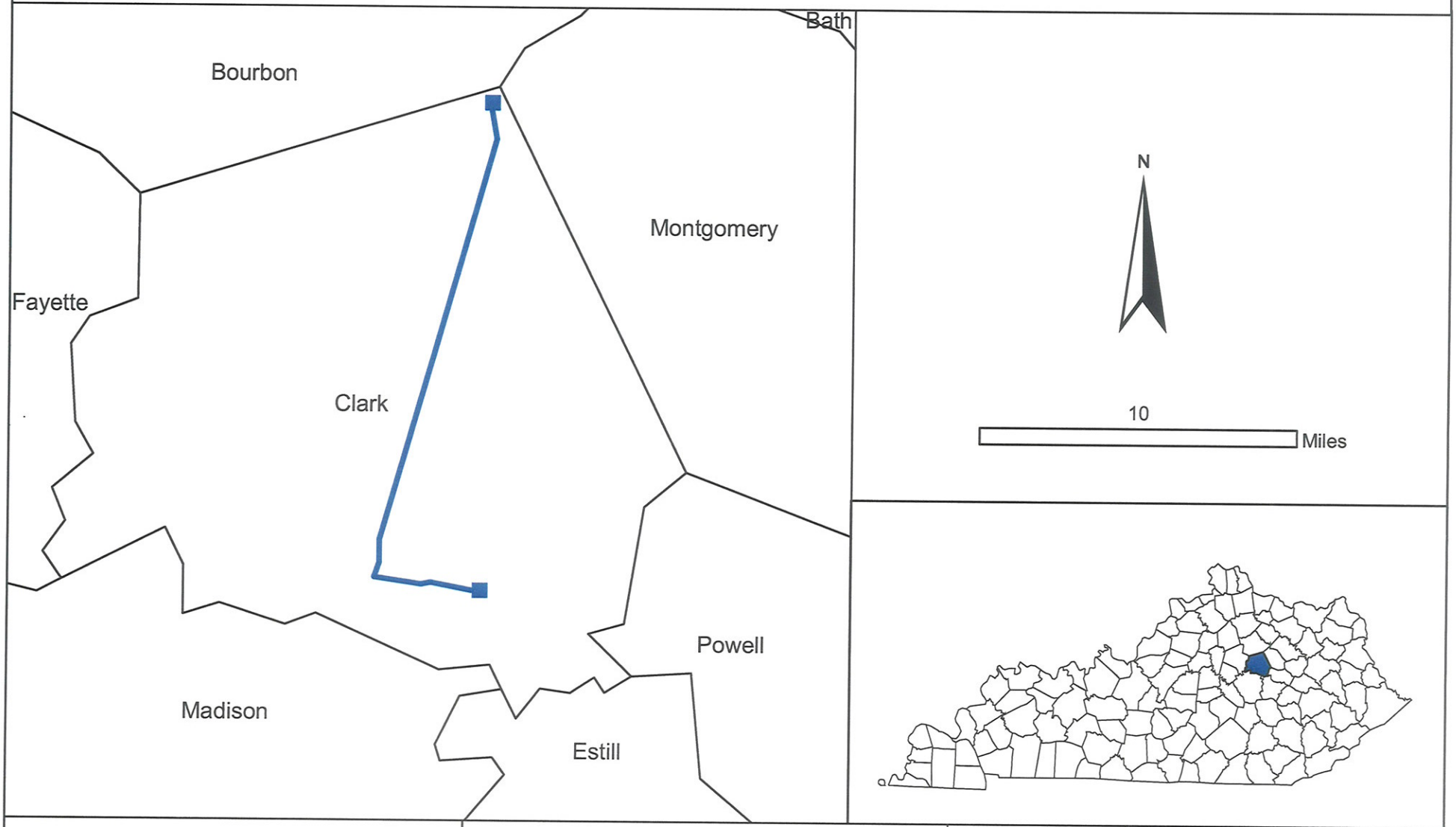
3.5 CONSTRUCTION & MAINTENANCE PROCEDURES

3.5.1 Transmission Line

Construction

The construction of the proposed electric transmission line is tentatively scheduled to begin in the summer of 2006 and the estimated duration of construction would be 10 months. EKPC has determined that clearing would be required on approximately 17 percent of the proposed route for the new electric line. During the clearing of the proposed route, brush,

PROJECT AREA LOCATION MAP



Proposed Substation Sites

Proposed Transmission Line Route

Smith - Sideview
Proposed 345/69 kV Double Circuit
Transmission Line and Substation
Clark County, KY
Project No. 21460

EAST KENTUCKY POWER COOPERATIVE
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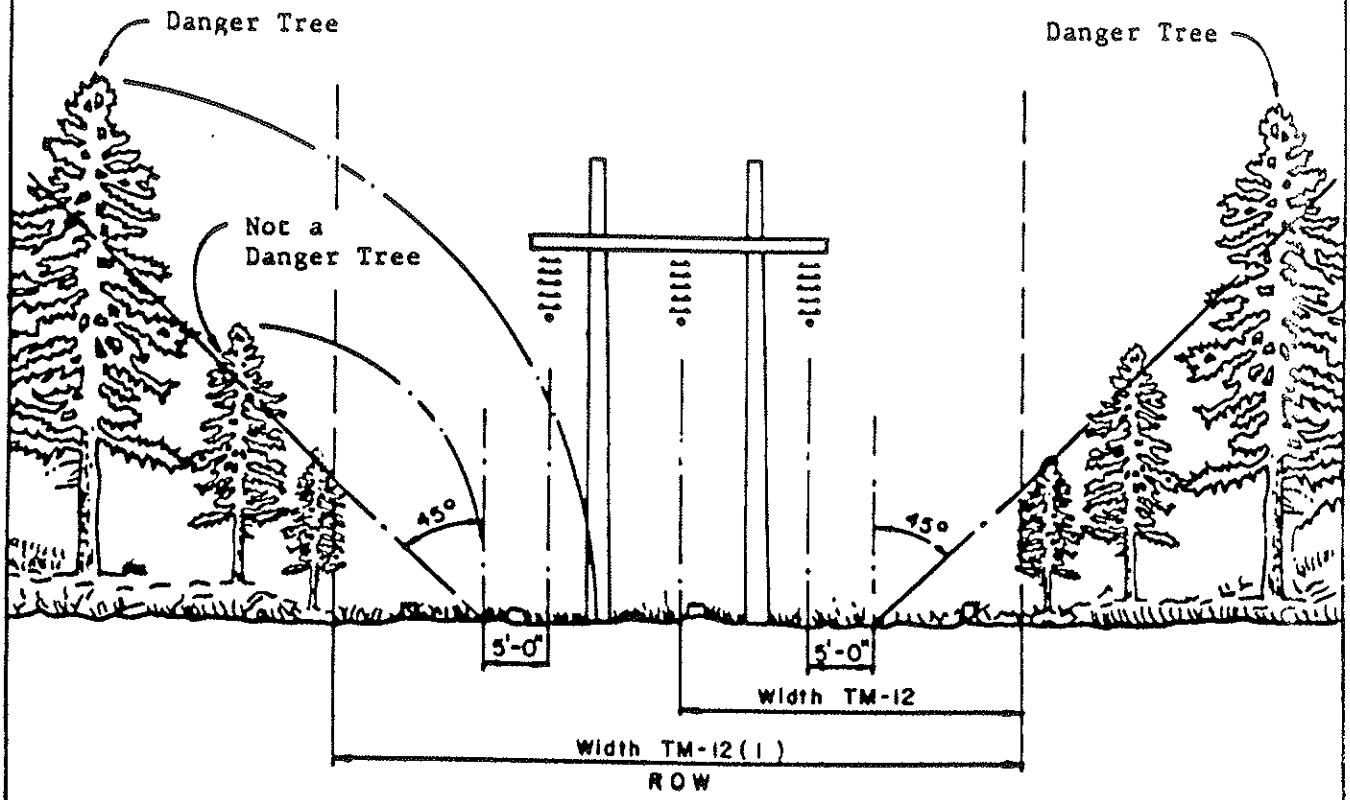
trees, and old stumps within the designated ROW would be cut to a maximum height of four inches aboveground using chainsaws, bulldozers and/or excavators. Merchantable trees cut from the proposed ROW may be cut into commercial lengths and piled along the ROW for the landowner to utilize or sell. Trees may also be disposed of, left where they fall, windrowed, chipped or scattered depending on the requests of the landowners. Dead or living trees outside the transmission line ROW that could fall within five feet of a point underneath the outside conductor (hazard tree) would be cut to protect the line from electrical outages caused by falling trees and branches during high wind and storm events (See *Right-Of-Way Clearing Guide,* p. 8). Individual trees located within sections of the proposed ROW that are not cleared may also be cut if they threaten to come into contact with the electrical conductors. The holes for the transmission line support structures would be mechanically augered and the poles placed using a digger/derrick truck. The diameter of the augered holes would be four to six feet in width and the holes for the poles would be backfilled with a dense grade material. The dirt taken from the hole would be disposed of or spread around the structure. The electrical conductor would be strung using a pulley system along with a truck mounted conductor spool and tensioner, or a helicopter. Appropriate soil erosion and sedimentation control procedures, such as seeding and mulching, and/or the utilization of berms, staked straw bales and silt fences, would be implemented during and after the construction of the proposed transmission line in areas denuded of vegetation.

Access to and from the transmission line ROW during construction and maintenance procedures would be from public and private roads in the project area. Prior to the use of any private roads, permission would be obtained from the property owner either by EKPC or its



NOTES:

1. Engineer will designate all danger trees which shall be removed or topped at option of contractor. In approximately level terrain, trees which would reach within 5 feet of a point underneath the outside conductor in falling are examples of danger trees.

2. As directed by the engineer, portions of the right-of-way (ROW) must be cut so that stumps will not prevent the passage of tractor and trucks along the ROW.

3. The unit for clearing one-half of the ROW is "WIDTH TM-12."

4. The unit for clearing the full ROW is "WIDTH TM-12(1)."

5. The unit for clearing danger trees is "TM-13."

TRANSMISSION ROW CLEARING			
RIGHT-OF-WAY CLEARING GUIDE			
NO.	REVISION	Aug., 1986	TM-12,-12(1),-13

agent. Construction of access roads to reach transmission support structures locations would be limited to the proposed ROW and off-road travel along the proposed transmission line route would be limited to the ROW, to the maximum extent practicable. The access roads would be 12 feet in width and would be constructed with the assistance of heavy equipment, such as a bulldozer and/or skidder. Erosion would be controlled along the new access roads by applying seed, lime, fertilizer and mulch to exposed soil areas. Water bars and dips would also be installed in the roads along with silt fences and staked straw bales to aid in preventing erosion. Gravel or crushed stone would be applied to road surfaces, as needed, to prevent rutting. Once construction of the proposed transmission line is completed, the new access roads would either be left open, or closed to the public by means of earthen berms or keyed gates placed at the entrance of the roads, according to the direction of the landowners involved.

Maintenance

Once constructed, the proposed transmission line would be aerially inspected three times a year and would be ground inspected once every four years by walking the ROW. The minimum electrical clearances maintained from the transmission line conductors to the ground underneath the conductors would be 25 feet. As previously described, during the establishment of the proposed ROW all brush and woody-stemmed vegetation would be cut to a maximum height of four inches aboveground. Upon completion of the ROW clearing and construction activities, the vegetation within the ROW would be permitted to grow for one to two years and subsequently treated with a herbicide approved for such use by the U.S. Environmental Protection Agency (EPA). The herbicides would be applied according to label directions by licensed applicators. This initial herbicide treatment would be performed using

a foliar application method during the months of May through October. The foliar method of application utilizes herbicide spray that is applied directly onto the leaves of non-desirable vegetation during the growing season when the plants are in full leaf.

Following the initial herbicide treatment the woody-stemmed vegetation occurring within the ROW would be treated with an EPA approved herbicide every three to four years, depending on the rate of vegetation growth. Vegetation may also be cut in order to bring it back to the size where it can be effectively treated with herbicides should an area be missed during the maintenance cycle or should excessive vegetation growth take place between the maintenance cycles. Dead or living trees outside the transmission line ROW that could fall within five feet of a point underneath the outside conductor (hazard tree) would also be cut to protect the line from electrical outages caused by falling trees and branches during high wind and storm events.

3.5.2 Substations

During the construction of the proposed new North Clark County Substation all timber, brush and debris would be cut from the site and sold or disposed of. The site would be graded approximately level with a slight one to two percent slope for drainage and would be covered with crushed stone to a nominal thickness of six inches. All electrical equipment associated with the substation would be placed on concrete pads and would be enclosed by a chain-linked security fence. Access to the substation would be provided by an entrance drive from Donaldson Road. The entrance drive would be covered with crushed stone or gravel to a depth of six inches, and would be approximately 2,000 feet in length with a maximum width of 16 feet. The entrance drive would be permanent to allow for maintenance of the new facility and the drive would be gated to deny public access.

The proposed site for the new JK Smith 345 CT Yard Substation has been previously graded in association with other construction activity at the generating station and the existing entrance drive extending from State Route 89 at the generating station would be utilized to access the site (See *Section 3.3*). Other than these two exceptions, the proposed site for this new substation would be prepared in a manner similar to the North Clark County Substation discussed above.

EKPC would be preparing *Spill Prevention Containment & Countermeasures Plans* for both proposed substations that would include some type of containment installed under the transformers that would have sufficient capacity to hold the insulation/cooling fluid in the event of a leak or spill. The type of containment that would be installed has yet to be designed. EKPC would also be implementing *Best Management Practices* (BMPs) at both sites that would include, as necessary, the utilization of berms, staked straw bales and silt fences to aid in controlling erosion and sedimentation. Required land clearing activities also would not be initiated until absolutely necessary and all disturbed areas would be stabilized and revegetated, as soon as practicable, once construction is complete to reduce the amount of time bare soils are exposed to wind and water erosion.

Once the substation construction is completed and the facilities become operational, the substations would be inspected and maintained at intervals of once every one to two months. These inspections and maintenance procedures would normally involve the ingress and egress to the substations of a small truck carrying one to two persons.

4.0 PUBLIC INVOLVEMENT

Public involvement was integrated into the proposed project through a number of processes including newspaper notices, mailings, and a public meeting. The public meeting took the form of an open house that was held on November 10, 2005 at the Clark County Cooperative Extension Office in Winchester, Kentucky. The purpose of the open house were to give the members of the public living in the vicinity of the proposed project area the opportunity to learn about the proposed electric transmission project and to discuss their concerns regarding the proposed project with EKPC staff. The public was invited to the open house through notices placed in the *Winchester Sun*, which were published on 10/31/05, 11/3/05, 11/5/05, and 11/7/05. The notices announced the proposed transmission project including a brief description and location of the project, as well as particulars regarding the open house. EKPC also conducted an October 28, 2005 mailing to 250 addresses composed of property owners in the proposed project area and public officials, inviting them to the open house. 93 individuals representing 98 parcels of land, and 3 public officials attended the open house. The majority of the types of verbal comments received from the public during the open house involved concerns regarding the following issues:

- access to property by construction and maintenance contractors, and possible damage to fences, fields, etc.;
- electromagnetic fields in relation to the proposed transmission line;
- relocation of existing transmission line support structures when rebuilding the existing line, such as moving structures to fence lines, moving structures further away from barns and outbuildings, etc.;
- property owners unfamiliar with, and asking questions about, the existing ROW easements; and
- property owners requesting notification prior to accessing their property.

No written comments were received as a result of the open house.