



EAST KENTUCKY POWER COOPERATIVE

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PUBLIC SERVICE
COMMISSION

December 8, 2005

Ms. Elizabeth O'Donnell
Executive Director
Commonwealth of Kentucky
Public Service Commission
211 Sower Boulevard
PO Box 615
Frankfort, KY 40602-0615

RE: Application for Certificate of Public Convenience and Necessity for the
Construction of a 138 kV Electric Transmission Line in Rowan County,
Kentucky. PSC Case No. 2005-00458

Dear Ms. O'Donnell:

Enclosed please find an original and six (6) copies of EKPC's Application for Certificate of Public Convenience and Necessity for the Construction of a 138 kV Electric Transmission Line in Rowan County, Kentucky. Please note that one Exhibit to a prepared testimony was of such length that it was impractical to make a copy to include with the response. As a result, we have copied the data files to CD/Rom and have included it as part of the Exhibit.

I hope this meets with the approval of the Commission. If not, please advise and we can furnish you with the necessary hard copies.

Very truly yours,

Sherman Goodpaster III
Senior Corporate Counsel

SG/ti

4775 Lexington Road 40391
P.O. Box 707, Winchester,
Kentucky 40392-0707

Tel. (859) 744-4812
Fax: (859) 744-6008
<http://www.ekpc.coop>

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DEC 08 2005

PUBLIC SERVICE
COMMISSION

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER)
COOPERATIVE, INC. FOR A CERTIFICATE OF) **CASE NO.**
PUBLIC CONVENIENCE AND NECESSITY FOR)
THE CONSTRUCTION OF A 138 KV ELECTRIC) **2005-00458**
TRANSMISSION LINE IN ROWAN COUNTY, KY)

APPLICATION OF EAST KENTUCKY POWER
COOPERATIVE, INC.
TO COMMISSION STAFF DATED DECEMBER 8, 2005

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER)
COOPERATIVE, INC. FOR A CERTIFICATE OF)
PUBLIC CONVENIENCE AND NECESSITY FOR) **CASE NO**
FOR THE CONSTRUCTION OF A 138 kV ELECTRIC) **2005-00458**
TRANSMISSION LINE IN ROWAN CO, KENTUCKY)

APPLICATION

1. East Kentucky Power Cooperative, Inc., hereinafter referred to as the "Applicant", Post Office Box 707, 4775 Lexington Road, Winchester, Kentucky 40392-0707, hereby files this Application for a Certificate of Public Convenience and Necessity ("CPCN") for the construction of a 138 kV Electric Transmission Line in Rowan County, Kentucky hereinafter referred to as "the Project".

2. This Application is made pursuant to KRS §§278.020, 278.040 and related statutes, 807 KAR 5:120 and 807 KAR 5:001 Sections 8, 9 and related sections.

3. A copy of Applicant's restated Articles of Incorporation and all amendments thereto were filed with the Public Service Commission (the "Commission") in PSC Case No. 90-197, the Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity to Construct Certain Steam Service Facilities in Mason County, Kentucky.

4. A copy of the EKPC Board Resolution approving the Project is attached hereto as Applicant's **Exhibit I**.

5. The Project consists of a new 138kV transmission line to be constructed from the existing Rowan County Substation located on KY 32 east of Morehead to the existing Cranston Substation located just off of KY 377 north of Morehead near Triplett, KY. The line will be 6.9 miles in length, of which 4.8 miles will cross the United States Forest Service, Daniel Boone National Forest. The line will be constructed on two pole, H-type, steel structures upon a 100' wide right-of-way.

6. The Applicant, on April 21, 2005, filed its initial Application for a CPCN on this project in Case No. 2005-00089 and was denied such a CPCN by Order of the Commission dated August 19, 2005. However, the Commission at Page 4 of that Order, did find that based on undisputed evidence there was a need for additional transmission facilities in this area. As a result, as the Commission stated on page 9 of its Order, EKPC has established a need for this project, in the prior case, and the Applicant will not address this issue further in this Application except that, in order to comply with the Commission's Regulations, copies of the Prepared Testimony of Mary Jane Warner and Robert J. Rusch, which were included as part of the initial Application, are re-submitted and incorporated herein as **Exhibits II and III**.

7. Similarly, a copy of the Affidavit of Frank J. Oliva, which was included in the initial Application, is incorporated herein as **Exhibit IV** and contains an explanation of the Applicant's plans for financing the proposed line and a statement that the project will not induce a sufficient capital outlay to materially affect the financial condition of the Applicant.

8. The permits required for this project include a highway-crossing permit from the Kentucky Transportation Cabinet, Department of Highways, ("KDOT"), a permit

from the Kentucky Airport Zoning Commission ("KAZC"), and a Special Use Permit from the United States Forest Service ("USFS"). A copy of the KDOT permit was submitted in the initial application in Case No. 2005-00089 and reference is made to that submittal for an explanation of this permit. However, a copy of this permit is resubmitted as **Exhibits V**.

The KAZC permit filed with the Commission in Case No. 2005-00089 as Exhibit A to the Amendment to Application has since expired and a re-issue of this permit has been requested from the KAZC. A copy of this re-issued permit will be furnished to the Commission when it is received.

With respect to the Special Use Permit from the USFS, the USFS issued a Decision Notice and Finding of No Significant Impact on this project on February 4, 2005, which was upheld on appeal by the Regional Forester on May 13, 2005. However, the Special Use permit was not issued pending the issuance of a Certificate by the Commission. A request for issuance of this permit has been made to the USFS based on the Commission's finding of need for the Project in Case No. 2005-00089, and a copy of this permit will be furnished to the Commission upon receipt.

No other permits are required by this project.

9. Typical drawings of the types of structures to be constructed as part of the Project are resubmitted as Applicant's **Exhibit VI₁ –Exhibit VI₉**.

10. The proposed facilities will not compete with any public utilities, corporations or persons.

11. Submitted as Applicant's **Exhibit VII₁** is a map of a scale of one inch equals 1000 feet showing the location of the proposed Cranston-Rowan Transmission Line

Centerline, the Right-of-way boundaries, and the boundaries of all properties crossed by said right-of-way as shown on the Rowan County PVA maps. Also, submitted as **Exhibit VII₂** is a table identifying by number the owner of each property shown on Exhibit VII₁.

12. Submitted as **Exhibit VIII₁** is a map of the same scale showing three alternative routes developed by the Applicant in 2002 prior to the initial Application in Case No. 2005-00089 and suggested to the USFS for their consideration as potential alternate routing options for this Project. The alternative 2002 routes are shown in broken red lines while the proposed centerline is shown in solid red. Also, submitted as **Exhibit VIII₂** is a map to the same scale showing the six alternative routes developed by the USFS inter-disciplinary team and considered in the USFS Environmental Assessment ("EA").

13. On page 9 of the Commission's Order denying a Certificate in Case No. 2005-00089, the Commission found that the Applicant did not adequately consider the use of existing rights of way, transmission lines and corridors. As a result, the Applicant evaluated three additional routes from its Cranston Substation to its Rowan Substation. These routes are depicted on maps incorporated herein as **Exhibit VIII₃**. These routes do not present feasible alternatives to the proposed route as approved by the USFS. (See Prepared Testimony of Mark S. Brewer incorporated herein as **Exhibit IX**.)

14. The first year annual cost of operation of the proposed facilities after completion is \$399,000.00, based on 2004 dollars.

15. Attached as Applicant's **Exhibit X** is an Affidavit of Nick Comer certifying that each property owner identified by the Rowan County PVA as owning property to be crossed by the proposed right of way has been:

- a) Mailed notice of the proposed construction by First Class mail at such owner's address as listed in the Rowan County PVA's records;
- b) Given the Commission docket number of this proceeding and a map showing the proposed route of the line;
- c) Given the address and telephone number of the Commission's Executive Director, Elizabeth O'Donnell;
- d) Informed of their right to request a local public hearing and request to intervene; and
- e) Given a description of the proposed project.

16. Attached as Applicant's **Exhibit XI** is a sample copy of the notice provided to property owners pursuant to 807 KAR 5:120, Section 2(3) and referenced in Paragraph numbered 15 above.

17. Applicant's **Exhibit X**, Affidavit of Nick Comer, also contains a verified statement that a notice of intent to construct the Cranston-Rowan Transmission Line has appeared in the Morehead News, a newspaper of general circulation in Rowan County, Kentucky, which included:

- a) A map of the proposed route; and

- b) A statement of the right to request a local public hearing; and
- c) A statement of the right to request to intervene.

18. Attached as Applicant's **Exhibit XII** is a copy of page B-4 of the Friday, December 2, 2005 edition of the Morehead News containing the Notice required by 807 KAR 5:120 Section 2(5) and referenced in Paragraph numbered 16 above.

19. In its Application for Rehearing submitted on September 12, 2005, in Case No. 2005-00089, the Applicant included the Affidavit of Mary Jane Warner as Exhibit I which detailed the substantial re-dispatch costs caused by the absence of this line and the risk of cascading blackouts in the ten-county area surrounding this Project, including an incident on September 6, 2005 that occurred on the transmission system in this area that brought the local electric consumers perilously close to cascading blackouts, and The Applicant hereby incorporates that Affidavit into this Application as **Exhibit XIII**. The Applicant also submitted, as an offer of proof by avowal in the same case, on October 24, 2005, the Prepared Testimony of Darrin Adams and William A. Bosta also detailing the risk of cascading outages and substantial re-dispatch costs. The Applicant hereby incorporates into this Application that Prepared Testimony of Darrin Adams as **Exhibit XIV** and that Prepared Testimony of William A. Bosta as **Exhibit XV**. The Applicant would also advise the Commission that from November 30, 2005 through December 2, 2005, an outage in this area created severe overload conditions on the Goddard – Rodburn 138kV transmission line, requiring re-dispatch of EKPC's generating units that would not have been necessary had the Cranston – Rowan 138kV transmission line been in service. (See Prepared Testimony of Darrin Adams incorporated herein as

Exhibit XVI.) The evidence contained in these Affidavits and Prepared Testimony establishes for the Commission that every day this line goes un-built, the ratepayers of this state are subjected to additional re-dispatch costs and the continuing risk of cascading blackouts.

WHEREFORE, Applicant respectfully requests the Commission to grant a Certificate of Public Convenience and Necessity for the EKPC Cranston-Rowan Transmission Line to be constructed in Rowan County, Kentucky.

RESPECTFULLY SUBMITTED,

DALE W. HENLEY

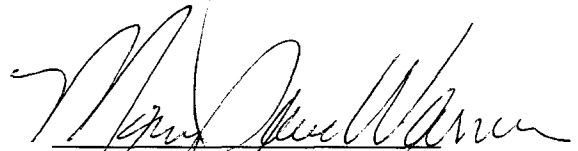


SHERMAN GOODPASTER III
ATTORNEYS FOR EAST KENTUCKY
POWER COOPERATIVE, INC.
PO BOX 707
WINCHESTER, KY 40392-0707
859-744-4812

VERIFICATION

STATE OF KENTUCKY)
) SCT.
COUNTY OF CLARK)

The affiant, Mary Jane Warner, states that she is the Manager of Power Delivery Expansion for the Plaintiff, East Kentucky Power Cooperative, Inc., and that this affiant has read the foregoing Application and that the statements contained therein are true to the best of her knowledge and belief.



MARY JANE WARNER

Subscribed and sworn to before me in the aforesaid state and county by
Mary Jane Warner this the 7th day of December, 2005.

My notarial commission expires: 10.28.06



NOTARY PUBLIC, KY
STATE-AT-LARGE.

**FROM THE MINUTE BOOK OF PROCEEDINGS
OF THE BOARD OF DIRECTORS OF
EAST KENTUCKY POWER COOPERATIVE, INC.**

At a regular meeting of the Board of Directors of East Kentucky Power Cooperative, Inc. held at the Headquarters Building, 4775 Lexington Road, located in Winchester, Kentucky, on Monday, June 10, 2002, at 11:00 a. m., EDT, the following business was transacted:

After review of the applicable information, a motion was made by Fred Brown, seconded by Jack Ginter, and, there being no further discussion, passed to approve the following:

Whereas, East Kentucky Power Cooperative, Inc., ("EKPC") engineering studies have confirmed the necessity and advisability of the following projects included in the June 10, 2002 Amendment to the EKPC Rural Utilities Service ("RUS") approved Three-Year Work Plan (November 1999-October 2002):

Hope 25 kV Conversion	\$170,000
Carson 25 kV Conversion	\$170,000
Elliott County Prison 69-12.5 kV, 11.2 mVA Substation	\$452,000
Elliott County Prison 69 kV Tap	\$65,000
Jamestown 161-12.5 kV, 12/16/20 mVA Substation	\$902,000
Jamestown 161 kV Tap	\$219,000
Nelson Valley 69-12.5 kV, 11.2 mVA Substation	\$517,000
Nelson Valley 69 kV Tap	\$307,000
Cranston - Rowan County 138 kV Line	\$3,237,000
Goddard 138 kV Substation Addition	\$1,081,000
Rowan County 138 kV Breaker Additions	\$630,000;

Whereas, Review by the Power Delivery ("PD") Committee and approval of the EKPC Board of Directors ("Board") is required for the construction and financing of these projects pursuant to Board Policies No. 103 and 106;

Whereas, The current EKPC Three Year Work Plan (November 1999-October 2002) dated November 9, 1999, has been approved by the RUS, which requires that any amendment thereto be approved by the Board;

Whereas, EKPC management and the PD Committee recommend that the Board amend the current EKPC RUS approved Three Year Work Plan and approve construction of these projects, the acquisition of all real property and easement rights, by condemnation if necessary, and the obtaining of permits and approvals necessary and desirable for these projects and include the financing of these projects with general funds, subject to reimbursement from construction loan funds should they become available and the Board will act upon said recommendation this date; and

Whereas, This recommendation supports EKPC's corporate objectives 1.0 strengthening unity; 2.0 strategically managing costs and 3.0 optimizing use of assets; now, therefore, be it

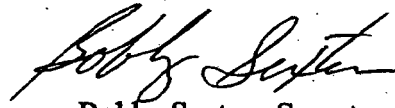
Resolved, That EKPC management is authorized to amend the current EKPC RUS approved Three-Year Work Plan to include the above projects summarized in more detail in the attached Executive Summary;

Resolved, That approval is hereby given for construction of said projects included in the June 10, 2002 Amendment to the EKPC Three-Year Work Plan (November 1999-October 2002), at an estimated total cost of \$7,750,000 and for the acquisition of all real property and easement rights, by condemnation if necessary, as well as all necessary permits and approvals for these projects; and

Resolved, That approval is hereby given to amend the EKPC Annual Budget and Work Plan to include these projects and to finance them with general funds, subject to reimbursement from construction loan funds should they become available.

The foregoing is a true and exact copy of a resolution passed at a meeting called pursuant to proper notice at which a quorum was present and which now appears in the Minute Book of Proceedings of the Board of Directors of the Cooperative, and said resolution has not been rescinded or modified.

Witness my hand and seal this 10th day of June, 2002.


Bobby Sexton, Secretary

Corporate Seal

EXHIBIT II

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

THE APPLICATION OF EAST KENTUCKY)
POWER COOPERATIVE, INC. FOR A CERTIFICATE)
OF PUBLIC CONVENIENCE AND NECESSITY FOR) **CASE NO**
FOR THE CONSTRUCTION OF A 138 kV ELECTRIC) **2005-00089**
TRANSMISSION LINE IN ROWAN COUNTY,)
KENTUCKY)

**PREPARED TESTIMONY OF MARY JANE WARNER
ON BEHALF OF
EAST KENTUCKY POWER COOPERATIVE, INC.**

- 1. Please state your name and address.
 - A. Mary Jane Warner, 27 Lynnway Drive, Winchester, KY 40391.
- 2. By whom are you employed and in what position?
 - A. I am employed by East Kentucky Power as Manager of Power Delivery Expansion.
- 3. As background for your testimony, please briefly describe your educational background and work experience?
 - A. I am a graduate of the University of Kentucky with a Bachelor's of Science in Civil Engineering and I am a Licensed Professional Engineer in the Commonwealth of Kentucky. I have 24 years of experience in Power Delivery related to the planning, design and construction of transmission lines and electrical substations.
- 4. What are your duties and responsibilities as manager of EKPC's Power Delivery Expansion Department?

- A. I supervise and am responsible for all planning, routing, design and construction of transmission additions to the EKPC system.
5. Was the planning, routing and design activity for the Cranston-Rowan 138 kV Transmission Line that is the subject of this Case No. 2005-00089 performed under your direction and supervision?
- A. Yes
6. What is the purpose of your testimony?
- A. The purpose of my testimony is to provide information related to the need and alternatives considered for facilities EKPC has proposed for construction in Rowan County that are the subject of this case.
7. Was a planning study performed by Robert J. Rusch, of Stanley Consultants, Inc., which study established the need for the proposed Cranston-Rowan project?
- A. Yes
8. Was this study prepared by Mr. Rusch under your direction and supervision?
- A. Yes
9. Has Mr. Rusch prepared a final written report on the Justification of the Cranston-Rowan 138 kV transmission line which was submitted to the United States Department of Agriculture, Rural Utilities Service ("RUS") for approval?
- A. Yes.
10. Has RUS approved the report and the justification for this project?
- A. Yes.
11. Realizing that Mr. Rusch has submitted prepared testimony as part of this application which describes in detail the need for this project and the electrical

alternatives considered, please give the Commission a general overview of why this proposed project is needed?

- A. The Cranston-Rowan 138kV Transmission line is needed to prevent overloads of existing transmission facilities in the area, to support the continued customer load growth in the area, and to improve customer service quality and reliability. Customer service quality is improved by preventing low voltages on the transmission network due to forced outage of some facilities. Reliability is improved because the new line provides a second source of power into the Cranston electric substation. In addition, when the transmission study was performed for the addition of the Gilbert Unit at Spurlock Power Station, this line was considered to be part of the transmission system in place prior to the new unit coming on line in March of 2005. Due to the delays of this project which were related to obtaining a permit to cross the Daniel Boone National Forest, the overloading problems in the area are expected to be magnified with the additional generation. Until the Cranston-Rowan project can be completed, the reduction of generation at Spurlock and/or the dispatch of combustion turbines at the J.K. Smith Power Station may be required to relieve these overloads, even when running the CT's or purchasing generation off-system is a more costly option. EKPC ratepayers may therefore incur additional costs until the Cranston-Rowan project is completed. Finally, this line was considered to be part of a future east 138 kV transmission loop between J.K. Smith and Spurlock, which would provide a continuous high-voltage connection between these power plants as well as needed support to the eastern section of the EKPC system.

12. Again, realizing that Mr. Rusch has gone into greater detail in his prepared testimony, please identify to the Commission what alternatives were considered to address these needs?

A. An alternative which involves no new line construction was initially considered, but was not pursued. This alternative would require reconductoring KU's 15.8 mile Goddard-Rodburn 138 kV line. This alternative was not pursued because:

- a) it would require an outage of the Goddard-Rodburn 138 kV line for a long duration of time, creating significant operational issues during the outage
- b) it would not provide a second 138kV source of power for the Cranston substation
- c) it would not provide a second 138 kV source for the Rowan County substation
- d) it would not meet EKPC's long-range transmission plan to establish an east 138 kV transmission loop.

Two alternatives were therefore evaluated to solve both the system performance problems and to reduce the Cranston Substation line exposure. Alternative 1 involves the 6.9 mile 138kV Cranston – Rowan line and associated switching facilities at Goddard and Cranston. Alternative 2 involves 4.7 miles of new 138kV line from the existing KU Goddard – Rodburn 138kV line running north east to the existing Cranston substation. This alternative also requires the reconductoring of the existing KU Goddard – Rodburn line from the Cranston Tap point to the Rodburn

substation (4.35 miles) and the existing 13.7 mile Goddard – Hilda 69kV line. Switching facilities are also required with alternative 2.

13. Why was this project chosen instead of the alternative?
 - A. Alternative 2 is estimated to cost approximately 25% more than alternative 1, and alternative 1 conforms to EKPC's Long Range Plan which was approved by RUS in December, 2001.

14. Do you have an opinion as to whether the selected project best addresses the transmission problems East Kentucky Power Cooperative is facing in the subject area?
 - A. Yes

15. What is that opinion?
 - A. It is my opinion that the Cranston-Rowan 138 kV Transmission Line best addresses these problems.

16. With respect to the routing and design of this type project, explain the process EKPC undertakes before determining a final route and design.
 - A. When, as is the case with this project, a transmission line of this length and scope is needed between two existing substations, a straight line is drawn between those points as a beginning point for the routing process. Engineers prepare possible draft routes using topographic maps and aerial maps and then conduct field reconnaissance to confirm features and view as much of the potential project area as possible. The information collected in the field is used to refine the work into draft routes and to develop the study corridor. Preliminary route selection is based on a comparison in the project area of paths that balance cost, effectiveness,

environmental impact, and impact to the local community. When the study corridor has been established, property boundary information and ownership data are collected from the local Property Value Administrator's office for every property located within the study corridor. An open house is held in the community with prior newspaper notice and personal invitation letters sent to every owner identified of record within the study corridor. The purpose of the open house is to provide information about the project to local residents and to collect input from them in regard to their concerns, local plans and activities in the project area, and pertinent information that may not have yet been discovered. Information gathered from property owners and others at the open house is compiled and used by the engineers in developing the final proposed route and all property owners within the study corridor are notified as to whether or not their tract(s) will be crossed by the right-of-way of the final route.

17. How did EKPC follow this process specifically regarding the Cranston-Rowan project.
 - A. Upon justification of the project, as concluded in Stanley's Final Report "Justification of the Cranston - Rowan 138kV" dated April 23, 2002, EKPC personnel studied maps and aerial photos in the office and went to the field independently to perform reconnaissance and develop potential paths for the study corridor. Since 4.8 miles of this line were on the Daniel Boone National Forest, the USFS was contacted and possible corridors were jointly developed with Forest Service personnel and EKPC staff. Factors included in this comparison were number and severity of line angles, proximity to residences, proximity to other

buildings, federal/state lands, airstrips, riparian areas and highway crossings. An application to cross the Daniel Boone National Forest was submitted on July 17th 2002. The USFS evaluated seven different alternative routes as a part of the Environmental Assessment (EA). Concurrently, electronic copies of the county PVA maps were obtained from the Rowan County PVA office to compile an invitation list for persons owning property within or near the proposed corridor . A newspaper notice advertising the open house was also issued in the Morehead News, the paper of largest circulation in the area. The open house was held on June 4, 2004 in the Carl Perkins Community Center, located on KY 32 in Morehead, Kentucky. The information gathered from the property owners at the open house was compiled and brought back to the office where designers refined the proposed route, on private right of way, by considering all available data and striving to balance cost, effectiveness, and environmental impact while minimizing impact to the local community as a whole. Notices have been sent to all property owners who were invited to the open house informing them that easement rights for the proposed centerline will or will not affect their properties, based on the route and design submitted in this application. The EA was issued January 28th, 2005 by the USFS and concluded that the best alternative was the proposed route, which was the most direct route across the USFS land from the Rowan substation to the Cranston substation. On February 4th, 2005 the USFS issued a Finding of No Significant Impact (FONSI) for the recommended Alternative A as defined in the EA.

18. Is the location and routing of the Cranston-Rowan transmission line in your opinion the best balance of cost, effectiveness, and environmental impact while minimizing the impact to the local community as a whole?

A. Yes, it is.

19. Does this conclude your testimony?

A. Yes, it does.

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

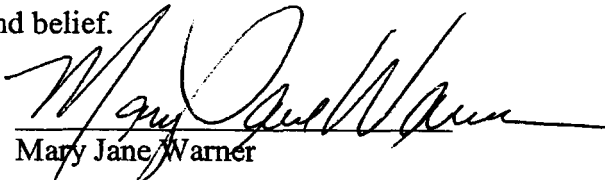
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TRANSMISSION LINE IN ROWAN, COUNTY)
KENTUCKY)

AFFIDAVIT

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Mary Jane Warner, being duly sworn, states that she has read the foregoing prepared testimony and that she would respond in the same manner to the questions if so asked upon taking the stand, and that the matters and things set forth therein are true and correct to the best of her knowledge, information and belief.


Mary Jane Warner

Subscribed and sworn before me on this 20th day of April 2005.

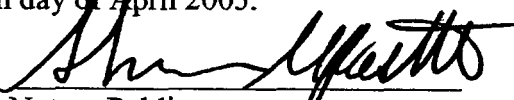

Notary Public
My Commission expires: October 28, 2006

EXHIBIT III

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

IN THE MATTER OF:

THE APPLICATION OF EAST KENTUCKY)
POWER COOPERATIVE, INC. FOR A CERTIFICATE)
OF PUBLIC CONVENIENCE AND NECESSITY FOR) **CASE NO**
FOR THE CONSTRUCTION OF A 138 kV ELECTRIC) **2005-00089**
TRANSMISSION LINE IN SPENCER COUNTY,)
KENTUCKY)

**PREPARED TESTIMONY OF ROBERT J. RUSCH
ON BEHALF OF
EAST KENTUCKY POWER COOPERATIVE, INC.**

1. Please state your name and address.
 - A. My name is Robert Rusch and I reside at 2674 Tom Sawyer Road, Muscatine, IA, 52761.
2. By whom are you employed and in what position?
 - A. I'm employed by Stanley Consultants, Inc., Muscatine, IA. My current position is Vice-President and Chief Electrical Engineer.
3. As background for your testimony, please briefly describe your educational background and work experience?
 - A. I have over 30 years in the electric utility business, with a majority of it in consulting with a very short period of time with an investor owned utility. I have a Bachelor of Science degree from Iowa State University and have taken graduate courses in high voltage engineering, power system dynamics, economics and three or four other topics from the same institution. In transmission planning and interconnections, my experience includes a number of utility projects for both

domestic and international clients. Domestically, this includes integration of generating facilities into the high voltage electric grid for up to 2,400 Megawatts at a single site; transmission analysis for Cornbelt Power Cooperative, Inc., Southern Illinois Electric Power Cooperative, Inc, East Kentucky Power Cooperative, Inc., Vectren, Exelon and a few others. Internationally, I've done nationwide transmission plans for the island of Grenada, the country of Qatar, along with work in southeast Asia, the Persian Gulf and, more recently I consulted on power flow work associated with the assessment of the condition and operational characteristics of the Iraqi high voltage transmission system after the most recent war. I've done design of industrial facilities, electric transmission and distribution, and large scale generation. I am also a Senior Member of the Institute of Electrical and Electronics Engineers and am on several of their standards committees including the Excitation Subcommittee that is responsible for setting the standards for the manufacturers and for the modeling for generation excitation systems. I am a member of the U.S. National Committee of CIGRE, which is an international group for setting electrical standards. I am a Licensed Professional Engineer in 13 states, including Kentucky.

4. What are your duties and responsibilities as Vice-President of Stanley Consultants, Inc.?
 - A. My duties include the preparation, review, and approval of all electric discipline standards utilized within Stanley Consultants along with the technical oversight of electrical work performed in the organization. In addition, I am responsible for project management and the direct performance of various types of projects for our client.

5. Was the planning for the Cranston-Rowan electric transmission line that is the subject of this Case No. 2005-00089 performed under your direction and supervision?

A. Yes.

6. Was the determination of the need for this particular project made by you?

A. The determination of need for this line was developed under my supervision by Mr. Richard Hutmacher, Stanley Consultants, and supported by EKPC staff.

7. What is the purpose of your testimony?

A. The purpose of my testimony is to provide information related to the need and alternatives considered for facilities EKPC has proposed for construction in Rowan County that are the subject of this case.

8. Why is this project needed?

A. The Cranston-Rowan Project is needed to alleviate undervoltages and overloads on the area transmission system and to increase the reliability of the transmission grid in the Cranston area.

9. What alternatives were considered to address these needs?

A. As with many projects, a number of alternatives may have been considered briefly but would not meet the stated objectives. Reconductoring was considered briefly, but was not pursued in detail due to the following:

- It would not meet EKPC's Megawatt-Mile criteria that required a second source be provided to the Cranston Substation
- The Rowan County Substation would still be radially fed

- It would require a prolonged outage of the LG&E's Goddard-Rodburn 138 kV line, which would create significant operational issues
- It would not "build toward" EKPC's Long Range Plan to complete a 138kV transmission loop into eastern Kentucky to support this region as far as the Skaggs Substation.

Two (2) separate alternatives were fully developed to address the identified needs:

- Alternate 1 (Proposed) – Alternate 1 includes the 7.3 mile Cranston – Rowan 138 kV line and associated switching facilities at Goddard and Cranston. This new line will be operated "normally closed" and routed through the Daniel Boone National Forest (Forest). (Note that, as the design has developed, the Cranston-Rowan line length has been reduced to 6.9 miles.)
- Alternate 2 - Alternate 2 involves 4.7 miles of new 138 kV line exiting the Cranston Substation to the southwest to tie into the existing LG&E Energy's Kentucky Utilities (LG&EE) Goddard – Rodburn 138 kV line. The location of this "tie in" point is referred to as "Cranston Tap". This alternate also requires reconductoring of the existing Cranston Tap – Rodburn 138 kV line (4.35 miles) and the existing 13.7 mile Goddard – Hilda 69 kV line. Switching facilities are also required with Alternate 2 to allow the new interconnection with LG&EE to be operated normally closed. Capacitor banks were added at the Rowan and Elliottville 69kV buses to address undervoltages and provide the same level of service as

Alternate 1. This alternate was developed to by-pass the routing of new transmission line through the Forest.

Alternate 1 was recommended for implementation.

10. Why was the proposed project chosen instead of the other alternative?
 - A. Both alternatives meet the requirements of alleviating undervoltages and overloads and improves reliability in the Cranston area. Capital cost estimates were developed for each option with the total estimated installed costs of \$4,947,400 and \$6,174,800 for Alternates 1 and 2, respectively. Since Alternate 2 is estimated to cost approximately 25 percent more than Alternate 1, and Alternate 1 is included in EKPC's Long Range Plan which was approved by the RUS in December, 2001, it was recommended that EKPC proceed with obtaining the necessary permits to allow for construction of the Cranston – Rowan 138 kV line as described above.
11. Have you prepared a written final report on the justification of the Cranston-Rowan 138 kV Transmission line?
 - A. Yes
12. Have you made this a part of this prepared testimony and attached it hereto as **Rusch Exhibit I**?
 - A. Yes
13. Did you direct, supervise and/or perform load flow studies and various other types of studies in the determination of the need for the Cranston-Rowan transmission project?
 - A. Yes

14. Have you had these studies reduced to .pdf and .sav files, and have you had these files copied to a CD-Rom?
- A. Yes
15. Will you make these files a part of your testimony and identify them as **Rusch Exhibit II** on the CD-Rom attached to your testimony?
- A. Yes
16. Have there been any studies conducted on the Cranston-Rowan Project since the original 2001 study?
- A. Yes. An operational analysis has been performed.
17. What was the purpose and results of this study?
- A. There have been delays experienced in the Cranston-Rowan Project, and other transmission facilities have been added in the northern Kentucky area in the intervening time period. These include the Spurlock-Flemingsburg-Goddard 138kV Project and facilities associated with the E.A. Gilbert Unit 3 addition at the Spurlock Generating Station. The purpose of these operational studies was to determine the impacts of the delays associated with the Cranston-Rowan Project on the overall operation of the EKPC transmission grid. This analysis shows impacts without the Cranston-Rowan Project and as such, it further substantiates the need for the Project and shows that the original justifications for the Project are still valid. It also shows that EKPC may have to operate the J.K. Smith Combustion Turbines at various times when these units would not be economically dispatched, to alleviate impacts due to the delay of the Cranston-Rowan Project.

18. Who performed this operational analysis and have the results been summarized in writing?

A. I performed the load flow studies and prepared a written summary.

19. Will you make these studies a part of your prepared testimony?

A. Yes

20. Have you had these studies reduced to .pdf and .sav files and have you had these files identified as **Rusch Exhibit III** and copied to the attached CD-Rom that also contains **Rusch Exhibit II**?

A. Yes

21. Do you have an opinion as to whether the Cranston-Rowan transmission project best addresses the problems identified in your response to Question 7 herein?

A. Yes

22. What is that opinion?

A. It is my opinion that the Cranston-Rowan transmission project best addresses these problems.

23. Does this conclude your testimony?

A. Yes

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

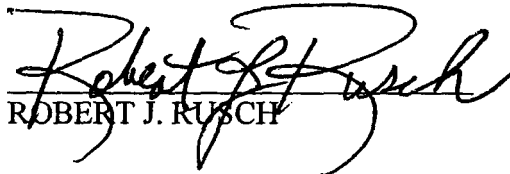
In the Matter of:

THE APPLICATION OF EAST KENTUCKY)
POWER COOPERATIVE, INC. FOR A CERTIFICATE)
OF PUBLIC CONVENIENCE AND NECESSITY FOR) CASE NO
FOR THE CONSTRUCTION OF A 138 kV ELECTRIC) 2005-00089
TRANSMISSION LINE IN ROWAN COUNTY,)
KENTUCKY)

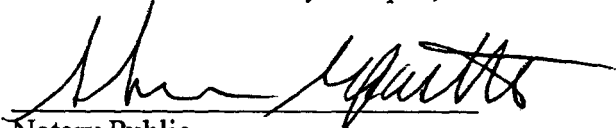
AFFIDAVIT

STATE OF KENTUCKY)
)
COUNTY OF MASON)

Robert J. Rusch, being duly sworn, states that he has read the foregoing prepared testimony and that he would respond in the same manner to the questions if so asked upon taking the stand, and that the matters and things set forth therein are true and correct to the best of his knowledge, information and belief.


ROBERT J. RUSCH

Subscribed and sworn before me by Robert J. Rusch on this 12th day of April,
2005.


Notary Public
My Commission expires: 10.28.06

RUSCH EXHIBIT I

FINAL REPORT

JUSTIFICATION OF CRANSTON - ROWAN 138 kV
LINE

April 23, 2002

Table of Contents

Section 1 - Introduction1-1

Section 2 - Today's Planning Environment.....2-1

Section 3 - Need for System Improvement.....3-1

 General.....3-1

 Load Flow Studies3-2

Section 4 - Alternate Solutions4-1

Section 5 - System Performance with Alternate Solutions5-1

Section 6 - Comparison of Alternates6-1

Section 7 - Summary and Recommendations7-1

APPENDICES

Appendix A - Load Flow Results without New FacilitiesA-1

Appendix B 1 - Load Flow Results for Alternate 1 Cranston - Rowan 138 kV LineB-1

Appendix B 2 - Load Flow Results for Alternate 2 Cranston Tap to KU LineB-1

Appendix C - Capital Cost EstimatesC-1

Section 1

Introduction

The purpose of this report is to provide justification for the construction of the Cranston-Rowan 138 kV line. This line is approximately 7.3 miles in length and would be located in Rowan County in the northeastern part of East Kentucky Power Cooperative's (EKPC) service territory. A critical issue is that the proposed routing of this line results in approximately 5.3 miles passing through the Daniel Boone National Forest.

This report demonstrates the needs for additional transmission support in the Cranston/Rowan area through the use of power flow studies and requirements dictated by EKPC's planning criteria. Two alternates for providing the needed support are outlined, and additional load flow studies are completed with the new facilities modeled to determine system performance under various operating scenarios.

Capital costs for the alternates have been prepared to use in comparing the alternates.

The results of the studies were reviewed with Kentucky Utilities (KU). Based on discussions with KU, the results of the load flow studies, the capital cost estimates, and other issues, it is recommended that EKPC proceed with obtaining the necessary permits to allow for construction of the Cranston – Rowan line.

Stanley Consultants, Inc and EKPC planning staff worked as a joint-team in completing both the analysis and this report.

Today's Planning Environment

In the past, planners evaluated and designed transmission systems to be largely self-supporting, with interconnections to neighboring utilities to provide contract paths or backup during contingencies. These arrangements still exist and are coordinated and governed through voluntary regional reliability councils. Generation was planned and built by companies to supply power to their native load, and reserves were made available to neighboring utilities within guidelines established by the reliability councils. This environment provided predictability in the delivery system needed for the future because generation planning and siting were done according to local load development, the magnitude and location of which was fairly well understood.

Open Access has introduced an entirely new playing field to transmission planning. Merchant power plant owners can now obtain access to any point on the transmission grid to inject electric power generation. With the FERC mandated formation of the Regional Transmission Organizations (RTO's) and Independent System Operators (ISO's), the geographical area of transmission system to be modeled and studied can expand dramatically. The purpose of the power delivery system is no longer to support native load, but to provide a network for free trade in energy. Because neither the market destination nor the source can be predicted with any certainty in terms of location or magnitude, and the grid to be modeled is drastically enlarged and influenced by regional markets, the transmission system must be expanded to handle more

operating scenarios than in the past. As a result, the transmission system must be tested under a wider range of potential conditions than previously when determining the need for new facilities.

Because of the required Open Access Transmission Tariff (QATT) process for interconnecting new generation, transmission planning for new generation has become reactive. Since planning for systems at 100 kV and above must be done by, or coordinated with, some regional entity, external influences and regional transfers can have a significant effect on the development of the rest of a utility's system. Distributed generation is another factor in the new landscape for transmission planning. It is possible that small generator could defer transmission projects and upgrades, or that they could overload areas that would otherwise have served well without modifications.

Transmission planning has changed to successfully meet the demands of this new environment. Coordination with regional organizations at 100 kV and above will address much of the market influence on regions and the individual utilities within them. Future transmission planning must incorporate the new model, and its inherent uncertainties, for generation interconnection, along with system support of native load. For EKPC, this will continue to include forecasting, testing the radial and non-networked system, participation in regional planning, and coordinating new load center facilities with its members. The load flow studies conducted as part of this study considered the increased uncertainties that now exist in today's planning environment.

Section 3

Need for System Improvement

General

Two fundamental reasons why system improvements are required in the Cranston/Rowan area are the "line exposure" index for the Cranston Substation and inadequate system performance for a variety of conditions. EKPC has a guideline that substations served by a radial line should not have a line exposure index exceeding 100 MW-miles. The line exposure index is the product of the load served by a radial feeder times the distance of the radial line.

The Cranston Substation is currently served by a 12.7 mile, 138 kV radial lines from EKPC's Goddard Substation. The projected 2005 winter peak load is 26.8 MW, resulting in a line exposure index of 320 MW- miles, which exceeds the guideline by more than a factor of three.

Line overloads and low voltages occur in the Cranston-Rowan area for a variety of conditions that are discussed in more detail under the heading "Load Flow Studies" in this section. The facilities impacted the most by overloads are the KU Goddard – Rodburn 138 kV line and the EKPC Goddard – Hilda 69 kV line. The Goddard – Rodburn line is overloaded for an outage of the Spurlock – Avon 345 kV line. The Goddard – Hilda line is overloaded for an outage of the Goddard – Rodburn line.

The percent overload numbers referenced later in this report are based on emergency ratings of the conductors.

Low voltages occur at the EKPC 69 kV substations of Hilda and Elliottville for outages of the Goddard – Rodburn and Rodburn – Rowan 138 kV lines. EKPC's plans criteria states that voltages at the low side of distribution substations should not be less than 92.5 percent.

Load Flow Studies

Load flow studies were completed without new facilities in the Cranston/Rowan area to identify any problems and the severity of the problems. These cases were run for both winter and summer 2005 and 2010 load levels (2005/06 and 2010/11 winter) for two possibilities for new Spurlock Plant generating unit additions in 2005. One possibility included both the new Gilbert 3 and Spurlock 4 268 MW units, and the other included only the Gilbert 3 unit, with the Spurlock 4 capacity replaced by purchases from AEP. All 2010 studies assume both new units on at the Spurlock Plant.

Furthermore, different generator dispatch scenarios as defined below were also employed in the study:

Dispatch Scenario	Description
0	Normal conditions with EKPC generator units operated on an "economic dispatch" basis
3	Kentucky Utilities Brown 3 off with 441 MW imported from CINergy in summer and winter
6 (revised)	One J.K. Smith gas turbine on line in 2005, and two on in 2010 for both summer and winter loads.

Some initial studies were run with a different version of Dispatch 6 described immediately above. The term "revised" is used above to be representing the most current load flow studies and to be consistent with the terminology used during the study.

Dispatch 6 (revised) reflects the possibility that it may be more economical to purchase "off the grid" in the future rather than use all the gas turbines at the J.K. Smith Plant. As indicated in Section 2, due to the nature of today's planning environment, it was deemed appropriate to investigate different dispatch scenarios.

Also, the actual installation dates of new generation additions at the J.K. Smith Plant may impact the timing of the proposed J.K. Smith – Spencer Road 138 kV. Therefore, load flow studies were run both with and without this new line.

Appendix A includes a summary of key results of these studies. The following observations are made after review of Appendix A.

1. Low voltages of between 87 and 91 percent occur in the Hilda/Elliottville area in 2005 for an outage of the Rodburn – Rowan 138 kV line with the J.K. Smith – Spencer Rd line in service. This is with only Gilbert 3 on line using a normal economic dispatch.
2. With Gilbert 3 and Spurlock 4 on line, and the J.K. Smith – Spencer line in service, the loading on the Goddard – Rodburn 138 kV line in 2005 is 99 percent of its rating for a normal economic dispatch (dispatch 0) with the Spurlock – Avon 345 kV line out. If dispatch scenarios 3 and 6 revised are used, the loadings increase to about 108 and 121 percent, respectively.
3. If only Gilbert 3 is on in 2005 with the J.K. Smith – Spencer line in service, the Goddard – Rodburn line loadings vary from 93 to 117 percent with the Spurlock – Avon 345 kV line outage, depending upon the dispatch scenario used.
4. If 2010 loads are used with dispatch zero (0) and six (6) revised for the same conditions in Item 2, the overload increases to between 103 and 131 percent, respectively.
5. Exclusion of the J.K. Smith – Spencer Road line worsens the conditions stated in items 1 through 4.
6. The outage of the Goddard – Rodburn 138 kV line with 2005/06 winter loads results in low voltages of about 91 percent in the Hilda/Elliottville area using dispatch 6 revised. This is with the J.K. Smith – Spencer Road line in service.

7. Outage of the Goddard – Rodburn 138 kV line results in loadings on the Goddard – Hilda 69 kV line of between 81 and 102 percent in 2005 with the J.K. Smith – Spencer line in service, depends upon the new generation on line at the Spurlock Plant. Excluding the Smith – Spencer line or using 2010 loads would only worsen the conditions.

The above observations demonstrate that additional transmission support is required in the Cranston/Rowan area in 2005 as a result of both low voltages and conductor overload.

Section 4

Alternate Solutions

Two potential solutions for providing the needed support in the Cranston/Rowan area were evaluated. As demonstrated in Section 3, both the problems of conductor overload and low voltages occur for certain conditions. Overload problems can sometimes be completely eliminated by reconductoring an existing line. However, problems of low voltage usually require additional transmission lines. Capacitors can also help alleviate voltage problems, but are usually used to supplement existing transmission facilities or defer future transmission facilities. Capacitors are not long-range solutions for transmission system problems. EKPC is already currently using capacitors extensively to supplement its existing transmission system.

As indicted in Section 3, one of the reasons for adding transmission support in the Cranston/Rowan area was to reduce the "line exposure" index of the Cranston Substation to meet EKPC's guideline. This can only be achieved by the addition of new transmission line. New transmission line will also be required to alleviate the voltage problems identified in Section 3.

One of the key premises used in developing the two alternates was that both alternates should provide the same level of service in order to provide a fair comparison.

One of the alternates developed (Alternate 1) includes the 7.3 mile Cranston – Rowan 138 kV line and associated switching facilities at Goddard and Cranston. This new line passes through the Daniel Boone National Forest (Forest) and is assumed to operate normally "closed".

Alternate 2 was developed in order to by-pass routing of new transmission line through the Forest. This alternate involves 4.7 miles of new 138 kV line exiting the Cranston Substation to the southwest to tie into the existing KU Goddard – Rodburn 138 kV line. The location of this “tie in “ point is referred to as “Cranston Tap”. This alternate also requires reconductoring of the existing Cranston Tap – Rodburn 138 kV line (4.35 miles) and the existing 13.7 mile Goddard – Hilda 69 kV line. Switching facilities are also required with Alternate 2.

One of the characteristics of Alternate 2 is that it does not provide support to the Rowan 138 kV bus, as does Alternate 1. Therefore, the Hilda/Elliottville area will still be subjected to the same problems as without any system improvements except for the Goddard – Cranston Tap portion of the Goddard – Rodburn line. In order to provide the same level of service as Alternate 1, capacitor banks were added at the Rowan and Elliottville 69 kV busses to provide acceptable voltages in the Hilda/Elliottville area for outages of either the Rodburn – Rowan or Cranston Tap – Rodburn 138 kV lines.

Also, sufficient switching facilities were added such that the new interconnection with KU in Alternate 2 would be operated normally “closed”.

A more detailed identification of the new facilities is presented in Section 6.

Section 5

System Performance with Alternate Solutions

Load flow studies were run for both Alternates 1 and 2 to determine if the new facilities solved the problems identified in Section 3. Appendices B1 and B2 include a summary of the key results of these studies. The summaries are based on load flow studies either directly comparable to the cases used in Appendix A or for cases which would have resulted in more severe results in Appendix A.

A review of the two appendices indicates that none of the problems identified in Section 3 exist for either of the Alternates. Therefore, both Alternates have adequate system performance.

Section 6

Comparison of Alternates

Section 5 demonstrated that both Alternates 1 and 2 provided results that met EKPC's planning criteria. However, since Alternate 2 does not provide a new 138 kV line directly to Rowan as with Alternate 1, additional facilities were required with Alternate 2 to compensate for the increased outage exposure with this alternate. These additional facilities included reconductoring of the Goddard – Hilda 69 kV line and 69 kV capacitor banks at Rowan and Elliottville.

Capital costs estimates were prepared for both Alternates, and the details are presented in Appendix C. These estimates are based on EKPC's own experience and discussion with KU. A summary of the estimates is shown below:

	<u>Estimated Capital Costs</u>
Alternate 1 – Cranston to Rowan 138 kV Line	\$4,947,400
Alternate 2 – Cranston to Cranston Tap (KU)	\$6,174,800

The above summary indicates that Alternate 2 requires nearly \$1,230,000 or 25 percent more than Alternate 1.

There is also a reason other than capital costs for selecting Alternate 1 rather than Alternate 2. EKPC's Long Range Plan that was approved in December 2001 by the RUS included the Cranston – Rowan 138 kV line as part of EKPC's plan to complete a 138 kV "east loop" between the J.K. Smith and Spurlock generating plants.

Summary and Recommendations

The following conclusions and recommendations are made as a result of this analysis:

1. New transmission facilities are needed in the Cranston/Rowan area to improve system performance and to reduce the "line exposure index" for the Cranston Substation.
2. Without any system improvements, low voltages will occur on the secondary side of EKPC's 69 kV Hilda and Elliottville substations for certain line outages. Additionally, power flow overloads will result on KU's Goddard – Rodburn 138 kV line and EKPC's Goddard – Hilda 69 kV line. These problems will develop with projected 2005 loads and will only be exacerbated with increased load growth. These problems were identified through the use of load flow studies.
3. Two alternates were evaluated to solve both the system performance problems and to reduce the Cranston Substation line exposure index. Alternate 1 involves the 7.3 mile 138 kV Cranston – Rowan line and associated switching facilities at Goddard and Cranston. Alternate 2 involves 4.7 miles of new 138 kV line exiting the Cranston Substation to the southwest to tie into the existing KU Goddard – Rodburn 138 kV line. This alternate also requires reconductoring of

the existing Cranston Tap – Rodburn 138 kV line (4.35 miles) and the existing 13.7 mile Goddard – Hilda 69 kV line. Switching facilities are also required with Alternate 2.

4. Capital cost estimates was prepared for both Alternates. The total estimated installed costs are \$4,947,400 and \$6,174,800 for Alternates 1 and 2, respectively.
5. Load flow studies were run for both Alternates 1 and 2, and the results indicated that system performance for both Alternates met EKPC's planning criteria.
6. Since Alternate 2 is estimated to cost approximately 25 percent more than Alternate 1, and Alternate 1 is included in EKPC' Long Range Plan which was approved by the RUS in December, 2001, it is recommended that EKPC proceed with obtaining the necessary permits to allow for construction of the Cranston – Rowan 138 kV line included in Alternate 1.

Appendix A

Load Flow Results without New Facilities

EKPC Spurlock - Avon 345 kV Line Outage

% Loading on KU's Goddard - Rodburn 138 kV Line

	Gilbert 3 Only			Gilbert 3 & Spurlock 4		
	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV Out
<u>Summer Loads (2005)</u>						
Dispatch Scenario						
0	93.0	101.6	99.1	106.6	106.6	106.6
3	102.0	109.3	107.9	113.6	113.6	113.6
6 (revised)	114.1	115.6	118.1	119.2	119.2	119.2
<u>Winter Loads 2005/06</u>						
Dispatch Scenario						
0	93.7	101.4	96.6	103.6	103.6	103.6
3	101.9	108.0	104.7	110.7	110.7	110.7
6 (revised)	117.5	117.5	120.7	120.5	120.5	120.5
<u>Summer Loads (2010)</u>						
Dispatch 6 (revised)						
0	--	--	130.5	133.4	133.4	133.4
	--	--	114.6	121.4	121.4	121.4
<u>Winter Loads (2010/11)</u>						
Dispatch 6 (revised)						
0	--	--	118.2	120	120	120
	--	--	102.9	109.3	109.3	109.3

Source: Power Flow Diagrams

KU Goddard -- Rodburn 138 kV Line Outage

		% Loading on Goddard -- Hilda 69 kV Line			
		Gilbert 3 Only		Gilbert 3 & Spurlock 4	
		Smith -- Spencer 138 kV In	Smith -- Spencer 138 kV Out	Smith -- Spencer 138 kV In	Smith -- Spencer 138 kV Out
<u>Summer Loads (2005)</u>					
Dispatch Scenario					
0		82.8	99.8	86.9	103.3
3		--	--	92.3	107.7
6 (revised)		99.5	110.3	102.4	112.8
<u>Winter Loads (2005/06)</u>					
Dispatch Scenario					
0		80.7	96.1	82.7	98
3		--	--	87.5	102.5
6 (revised)		99	108	101	109.9
<u>Summer Loads (2010)</u>					
Dispatch 6 (revised)					
0		--	--	113.9	128.1
<u>Winter Loads (2010/11)</u>					
Dispatch 6 (revised)					
0		--	--	100.6	117.3
Dispatch 6 (revised)					
0		--	--	102.5	113.5
Dispatch 6 (revised)					
0		--	--	89.9	105.4

Source: Power Flow Diagrams

Rodburn – Rowan Co. 138 kV Line Outage

	% Loading on Goddard – Hilda 69 kV Line			
	Gilbert 3 Only		Gilbert 3 & Spurlock 4	
	Smith – Spencer 138 kV In	Smith – Spencer 138 kV Out	Smith – Spencer 138 kV In	Smith – Spencer 138 kV Out
<u>Summer Loads (2005)</u>				
Dispatch 6	86.2	86	88.2	88.0
Dispatch 0	86.7	85.6	88.8	87.7
<u>Winter Loads (2005/06)</u>				
Dispatch 0	93.2	92.2	94.2	94.2
Dispatch 6	92.9	92.9	94.6	94.5
<u>Winter Loads (2010/11)</u>				
Dispatch 30	--	--	93.3	92.9
0	--	--	93.0	91.8
<u>Summer (2010)</u>				
Dispatch 0	--	--	90.1	89.0

Source: Power Flow Diagrams

KU Goddard - Rodburn 138 kV Line Outage

		% Voltages			
		Gilbert 3 Only		Gilbert 3 & Spurlock 4	
		Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out
<u>Summer Loads (2005)</u>					
Dispatch Scenario					
0	Hilda 12.5 kV	94.9	91.0	94.5	90.5
	Elliottville 12.5 kV	95.7	91.2	95.3	90.7
3	Hilda 12.5 kV	--	--	94.9	90.3
	Elliottville 12.5 kV	--	--	95.8	90.5
6 (revised)	Hilda 12.5 kV	91.6	90.3	91.7	88.6
	Elliottville 12.5 kV	92.1	90.0	92.3	88.7
<u>Winter Loads (2005/06)</u>					
Dispatch Scenario					
0	Hilda 12.5 kV	93.8	89.3	93.5	88.9
	Elliottville 12.5 kV	95.3	90.3	95.0	89.9
3	Hilda 12.5	--	--	93.0	88.4
	Elliottville 12.5 kV	--	--	94.5	89.4
6 (revised)	Hilda 12.5 kV	90.6	87.0	90.6	87.0
	Elliottville 12.5 kV	91.5	87.5	91.5	87.5
<u>Summer Loads (2010)</u>					
Dispatch 6 (revised)					
	Hilda 12.5 kV	--	--	89.3	84.5
	Elliottville 12.5 kV	--	--	89.5	84.0
Dispatch 0	Hilda	--	--	92.2	87.1
	Elliottville	--	--	93.3	87.3
<u>Winter Loads (2010/11)</u>					
Dispatch 6 (revised)					
	Hilda 12.5 kV	--	--	89.5	85.2
	Elliottville 12.5 kV	--	--	90.8	86.0
Dispatch 0	Hilda	--	--	91.8	85.9
	Elliottville	--	--	93.7	87.1

Source: Power Flow Diagrams

Appendix B1

Load Flow Results for Alternate 1
Cranston - Rowan 138 kV Line

EKPC Spurlock - Avon 345 kV Line Outage

% Loading on KU's Goddard - Rodburn 138 kV Line			
	Gilbert 3 Only		Gilbert 3 & Spurlock 4
	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In Smith - Spencer 138 kV Out
<u>Summer Loads (2005)</u>			
Dispatch 6 (revised)	78.7	79.2	--
<u>Winter Loads (2005/06)</u>			
Dispatch 6 (revised)	80.3	79.7	--
<u>Summer Loads (2010)</u>			
Dispatch 6 (revised)	--	--	89.6
<u>Winter Loads (2010/11)</u>			
Dispatch 6 (revised)	--	--	80.9
			81.5

Source: Power Flow Diagrams

Rodburn - Rowan Co. 138 kV Line Outage

	% Voltage			
	Gilbert 3 Only		Gilbert 3 & Spurlock 4	
	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out
<u>Summer Loads (2010)</u>				
Dispatch 6 (revised)	--	--	96.0	95.2
			98.0	97.3
<u>Winter Loads (2010)</u>				
Dispatch 6 (revised)	--	--	94.9	94.2
			97.6	96.9

Source: Power Flow Diagrams

KU Goddard - Rodburn 138 kV Line Out

	% Voltage							
	Gilbert 3 Only				Gilbert 3 & Spurlock 4			
	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV Out
<u>Summer Loads (2005)</u>								
Dispatch 6 (revised)	Hilda 12.5 kV	95.7	95.6	--	--	--	--	--
	Elliottville 12.5 kV	97.5	97.0	--	--	--	--	--
<u>Winter Loads (2005/06)</u>								
Dispatch 6 (revised)	Hilda 12.5 kV	95.8	94.5	--	--	--	--	--
	Elliottville 12.5 kV	97.9	96.5	--	--	--	--	--
<u>Summer Loads (2010)</u>								
Dispatch 6 (revised)	Hilda 12.5	--	--	94.5	94.5	92.7	92.7	94.2
	Elliottville 12.5 kV	--	--	96.2	96.2	94.2	94.2	94.2
<u>Winter Loads (2010/11)</u>								
Dispatch 6 (revised)	Hilda 12.5	--	--	94.3	94.3	92.8	92.8	95.1
	Elliottville 12.5 kV	--	--	96.8	96.8	95.1	95.1	95.1

Source: Power Flow Diagrams

KU Goddard - Rodburn 138 kV Line Out

% Loading on KU's Goddard - Hilda 69 kV Line			
Gilbert 3 Only		Gilbert 3 & Spurlock 4	
Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out
<u>Summer Loads (2005)</u>			
48.2	50.4	--	--
Dispatch 6 (revised)			
<u>Winter Loads (2005/06)</u>			
46.7	48.3	--	--
Dispatch 6 (revised)			
<u>Summer Loads (2010)</u>			
--	--	54.5	57.7
Dispatch 6 (revised)			
<u>Winter Loads (2010/11)</u>			
--	--	49.7	52.3
Dispatch 6 (revised)			

Source: Power Flow Diagrams

Rodburn - Rowan 138 kV Line Outage

% Loading on Goddard - Hilda 69 kV Line			
Gilbert 3 Only		Gilbert 3 & Spurlock 4	
Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out
<u>Summer Loads (2010)</u>			
--	--	36.3	36.7
Dispatch 6 (revised)			
<u>Winter Loads (2010/11)</u>			
--	--	36.2	36.6
Dispatch 6 (revised)			

Source: Power Flow Diagrams

Appendix B2

Load Flow Results for Alternate
2 Cranston Tap to KU Line

EKPC Spurlock – Avon 345 kV Line Outage

% Loading on KU 's Cranston Tap -Rodburn kV Line				
Gilbert 3 Only			Gilbert 3 & Spurlock 4	
	Smith – Spencer 138 kV In	Smith – Spencer 138 kV Out	Smith – Spencer 138 kV In	Smith – Spencer 138 kV Out
<u>Summer Loads (2005)</u>				
Dispatch 6 (revised)	80.1	80.6	--	--
<u>Winter Loads (2005/06)</u>				
Dispatch 6 (revised)	82.6	82	--	--
<u>Summer Loads (2010)</u>				
Dispatch 6 (revised)	--	--	91.6	92.7
<u>Winter Loads (2010/11)</u>				
Dispatch 6 (revised)	--	--	83.3	83.8

Source: Power Flow Diagrams

Cranston Tap – Rodburn 138 kV Line Out

	% Loading on Goddard - Hilda 69 kV Line			
	Gilbert 3 Only		Gilbert 3 & Spurlock 4	
	Smith – Spencer 138 kV In	Smith – Spencer 138 kV Out	Smith – Spencer 138 kV In	Smith – Spencer 138 kV Out
<u>Summer Loads (2005)</u>				
Dispatch 6 (revised)	66.0	72.1	--	--
<u>Winter Loads (2005/06)</u>				
Dispatch 6 (revised)	66.3	71.4	--	--
<u>Summer Loads (2010)</u>				
Dispatch 6 (revised)	--	--	74.4	82.3
<u>Winter Loads (2010/11)</u>				
Dispatch 6 (revised)	--	--	68.0	74.6

Source: Power Flow Diagrams

KU Cranston Tap – Rodburn 138 kV Line Out

	% Voltage					
	Gilbert 3 Only			Gilbert 3 & Spurlock 4		
	Smith – Spencer 138 kV In	Smith – Spencer 138 kV Out	Smith – Spencer 138 kV In	Smith – Spencer 138 kV In	Smith – Spencer 138 kV Out	Smith – Spencer 138 kV Out
<u>Summer Loads (2005)</u>						
Dispatch 6 (revised)	Hilda 12.5 kV Elliottville 12.5 kV	98.3 100.0	95.7 96.8	-- --	-- --	-- --
<u>Winter Loads (2005/06)</u>						
Dispatch 0	Hilda 12.5 kV Elliottville 12.5 kV	99.6 101.9	97.3 99.2	-- --	-- --	-- --
<u>Summer Loads (2010)</u>						
Dispatch 0 /6 (revised)	Hilda 12.5 kV Elliottville 12.5 kV	-- --	-- --	95.8 97.1	92.4 92.9	92.4 92.9
<u>Winter Loads (2010/11)</u>						
Dispatch 6 (revised)	Hilda 12.5 kV Elliottville 12.5 kV	-- --	-- --	96.6 98.8	92.9 94.4	92.9 94.4

Source: Power Flow Diagrams

Rodburn - Rowan Co. 138 kV Line Outage

% Loading on Goddard - Hilda 69 kV Line				
Gilbert 3 Only		Gilbert 3 & Spurlock 4		
Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	
Summer Loads (2010)	--	58.8	58.7	
Dispatch 6 (revised)	--	60.4	60.3	
Winter Loads (2010/11)	--			
Dispatch 6 (revised)	--			

Source: Power Flow Diagrams

Rodburn - Rowan Co. 138 kV Line Outage

% Voltage				
Gilbert 3 Only		Gilbert 3 & Spurlock 4		
Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	
Summer Loads (2010)	--	97.4	96.9	
Dispatch 6 (revised)	--	99.8	99.4	
Winter Loads (2010/11)	--	95.6	95.1	
Dispatch 6 (revised)	--	98.3	97.9	

Source: Power Flow Diagrams

Rodburn - Rowan CO 138 kV Line Outage

		138 kV Line				% Voltage			
		Gilbert 3 Only		Gilbert 3 & Spurlock 4		Smith - Spencer 138 kV In		Smith - Spencer 138 kV Out	
		Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out	Smith - Spencer 138 kV In	Smith - Spencer 138 kV Out
<u>Summer Loads (2005)</u>									
Dispatch 0	Hilda 12.5 kV	91.0	90.2	90.5	90.0	90.5	90.0	90.5	90.0
	Elliottville 12.5 kV	91.3	90.7	90.9	90.4	90.9	90.4	90.9	90.4
Dispatch 6	Hilda 12.5 kV	91.0	90.6	91.4	91.1	91.4	91.1	91.4	91.1
	Elliottville 12.5 kV	91.2	90.9	91.8	91.5	91.8	91.5	91.8	91.5
<u>Winter Loads (2005/06)</u>									
Dispatch 0	Hilda 12.5 kV	88.5	87.8	88.2	87.5	88.2	87.5	88.2	87.5
	Elliottville 12.5 kV	89.0	88.4	88.7	88.1	88.7	88.1	88.7	88.1
Dispatch 6	Hilda 12.5 kV	86.6	86.3	86.1	85.8	86.1	85.8	86.1	85.8
	Elliottville 12.5 kV	87.2	87.0	86.7	86.5	86.7	86.5	86.7	86.5
<u>Summer Loads (2010)</u>									
Dispatch 6 (revised)	Hilda 12.5 kV	--	--	89.7	89.3	89.7	89.3	89.7	89.3
	Elliottville 12.5 kV	--	--	90.3	90.0	90.3	90.0	90.3	90.0
Dispatch 0	Hilda	--	--	90.5	89.8	90.5	89.8	90.5	89.8
	Elliottville	--	--	91.0	90.4	91.0	90.4	91.0	90.4
<u>Winter Loads (2010/11)</u>									
Dispatch 6 (revised)	Hilda 12.5 kV	--	--	86.7	86.2	86.7	86.2	86.7	86.2
	Elliottville 12.5 kV	--	--	87.9	87.6	87.9	87.6	87.9	87.6
Dispatch 0	Hilda	--	--	87.3	86.7	87.3	86.7	87.3	86.7
	Elliottville	--	--	88.3	87.9	88.3	87.9	88.3	87.9

Source: Power Flow Diagrams

Appendix C

Capital Cost Estimates

EAST KENTUCKY POWER COOPERATIVE CAPITAL COST ANALYSIS

ALTERNATIVE 1: CRANSTON-ROWAN COUNTY 138 KV LINE BY 2004

<u>Project Name</u>	<u>Estimated Cost</u>	<u>Effective Year of Cost</u>	<u>Install Date (Year)</u>	<u>Escalation</u>	<u>IDC @ 5.0%</u>	<u>Escalated Cost + IDC</u>
Cranston-Rowan County 138 kV Line (7.3 miles 795 MCM)	2,793,000	2001	2004	8.3%	151,217	3,175,558
Goddard 138 kV Switching Substation	951,000	2001	2004	8.3%	51,489	1,081,259
Rowan County Substation (Add 2-138 kV breakers)	554,000	2001	2004	8.3%	29,994	629,882
Cranston Substation Switch Structure (2-Way 138 kV Switch)	44,065	1994	2004	31.2%	2,890	60,689
Total Cost	4,342,065					4,947,387

EAST KENTUCKY POWER COOPERATIVE CAPITAL COST ANALYSIS

ALTERNATIVE 2: CRANSTON TAP TO GODDARD-RODBURN 138 KV LINE BY 2004

Project Name	Estimated Cost	Effective Year of Cost	Install Date (Year)	Escalation	IDC @ 5.0%	Escalated Cost + IDC
Cranston-Cranston Tap 138 kV Line (4.7 miles 795 MCM)	1,798,000	2001	2004	8.3%	97,346	2,044,273
Goddard 138 kV Switching Substation	951,000	2001	2004	8.3%	51,489	1,081,259
Cranston Tap 138 kV Switching Substation	951,000	2001	2004	8.3%	51,489	1,081,259
Cranston Substation Switch Structure (2-Way 138 kV Switch)	44,065	1994	2004	31.2%	2,890	60,689
Cranston Tap-Rodburn 138 kV Line Reconductor (4.35 miles 795 MCM ACSR, 100K\$/mile)	435,000	2001	2004	8.3%	23,552	494,582
Goddard-Hilda 69 kV Line Reconductor (13.66 miles 556.5 MCM ACSR)	833,260	1999	2004	13.6%	47,342	994,173
Elliottville Capacitor Bank (12.25 MVAR)	172,000	2000	2004	11.0%	9,549	200,525
Rowan County Capacitor Bank (14.29 MVAR)	187,000	2000	2004	11.0%	10,382	218,013
Total Cost	5,371,325					6,174,772

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

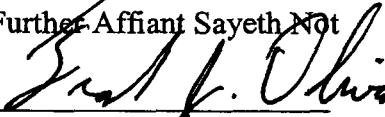
THE APPLICATION OF EAST KENTUCKY)
POWER COOPERATIVE, INC. FOR A CERTIFICATE)
OF PUBLIC CONVENIENCE AND NECESSITY FOR) . CASE NO
FOR THE CONSTRUCTION OF A 138 kV ELECTRIC) 2005-00089
TRANSMISSION LINE IN ROWAN COUNTY,)
KENTUCKY)

AFFIDAVIT OF FRANK J. OLIVA

Comes the Affiant, Frank J. Oliva, and states after first being duly sworn as follows:

1. That the Affiant is employed by the Applicant in the position of Manager of Finance, Planning and Risk Management, and in that capacity, directs and supervises Applicant's activities related to the Applicant's financial condition including without limitation the financing of and the monitoring of all capital outlays for projects such as the Cranston-Rowan Transmission Line.
2. That the Cranston-Rowan Project will initially be funded by the Applicant's available general funds. Subsequently, the Applicant proposes to finance this project with a long-term loan from the Rural Utilities Service.
3. That this project does not involve a sufficient capital outlay to materially affect the existing financial condition of the Applicant.

Further Affiant Sayeth Not


FRANK J. OLIVA

STATE OF KENTUCKY)

)

COUNTY OF CLARK)

Subscribed and sworn before me by Frank J. Oliva on this 13th day of April,
2005,

My Commission expires: October 28, 2006

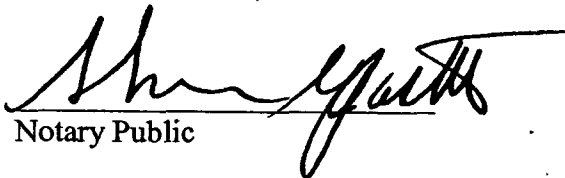

Notary Public



EXHIBIT V

ERNIE FLETCHER
GOVERNOR

KENTUCKY TRANSPORTATION CABINET
Department of Highways, District Nine
Elizaville Road, P.O. Box 347
Flemingsburg, Kentucky 41041
606/845-2551 (Fax) 606/849-2286
WWW.KENTUCKY.GOV

MAXWELL C. BAILEY
SECRETARY

March 23, 2005

MIKE TRAVIS
P. O. BOX 707, 4775 LEXINGTON ROAD
WINCHESTER, KY 40391

SUBJECT: Bath County, MP-6-11-0
KY 11 (COUNTIES & RTS. IN D9)
Permit Number 09-0088-05

Dear MIKE TRAVIS:

Your application for an encroachment permit has been approved by the Department of Highways. We are returning two copies of the approved permit so one may be kept in your record files. The other copy must be given to the party responsible for completing the project and must be kept at the jobsite at all times.

Please see that the work is done in strict conformity with the permit and any other applicable conditions (See Form TC99-21 and any other attached documents, conditions or specifications). The work should be completed no later than January 1, 2006. When the permitted work and any necessary restoration have been completed please notify this office by using the attached form which will serve as notification for final inspection.

If there are any questions regarding this permit, please do not hesitate to contact Daniel Suit, District Permit Supervisor at 606-845-2551 or fax number 606-849-2286.

Sincerely,

A handwritten signature in cursive script that reads "Katrina O. Bradley".

KATRINA O. BRADLEY, P. E.
Chief District Engineer
Department of Highways
District 9 -Flemingsburg
P.O. Box 347
Flemingsburg, KY 41041

KENTUCKY TRANSPORTATION CABINET
Department of Highways
Permits Branch

TC 99-1E
Rev. 10/01

Issued Date _____

ENCROACHMENT PERMIT

PERMIT NO. 09-0088-05

VT IDENTIFICATION: NAME: <u>EAST KENTUCKY POWER COOPERATIVE, INC.</u> CONTACT PERSON: <u>MIKE TRAVIS</u> ADDRESS: <u>PO BOX 707, 4775 LEXINGTON ROAD</u> CITY: <u>WINCHESTER</u> STATE: <u>KY</u> ZIP CODE: <u>40391</u> PHONE: area code <u>(859)</u> <u>744-4864, Ext. 483</u>		PROJECT IDENTIFICATION: ACCESS CONTROL <input checked="" type="checkbox"/> By Permit <input checked="" type="checkbox"/> Partial <input type="checkbox"/> Full COUNTY: <u>VARIOUS</u> PRIORITY ROUTE NO: <u>VARIOUS</u> MILEPOINT: <u>VARIOUS</u> <input type="checkbox"/> Left <input type="checkbox"/> Right <input type="checkbox"/> X-ing PROJECT STATUS: <input type="checkbox"/> Maint. <input type="checkbox"/> Const. <input type="checkbox"/> Design PROJECT # STATE: _____ PROJECT # FEDERAL: _____ ROAD/STREET NAME: _____	
TYPE OF ENCROACHMENT: <input type="checkbox"/> COMMERCIAL ENTRANCE - BUSINESS _____ <input type="checkbox"/> PRIVATE ENTRANCE: <input type="checkbox"/> Single Family <input type="checkbox"/> Farm <input checked="" type="checkbox"/> UTILITY: <input checked="" type="checkbox"/> Overhead <input type="checkbox"/> Underground <input type="checkbox"/> GRADE: <input type="checkbox"/> Fill <input type="checkbox"/> Landscape on R/W <input type="checkbox"/> AIRSPACE: <input type="checkbox"/> Agreement <input type="checkbox"/> Lease <input type="checkbox"/> OTHER: (Specify) _____		ATTACHMENTS: <input type="checkbox"/> Standard Drawings (List on TC 99-21 under Misc.) <input checked="" type="checkbox"/> Applicant's Plans <input type="checkbox"/> Highway Plan and Profile Sheets <input type="checkbox"/> TC 99-3 (Pending Encroachment Specs. & Conditions) <input type="checkbox"/> TC 99-4 (Rest Area Usage Specs. & Conditions) <input type="checkbox"/> TC 99-5 (Tree Cutting/Trimming Specs. & Conditions) <input type="checkbox"/> TC 99-6 (Chemical Use of Specs. & Conditions) <input type="checkbox"/> TC 99-10 (Typical Hwy. Boring Crossing Detail) <input type="checkbox"/> TC 99-12 (Overhead Utility Encroachment Diagram) <input type="checkbox"/> TC 99-13 (Surface Restoration Methods) <input type="checkbox"/> TC 99-21 (Encroachment Permit General Notes & Specs.) <input type="checkbox"/> TC 99-22 (Agreement for Services to be Performed) <input type="checkbox"/> TC 99-23 (Mass Transit Shelter Specs. & Conditions) <input type="checkbox"/> Other Attachments (Specify): _____	
INDEMNITY: <input checked="" type="checkbox"/> Bond \$ <u>5,000.</u> <input type="checkbox"/> Cash <input type="checkbox"/> UNINSURED AMOUNT ENCUMBERED \$ _____ <input type="checkbox"/> OTHER _____			
NAME AND ADDRESS OF LOCAL INSURANCE AGENCY OR SELF-INSURED REPRESENTATIVE: <u>KY RECC Bond Company</u>			

INDEMNITY: The applicant, in order to secure this obligation, has deposited with the Transportation Cabinet as a guarantee of conformance with the Department's Encroachment Permit requirements, an indemnity in the amount of \$ 2 million as determined by the Department. It shall be the responsibility of the applicant or permittee, his heirs and assignees to keep all indemnities in full force until construction or reconstruction has been completed and duly accepted by an authorized agent of the Transportation Cabinet, Department of Highways.

BRIEF DESCRIPTION OF WORK TO BE DONE:

CONSTRUCT AND MAINTAIN AN OVERHEAD TRANSMISSION LINE ACROSS KENTUCKY DEPARTMENT OF TRANSPORTATION HIGHWAY R/W, AS NOT TO PLACE ANY EQUIPMENT ON AND/OR UNDER SAID R/W. APPLICANT AGREES TO ADHERE TO ALL RULES AND REGULATIONS SET FORTH BY THE DEPT. OF TRANS. AND ATTACHED TO THIS PERMIT.

All necessary safety precautions must be taken at all times: signs, flaggers, etc. Specifications are listed in the Traffic Control for Work Zones Handbook. Please see attached form TC 99-21 for general notes.

IMPORTANT (PLEASE READ): Applicant does does not intend to apply for excess R/W

When the work is completed in accordance with the terms of this encroachment permit, your indemnity will be released. However, the permit is effective until revoked by the Transportation Cabinet and the terms on the permit accompanying permit documents and drawings remain in effect as long as the encroachment exists. **FUTURE MAINTENANCE OF THE ENCROACHMENT IS THE RESPONSIBILITY OF THE PERMITTEE.** It is important that you understand the requirements of this encroachment permit application and accompanying documents. If you have not done so, it is suggested that you review these documents and place the permit package in a safe place for future reference.

2 *If this permit and all documents shall be given to your contractor and shall be readily available at the work site for the encroachment per. inspector to review at all times. Failure to meet this requirement may result in cancellation of this permit.*

IN THE EVENT THIS APPLICATION IS APPROVED, THIS DOCUMENT SHALL CONSTITUTE A PERMIT FOR THE APPLICANT TO USE THE RIGHT-OF-WAY, BUT ONLY IN THE MANNER AUTHORIZED BY THIS DOCUMENT AND THE REGULATIONS OF THE DEPARTMENT AND THE DRAWINGS, PLANS, ATTACHMENTS, AND OTHER PERTINENT DATA ATTACHED HERETO AND MADE A PART OF HEREOF.

ATTACHMENT "A"

PERMIT NO. 09-0088-05

- > **Non-compliance with any and all requirements set forth in this permit may result in nullification of this permit.**
- > **Notification by e-mail, fax, or posted mail is to be submitted to the Department of Highways, District 9, Permits Office a full five (5) working days in advance of proposed work. Unless the applicant is informed within the five (5) day period that the work cannot be approved or that modifications are required, the proposed work may proceed. Information required will be the County, State Route Number, Milepoint, and Type of Utility crossing the highway. Milepoints can be obtained from the following website: <http://transportation.ky.gov/planning/reports.shtm>. The name of the person or business being served is also required.**
- > **The notification of completion shall be provided to this office by the same means as listed above within a five (5) day period of completion of the project. If, for some reason, the right-of-way has been disturbed and requires restoration, the notice of completion will be provided to this office for inspection after restoration and revegetation is established.**
- > **This permit is valid for an interval not to exceed one (1) year. This permit will expire on December 31 of the year it was issued.**
- > **All items listed on TC 99-21 apply.**
- > **All work approved under this permit must be completed in the permit year.**
- > **Any poles, anchors, or other equipment to be placed upon state highway right-of-way will have to be permitted using the usual process. This blanket permit will not be approved for that purpose.**
- > **A copy of the blanket permit, general notes and specifications, and Guidelines for Traffic Control In Work Zones will be present in each vehicle performing the encroachment work.**
- > **This blanket permit will not cover fully controlled access highways such as I-64 and KY 67. The usual process in obtaining a permit will be adhered.**

ENCROACHMENT PERMIT GENERAL NOTES & SPECIFICATIONS

UTILITY

A. General Requirements

- All signs and control of traffic shall be in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways, latest edition, Part VI, and safety requirements shall comply with the Permits Manual.
- All work necessary in shoulder or ditchline areas of a state highway is to be scheduled to be promptly completed so that hazards adjacent to the traveled-way are kept to an absolute minimum.
- No more than one (1) traveled-lane is to be blocked or obstructed during normal working hours. All signs and flagmen during lane closure shall conform to the Manual on Uniform Traffic Control Devices.
- When it is necessary to block one (1) traveled-lane of a state highway, the normal working hours shall be as directed by the Department. No lanes are to be blocked or obstructed during adverse weather conditions (i.e., rain, snow, fog, etc.) without specific permission from the Department. Working hours shall be between 8:30 a.m. and 3:30 p.m.
- The traveled-way and shoulders shall be kept clear of mud and other construction debris at all times during construction of the permitted facility.
- No nonconstruction equipment or vehicles or office trailers will be allowed on the right-of-way during working hours.
- The right-of-way shall be left free and clear of equipment, material, and vehicles during non-working hours.

B. Explosives

- No explosive devices or explosive material shall be used within state right-of-way without proper license and approval of Kentucky Department of Mines and Minerals, Explosive Division.

C. Other Safety Requirements

- SEE ATTACHMENT "A"

UTILITIES

- *All work necessary within the right-of-way shall be behind a temporary fence erected prior to a boring operation.
- *The temporary woven wire fence shall be removed immediately upon completion of work on the right-of-way and control of access immediately restored to original condition, in accordance with applicable Kentucky Department of Highways Standard Drawings.
- *All vents, valves, manholes, etc. are to be located outside the right-of-way.
- *Encasement pipe shall extend from right-of-way line to right-of-way line and shall be one continuous run of pipe. The encasement pipe shall be welded at all joints.
- The boring pit and tail ditch shall extend past the existing toe of slope or bottom of ditch line and shall be a minimum of 30" deep.
- Encasement pipe shall conform to current standards for highway crossings in accordance with the Permits Manual.
- Parallel lines shall be constructed between back slope of ditch line and right-of-way line and shall have a minimum of _____" cover above top of pipe or conduit. (30" preferred)
- All pavement cuts shall be restored per Kentucky Transportation Cabinet Form No. TC 99-13.
- Aerial crossing of this utility line shall have a minimum clearance of /SEE TC (99-12) feet from the high point of the roadway to the low point of the line (calculated at the coefficient for expansion of 120 degrees Fahrenheit).
- The 30' clear zone requirement will be met to the extent possible in accordance with Chapter 99-02.0313 of the Permits Manual.
- Special Requirements:

VI. PAVING

- No bituminous pavement is to be installed within the right-of-way between November 15 and April 1, nor when the temperature is below 40°F, without the express consent of the Department. No bituminous pavement is to be installed when the underlying course is wet.

Paving within the right-of-way shall be as follows:

- Base (Type) _____ (Thickness) _____
- Surface Base (Type) _____ (Thickness) _____
- Finished Surface (Type) _____ (Thickness) _____
- Existing pavement and shoulder material shall be removed to accommodate the above paving specifications.
- The finished surface of all new pavement within the right-of-way shall be true to the required slope and grade, uniform in density and texture, free of irregularities, and equivalent in riding qualities to the adjacent highway pavement or as determined by the Department of Highways.
- All materials and methods of construction, including base and subgrade preparation, shall be in accordance with Kentucky Department of Highways Specifications for Road and Bridge Construction, latest edition.
- 24 hours notice to the Department is required prior to beginning paving operations:
Phone: _____ Name _____
- To insure proper surface drainage the new pavement is to be flush with the edge of existing highway pavement and is to slope away from the existing edge of the pavement as specified on drawings.
- Existing edge of pavement shall be saw cut to provide a straight and uniform joint for new pavement. An approved joint sealer, in accordance with Kentucky Department of Highways Standard Specifications (latest edition) shall be applied between new and existing pavement.

VI. SIDEWALKS SPECIFICATIONS

A. New Sidewalks

- Sidewalks are to be constructed of Class A concrete (3,500 p.s.i. test), are to be * _____ feet in width, are to be 6" in thickness across the bituminous entrance and 4" in thickness across the remaining sections.
- Sidewalks are to have tooled joints, not less than 1" in depth at four (4) foot intervals, and ½ preformed expansion joints extending entirely through the sidewalk at intervals not to exceed fifty (50) feet.

* This dimension should be equal to the width of the sidewalk

- All materials and methods of construction, including curing, is to be in accordance with Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, latest edition.

B. Existing Sidewalks

- (Applicable if existing sidewalks are being relocated) Use of the sidewalk is not to be blocked or obstructed, and a usable walkway is to be maintained across the construction area at all times.
- All damaged sections of the sidewalks are to be entirely replaced to match existing sections.

VI. DENSE GRADED SHOULDERS

- Any existing dense graded aggregate shoulders in the entire frontage within the construction area, which have been disturbed, damaged, or on which dirt has been placed or mud is deposited or tracked, are to be restored to original condition by removal of all contaminated material and replaced to proper grade with new dense graded aggregate.
- All new aggregate shoulders as specified on the plan are to consist of 5" compacted dense graded aggregate 2½ pounds per square yard calcium chloride.
- All dense graded aggregate shoulders are to slope away from the new edge of pavement at the rate of ¾" per foot.

VI. CURBING

A. Bituminous Curbs

- Bituminous concrete curbs shall be given a paint coat of asphalt emulsion.
- The surface under the bituminous concrete curb shall be tacked with asphalt emulsion.
- Bituminous concrete curbs shall be constructed of a Class I bituminous concrete mixture as specified by official Department of Highways specifications.
- All bituminous curbs shall be of the rolled curb type with a minimum base width of 8" and a minimum height of _____ inches. The top of the curb shall be constructed in such a manner as to guarantee a uniform rolled effect throughout the entire run.

OVERHEAD UTILITY ENCROACHMENT DIAGRAM

COUNTY _____

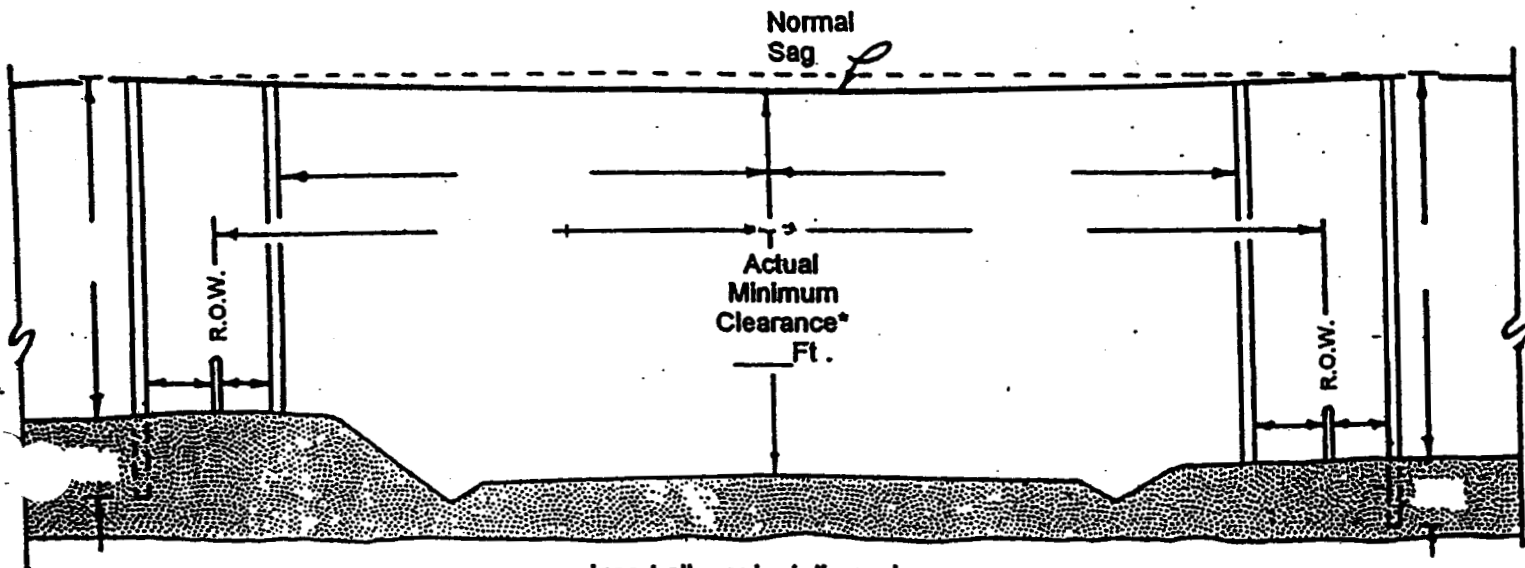
APPLICANTS NAME _____

Permit No. _____

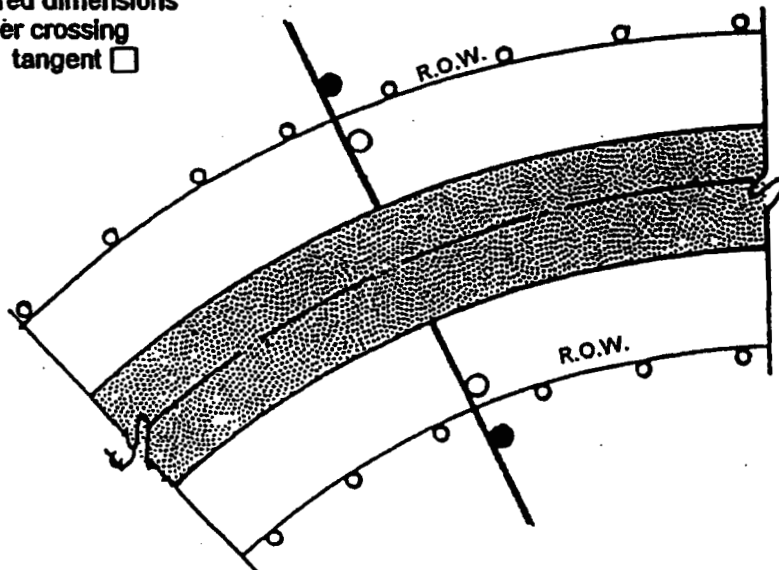
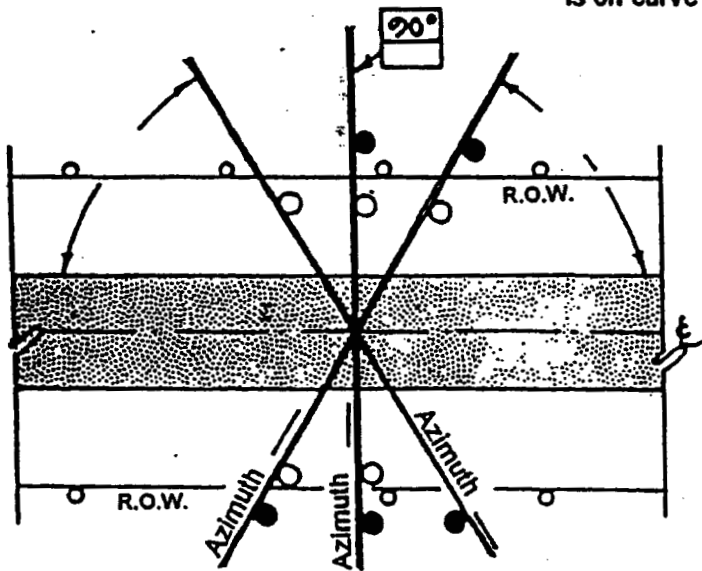
Maint. Project No. _____

Const. Project No. _____

Mile Point _____

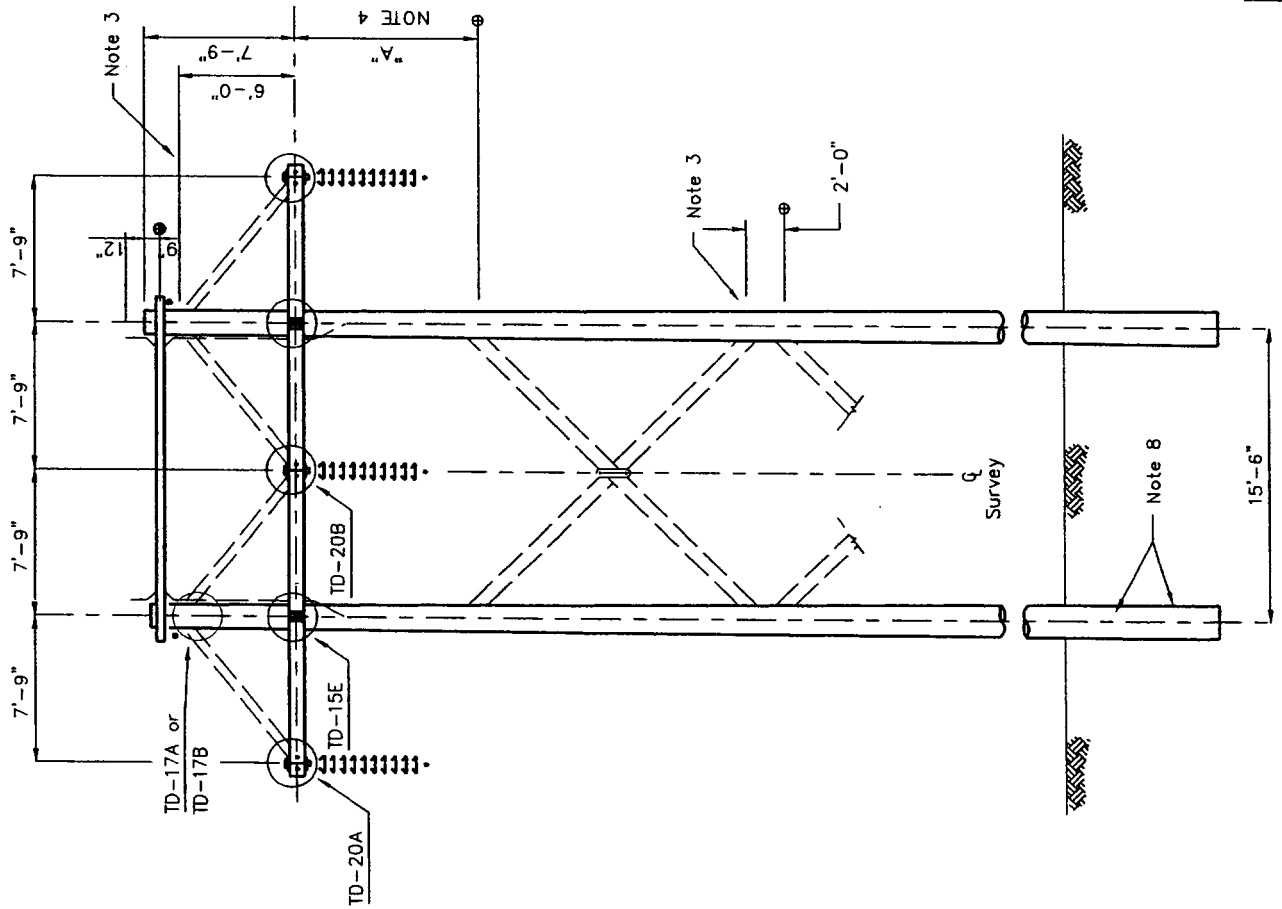


Insert all required dimensions
 indicate whether crossing
 is on curve tangent



INSERT ANGLE OF CROSSING & AZIMUTH OF LINE
 Minimum Allowable
 Clearances

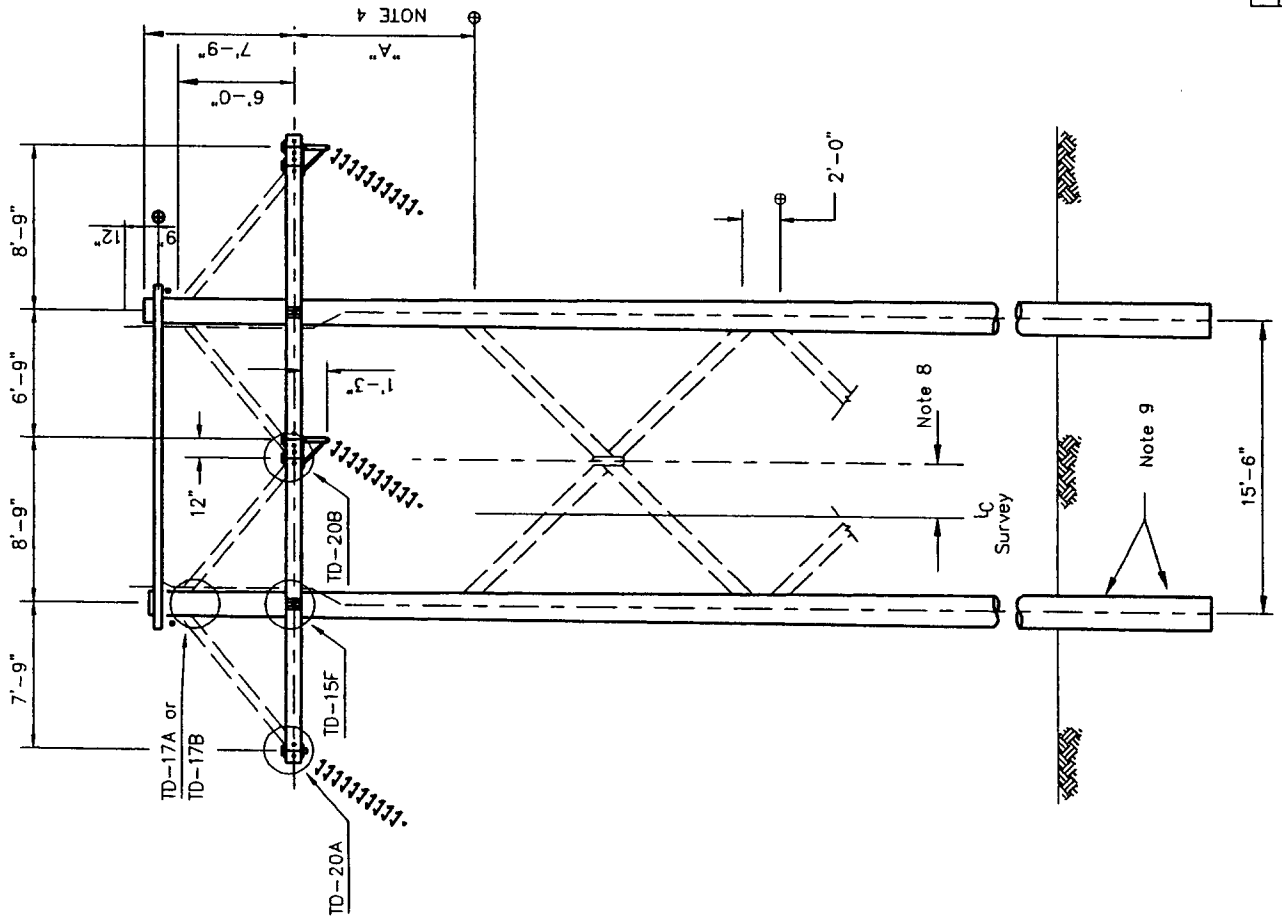
- 0-750 Volts 18 ft.
- 750-15,000 Volts 20 ft.
- 15,000-50,000 Volts 22 ft.
- ON INTERSTATE ROUTES - ALL ENERGIZED LINE CROSSING - 24 ft.



NOTES:

- Description and materials for structures are as follows:
 TH-10 - no braces
 TH-10X - one brace
 TH-10V0 - two outside X-arm braces
 TH-10VOX - same as TH-10V0 w/one X-brace
 TH-10VI - two inside X-arm braces
 TH-10VIX - same as TH-10VI w/one X-brace
 TH-10V4 - four X-braces
 TH-10V4X - same as TH-10V4 w/one X-brace
 (for two X-braces, structure designation to use "XX" suffixes)
- X-braces and Knee braces may or may not be required, depending on structure loading.
- Dimensions "A" shall be as shown on pole framing drawing.
- For other requirements, refer to REA specification T-7.
- For strength limitations of OHGW support assembly, see TM-7B or TM-7C
- Drawing TE-2 gives guidance to subassembly alternatives.
- The following materials are to be specified on plan & profile drawings on staking sheets:
 POLES, POLE GROUNDING ASSEMBLIES, AND ADDITIONAL GROUNDING
 OR POLE FOUNDATION UNITS.

TRANSMISSION LINE STRUCTURE	
STEEL TANGENT H-FRAME (161kv MAXIMUM)	
NO.	REVISION
DATE	
TH-10 SERIES	



NOTES:

1. Description of structures are similar to TH-10 series.
2. Double X-arms shall be shipped with factory assembled hardware.
3. X-braces and Knee braces may or maynot be required, depending on structure loading.
4. For other requirements, refer to REA specification T-7.
5. For strength limitations of OHGW support assembly, see TM-7B or TM-7C
6. Drawing TE-2 gives guidance to subassembly alternatives.
7. For guying arrangements and offset table see drawing TMG-11.
8. The following materials are to be specified on plan & profile drawings on staking sheets:
POLES, POLE GROUNDING ASSEMBLIES, AND ADDITIONAL GROUNDING
OR POLE FOUNDATION UNITS.

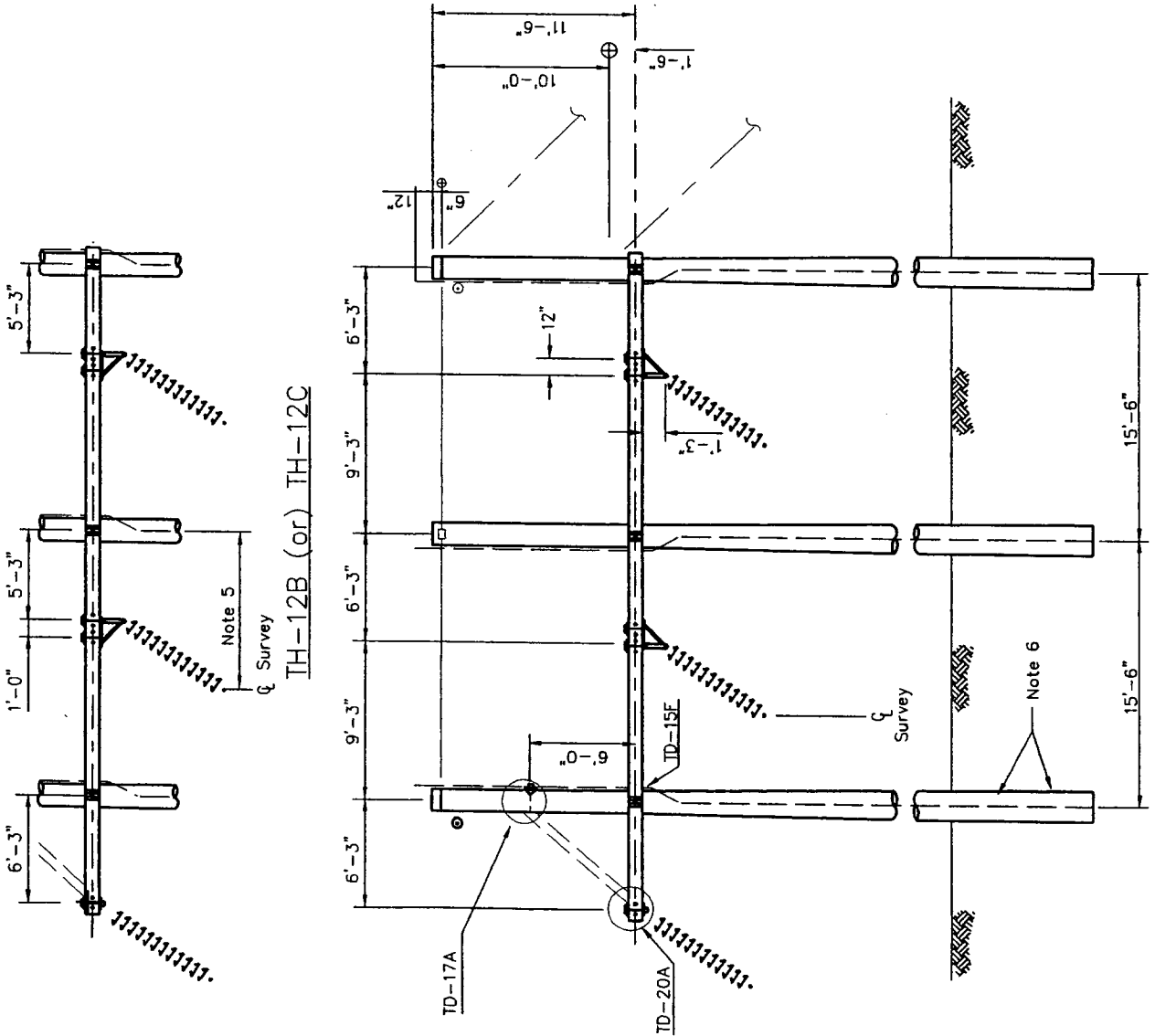
TRANSMISSION LINE STRUCTURE

STEEL SMALL ANGLE H-FRAME
(161kv MAXIMUM)

NO.	REVISION	DATE

Reissued 03/98

TH-11 SERIES



NOTES:

1. Description for structures are as follows:
 TH-12 - no braces and symmetrical brackets
 TH-12A - brace and symmetrical brackets
 TH-12B - no braces and unsymmetrical brackets
 TH-12C - brace and unsymmetrical brackets
2. Double X-arms shall be shipped complete with factory assembled hardware.
3. Drawing TE-2 gives guidance to subassembly alternatives.
4. For guying arrangements and offset table, see drawing TMG-12.
7. The following materials are to be specified on plan & profile drawings on staking sheets:
 POLES, POLE GROUNDING ASSEMBLIES, GUYING ASSEMBLIES, ANCHORS,
 AND ANY ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.

TRANSMISSION LINE STRUCTURE	
STEEL INTERMEDIATE ANGLE (161kv MAXIMUM)	

NO.	REVISION	DATE

TH-12 (or) TH-12A

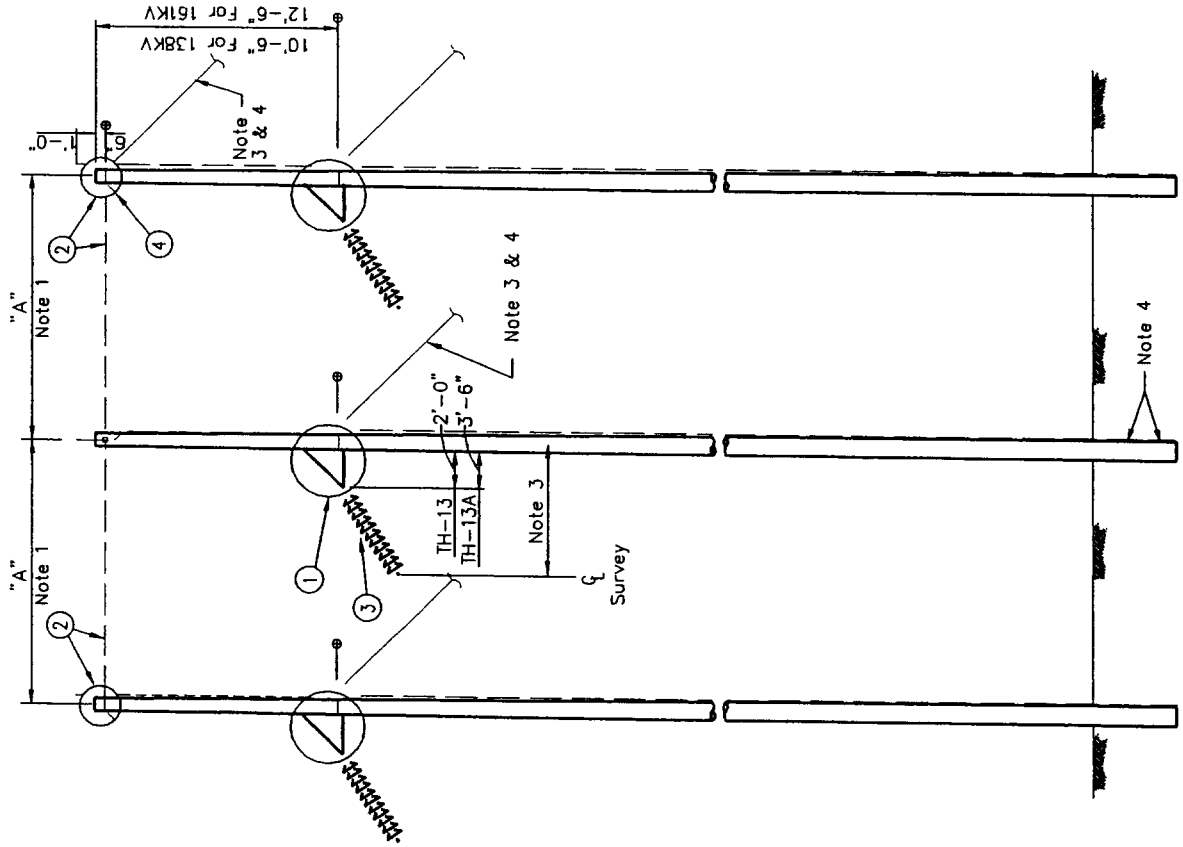
Reissued 03/98

TH-12 SERIES

EXHIBIT VI₄

LIST OF MATERIALS

DWG. QTY. REF.	DESCRIPTION	ITEM	DET.	CODE No.
1	3 BRACKET & GUY ATTACH., MEDIUM DUTY	-	TG-29	
2	1 POLE TIE, LARGE ANGLE, MEDIUM DUTY	-	TG-A	
3	3 INSULATOR ASSEMBLY, ANGLE	-	TM-C	
4	2 OHGW ASSEMBLY, ANGLE	-	TM-4	



NOTES:

- For 1V:1H guy slopes, the minimum pole spacing, dimension "A", are:

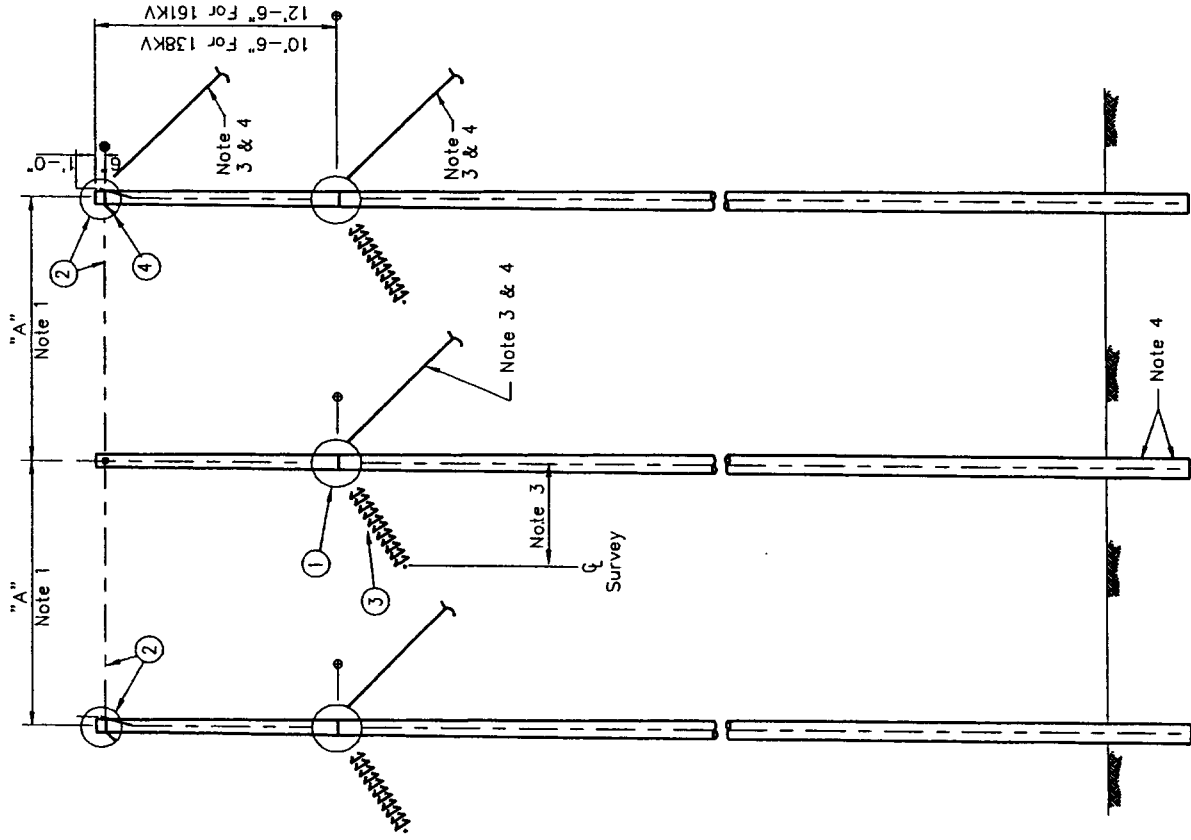
Structure	138 kv	161 kv
TH-13	18'-6"	20'-0"
TH-13A	21'-0"	22'-6"
- Drawing TE-2 gives guidance to subassembly alternatives.
- For guying arrangements and offset table, see drawing TMG-13. Pole spacing shall conform to minimum dimensions unless otherwise indicated.
- The following materials are to be specified on plan and profile drawings and staking sheets: POLES, POLE GROUNDING ASSEMBLY, GUYING ASSEMBLIES, ANCHORS, AND ANY ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.

TRANSMISSION LINE STRUCTURE	
STEEL MEDIUM ANGLE (161kv MAXIMUM)	
NO.	DATE
REVISION	
TH-13,13A	

EXHIBIT VI 5

LIST OF MATERIALS

DWG. REF.	QTY.	DESCRIPTION	ITEM	DET.	CODE No.
1	3	GUY ATTACHMENT, MEDIUM DUTY	-	TG-__D	
2	1	POLE TIE, LARGE ANGLE, MEDIUM DUTY	-	TG-__A	
3	3	INSULATOR ASSEMBLY, ANGLE	-	TM-__C	
4	2	OHGW ASSEMBLY, ANGLE	-	TM-4__	



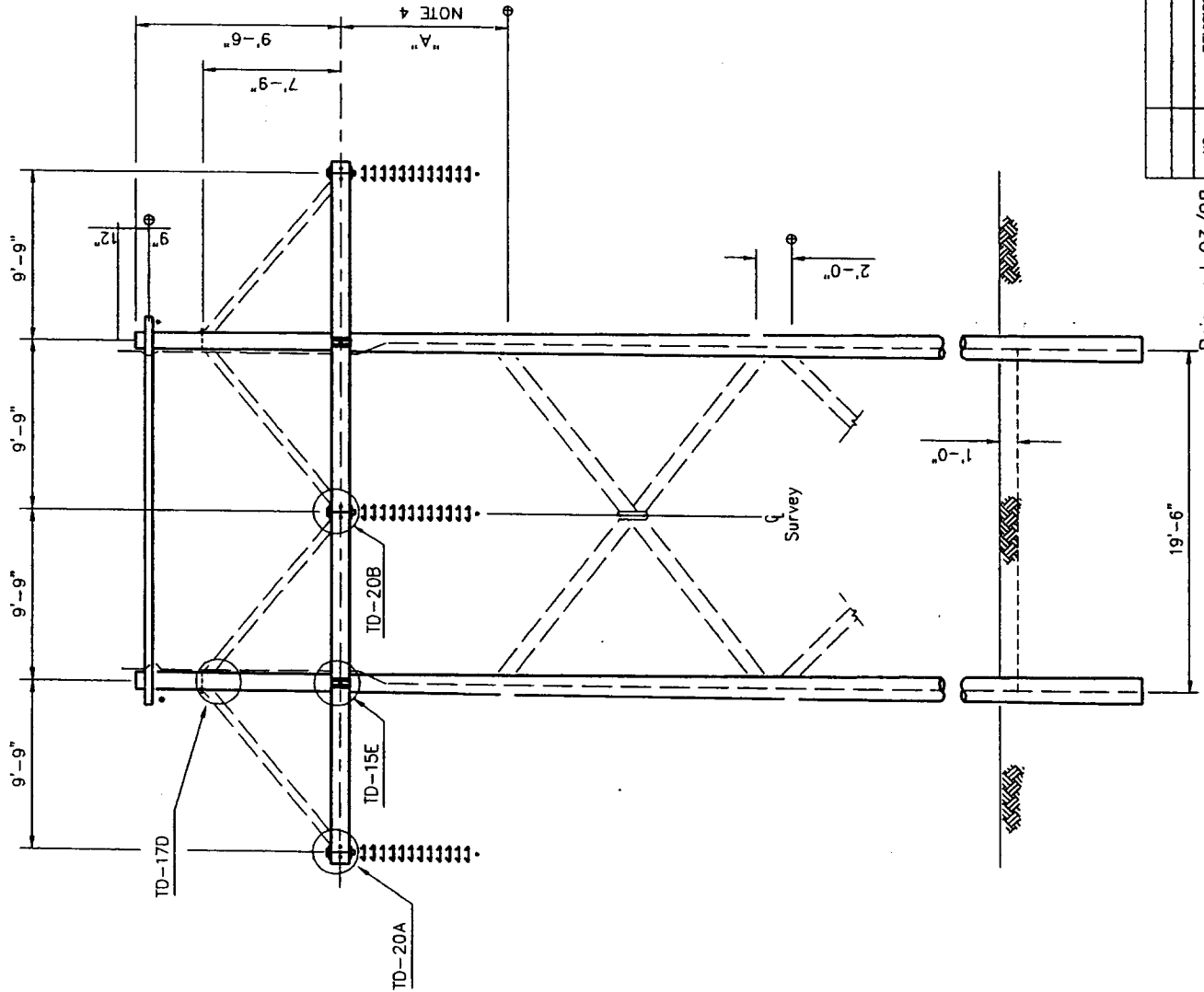
NOTES:

- For 1V:1H guy slopes, the minimum pole spacing, dimension "A" are:
 Structure TH-14 138 kv 161 kv
 17'-6" 20'-0"
- Drawing TE-2 gives guidance to subassembly alternatives.
- For guying arrangements and offset table, see drawing TMG-13. Pole spacing shall conform to minimum dimensions unless otherwise indicated.
- The following materials are to be specified on plan and profile drawings and staking sheets: POLES, POLE GROUNDING ASSEMBLY, GUYING ASSEMBLIES, ANCHORS, AND ANY ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.

TRANSMISSION LINE STRUCTURE
 LARGE ANGLE
 (161KV MAXIMUM)

NO.	REVISION	DATE

EXHIBIT VI 6



NOTES:

1. Double X-arms shall be shipped with factory assembled hardware.
2. X-braces and Knee braces may or may not be required, depending on structure loading.
3. Dimensions "A" shall be as shown on pole framing drawing.
4. Structure TH-230X is the same as TH-230 w/one additional X-brace.
5. For assembly requirements, see REA specification T-8.
6. For strength limitations of OHGW support assembly, see TM-7D.
6. Drawing TE-2 gives guidance to subassembly alternatives.
7. The following materials are to be specified on plan & profile drawings on staking sheets: POLES, POLE GROUNDING ASSEMBLIES, AND ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.

TRANSMISSION LINE STRUCTURE

STEEL TANGENT H FRAME
(230kv MAXIMUM)

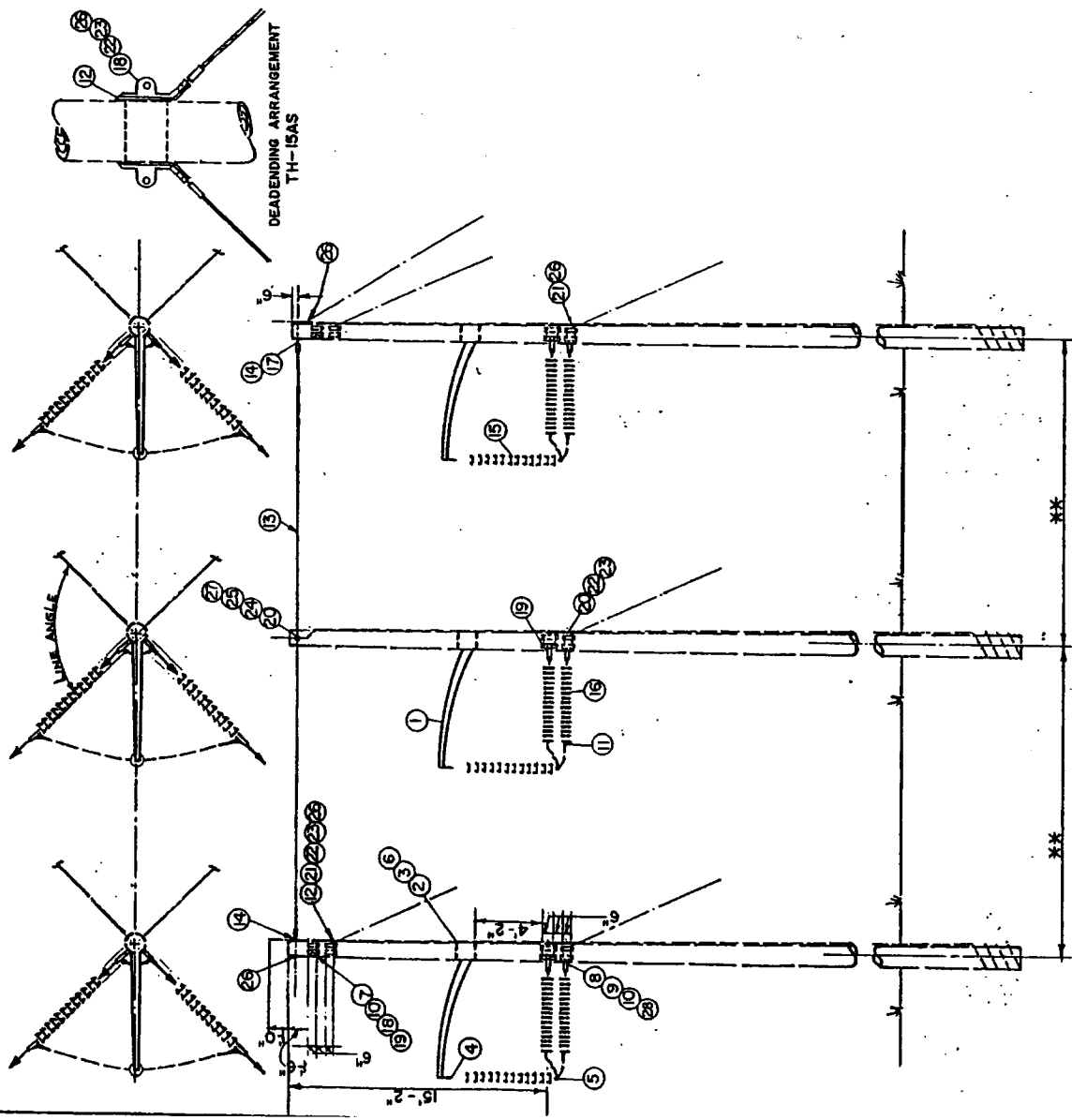
Reissued 03/98

NO.	REVISION	DATE

TH-230

NOTES:

- *1. AS REQUIRED, SEE DRG. TH-1.
- 2. POLE SPACING TO CONFORM TO SPACING SHOWN UNLESS OTHERWISE INDICATED ON PLAN AND PROFILE SHEETS.
- 3. ANY FIELD DRILLED POLE HOLES SHALL BE PRESSURE TREATED.
- 4. TIGHTEN MACHINE BOLTS UNTIL GRID GAIN TEETH ARE INDENTED FULL DEPTH INTO POLE.
- **5. AS SPECIFIED.



DEADENDING ARRANGEMENT
TH-15AS

SHEET	1	OF	1
SCALE:	NONE		
REV.			

TRANSMISSION LINE
DOUBLE DEADEND STRUCTURE - THREE POLE

EAST KENTUCKY POWER
COOPERATIVE

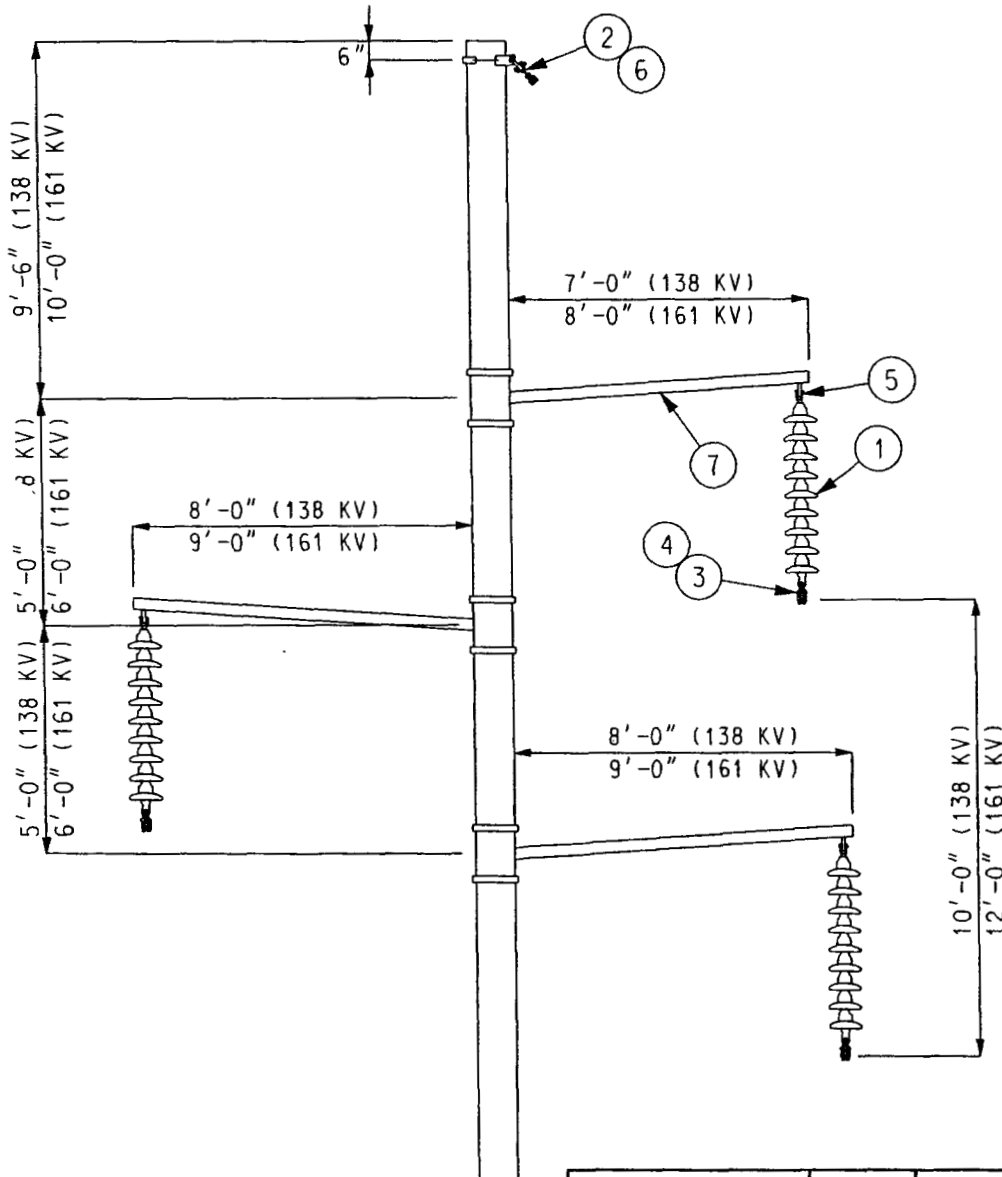
DRAWN	DATE	10/24
TRACED	DATE	
CHECKED	DATE	11/11/41

TH-15S

DWG REF	NO	MATERIAL	ITEM
1	*	5 3/4" X 10" INSULATOR, SUSPENSION, 15,000#, ANSI CLASS 52.3 M&E RATING	
2	1	SUSPENSION CLAMP, OVERHEAD GROUND WIRE	
	3	SUSPENSION CLAMP AND SOCKET EYE, CONDUCTOR	
4	3	ARMOR RODS	
5	3	BALL Y CLEVIS	
6	1	SHACKLE CHAIN, 3/4"	
7	3	DAVIT ARM (TM-115__)	

* 9 INSULATORS PER STRING - 138 KV
 11 INSULATORS PER STRING - 161 KV

EXHIBIT VI₈



APPROVALS	DATE	EAST KENTUCKY POWER WINCHESTER, KENTUCKY 40392 SINGLE POLE DAVIT ARM STEEL POLE 161 KV CONSTRUCTION TU-1S
DRAWN <i>Mike Travis</i>	5-11-04	
DESIGNED		
CHECKED <i>Jim Morton</i>	6-1-04	
APPROVED <i>Dominic Ballard</i>	6-1-04	
B. C. _____ W. O. _____	SCALE: NONE	DWG. NO. TU-1S
AS BUILT =	SHEET 1 OF 1	

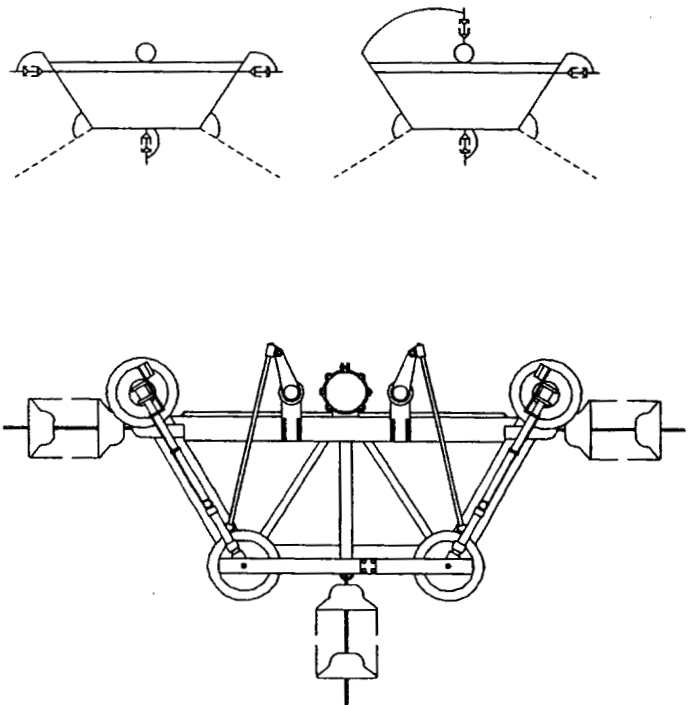
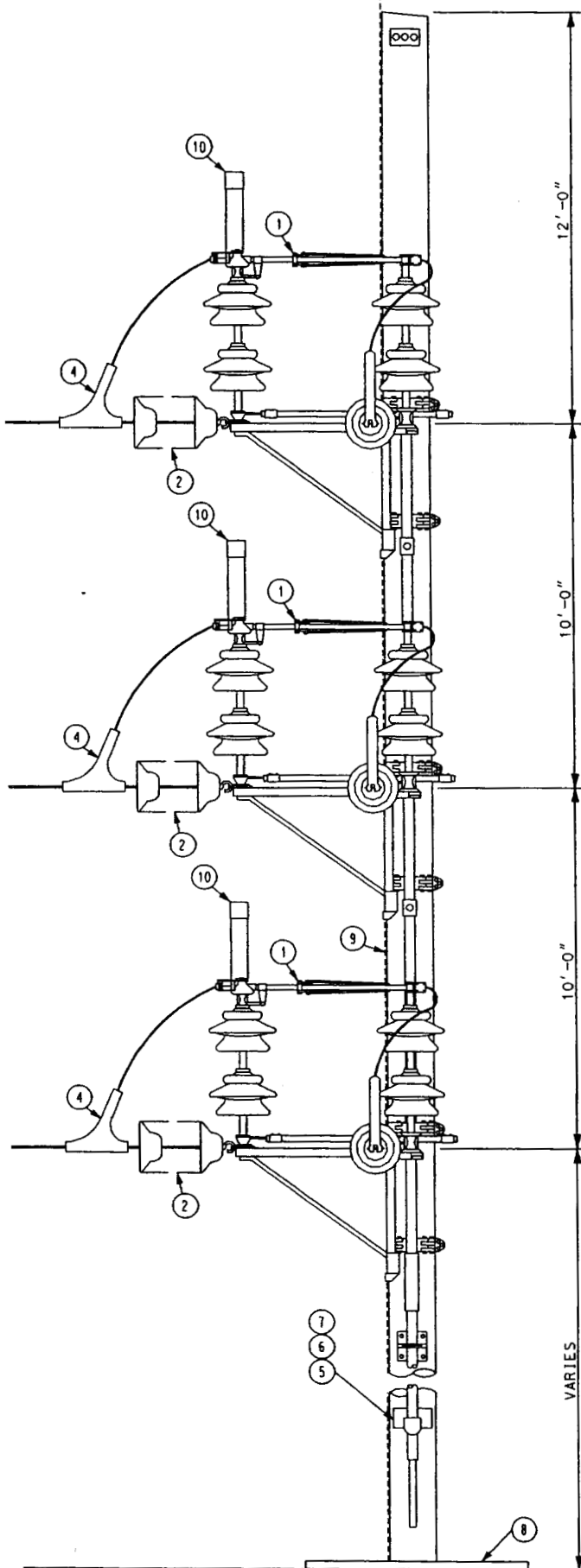
EXHIBIT VI₉

LIST OF MATERIAL

DWG REF	REQ'D	DESCRIPTION
1	1	2-WAY AIR BREAK SWITCH ASSEMBLY
2	54	5 ³ / ₄ " X 10" SUSPENSION INSULATORS
3	9	SUSPENSION HOOKS
4	9	DEAD END CLAMP & CONNECTION PIECE
5	4	5/8" X 22" MACHINE BOLT
6	4	LOCKNUTS FOR 5/8" BOLT, MF TYPE
7	2	2 ¹ / ₄ " X 2 ¹ / ₄ " X 3/16" GALV. SO. WASHER 13/16"
8	1	TM-9C(2) GROUNDING ASSEMBLY
9	1	TM-9R GROUNDING ASSEMBLY
10	6	ARC INTERRUPTERS
11	1	TM-6B OHGW SUPPORT
12	1	3/4" X 12" EYE BOLT
13	1	LOCKNUTS FOR 3/4" BOLT
14	1	OHGW DEAD END CLAMP

NOTES:

- ENGINEER TO SPECIFY POLE HEIGHT AND CLASS
- SEE MANUFACTURERS INSTRUCTIONS FOR FINAL SWITCH ADJUSTMENTS.



		NO	REVISION	DWN	APP	DRAWN <u>MIKE TRAVIS</u> CHECKED _____ REVIEWED _____ APPROVED _____	EAST KENTUCKY POWER COOPERATIVE WINCHESTER, KENTUCKY	2-WAY 69KV AIR BREAK SWITCH VERTICAL MOUNT	Scale: None WO No. 440 Dwg #TM-3B
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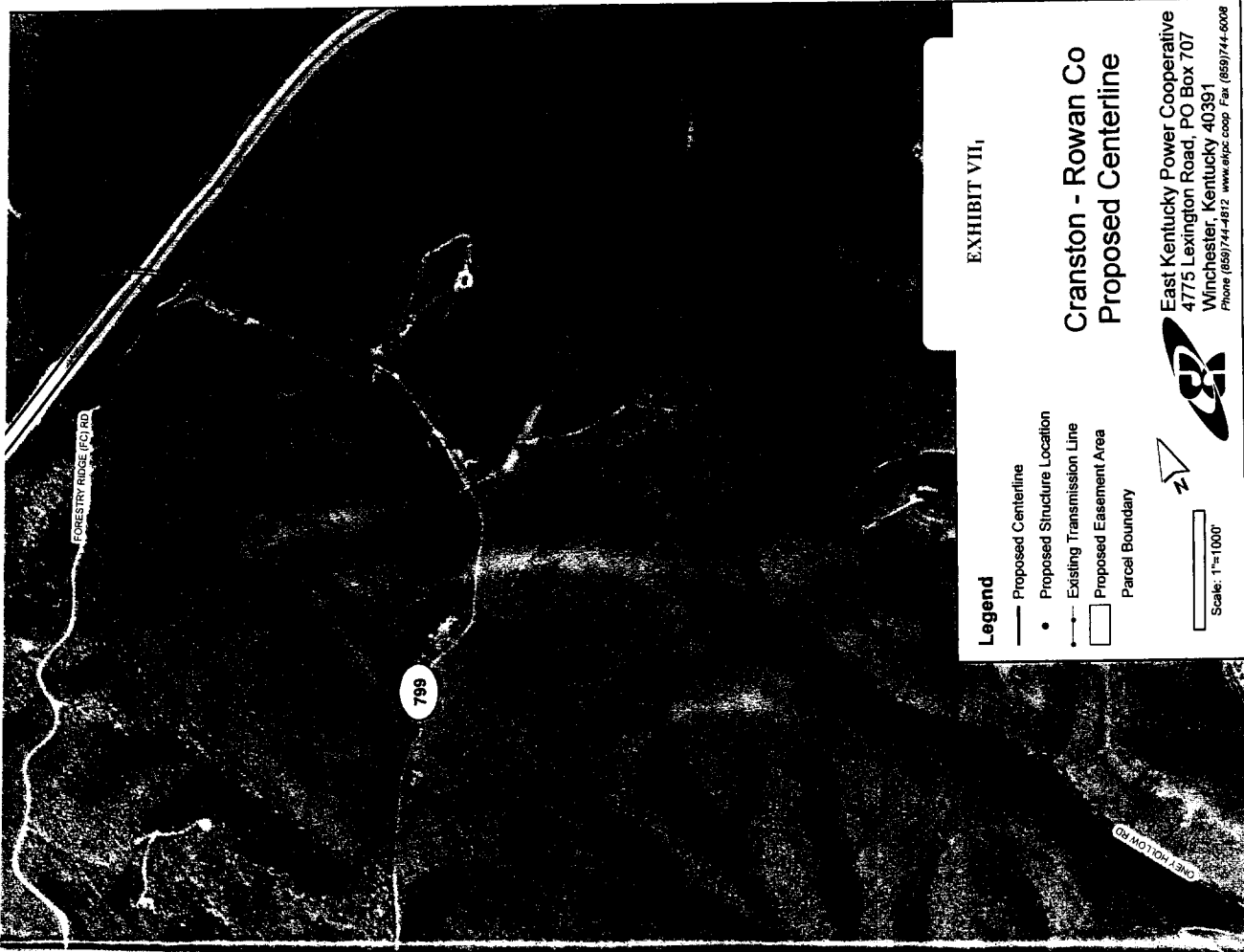


EXHIBIT VII,

**Cranston - Rowan Co
Proposed Centerline**



East Kentucky Power Cooperative
4775 Lexington Road, PO Box 707
Winchester, Kentucky 40391
Phone (606)744-4812, www.ekpc.coop, Fax (606)744-6008

Legend

- Proposed Centerline
- Proposed Structure Location
- - - Existing Transmission Line
- ▭ Proposed Easement Area
- ▭ Parcel Boundary



Scale: 1"=1000'

EAST KENTUCKY POWER COOPERATIVE

Transmission Line Siting Data List

Cranston - Rowan Co.

EXHIBIT VII₂

Parcel # Owner

Address

Parcel #	Owner	Address
12	Bishop Charles Bishop	1190 Delaney Ferry Rd Versailles, KY 40383
15	Blevins Timothy & Rhonda Blevins	6765 Cranston Road Morehead, KY 40351
5	Calvert William & Frankie Calvert	2710 U.S. 60 E Morehead, KY 40351
10,11	Dacci Lawrence Dacci & Janet Dacci	3399 U.S. 60 E Morehead, KY 40351
14	Eldridge Steve & Unadell Eldridge	7825 Cranston Road Morehead, KY 40351
13	Hall James & Lisa Hall	3340 U.S. 60 E Morehead, KY 40351
3	Messer Larry Messer	P. O. Box 1187 Morehead, KY 40351
6	Plank Addie Plank	2221 U.S. 60 E Morehead, KY 40351
7,8	Riddle Wilda Riddle	P. O. Box 142 Morehead, KY 40351
4	Stamper Mose Stamper & Pauline Stamper	214 Morehead Plaza Morehead, KY 40351

EAST KENTUCKY POWER COOPERATIVE

Transmission Line Siting Data List

Cranston - Rowan Co.

EXHIBIT VII₂

Parcel #	Owner	Address
9	Stevens Melvin Stevens & Wilma Stevens	7410 U.S. 60 E Morehead, KY 40351
9	Stevens Marty Stevens & Lois Stevens	7410 U.S. 60 E Morehead, KY 40351
16,17	Tennessee Mr. Paul Ramsey, Tennessee Gas Pipeline	2 Brentwood Commons, 750 Old Hickory Blvd, Suite 190 Brentwood, TN 37037
1,2	Tucker Ronald Tucker	1703 Wood Duck Court Lexington, KY 40511

FORESTRY RIDGE (FC) RD

799

ONEY HOLLOW RD

EXHIBIT VIII₁

Legend

- Proposed Centerline
- 2002 Alternative Routes
- Existing Transmission Line
- United States Forest Service

Scale: 1"=1000'



Cranston - Rowan Co
2002 Alternative Routes

East Kentucky Power Cooperative
4775 Lexington Road, PO Box 707
Winchester, Kentucky 40391
Phone (859)744-4812 www.ekpc.coop Fax (859)744-6006

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

THE APPLICATION OF EAST KENTUCKY)
POWER COOPERATIVE, INC. FOR A CERTIFICATE)
OF PUBLIC CONVENIENCE AND NECESSITY FOR) **CASE NO**
FOR THE CONSTRUCTION OF A 138 kV ELECTRIC) **2005-00458**
TRANSMISSION LINE IN ROWAN COUNTY,)
KENTUCKY)

**PREPARED TESTIMONY OF MARK BREWER
ON BEHALF OF
EAST KENTUCKY POWER COOPERATIVE, INC.**

1. Please state your name and address.
 - A. Mark Brewer, 1050 Clear Creek Road, Nicholasville KY, 40356
2. By whom are you employed and in what position?
 - A. I am employed by EKPC, as an Administrative and Support Team Supervisor.
3. As background for your testimony, please briefly describe your educational background and work experience?
 - A. I have a Bachelor of Science degree in Civil Engineering from the University of Kentucky. I'm a Registered Professional Engineer and a Licensed Surveyor in the Commonwealth of Kentucky and have over 26 years of experience in the area of design and construction of electric transmission lines.
4. What is the purpose of your testimony?
 - A. The purpose of my testimony is to provide information related to the alternatives considered for the construction of a line between the Cranston and Rowan County substations.

5. Were you involved with the design and routing of the Cranston – Rowan 138 kV?

A. Yes.

6. Can you provide the Commission with an overview of the process taken to establish the evaluate routes for this project?

A. In early 2002, potential routes were developed by EKPC personnel using topographic and aerial maps and then followed by field reconnaissance to confirm features and acquire relevant field data. The information collected from the field was then used to refine the potential routes. Preliminary route selection was based on a comparison of routes that balance cost, effectiveness, environmental impact and impact to local community. Three potential routes were initially identified. These are listed as Option 1 – Option 3 in a chart identified as Cranston-Rowan 138kV Route Alternates, which is attached to this Prepared Testimony as **Brewer Exhibit A**. They are also shown on Application Exhibit VIII₁. Since all potential routes impacted the Daniel Boone National Forest (DBNF) the United States Forest Service (USFS) was contacted and these potential corridors were submitted to and reviewed with Forest Service personnel. EKPC was advised by the USFS that prior to consideration of a route across the DBNF we would need to substantiate to the USFS that the transmission line was required and necessary. Additionally, an Environmental Assessment (EA) would need to be performed which would evaluate all potential routes, including routes that did not cross the DBNF, and a five member interdisciplinary team within the USFS would develop the routes to be evaluated in the EA. This team developed and evaluated 6 alternative routes.

These six alternative routes are depicted on Application Exhibit VIII₂. In 2003, during the alternative route selection process by the USFS, EKPC was contacted by the USFS to help with refining routes within specific corridors that they had identified as potential alternatives. In many cases, several specific routes within each corridor, were considered and evaluated. As a part of EKPC's consideration and evaluation, numerous iterations and variations of these routes were developed, evaluated and ultimately rejected. These iterations and variations were developed on work papers, most of which have since been discarded in the ordinary course of business. Those work papers that remain are attached hereto as **Brewer Exhibit B₁ – Brewer Exhibit B₁₁**. As a part of the EA process these routes were evaluated by the USFS and a preferred alternative (Alternative A) was selected by the USFS. This preferred alternative was then evaluated in detail, to identify and outline the environmental impact that the preferred route would have upon both public and private lands. As part of this process, EKPC conducted a bat survey, capturing bats by mistnetting at various sites along both the preferred route and the KU-parallel route. These sites are shown on **Brewer Exhibit C**.

In the summer of 2004, shortly after EKPC held a public open house on the project, EKPC began refinement of the USFS preferred route (Alternative A). These refinements were made to accommodate specific requests from property owners. These changes had to be reviewed by the USFS to make sure they were within the defined area of study for the preferred route and would have no impact to the EA. The refined preferred route and these changes that were considered to

this preferred route were submitted as Exhibit VIII₁- Exhibit VIII₃ to EKPC's application in Case No. 2005-00089.

In late summer of 2005, three additional Post-Hearing routes were considered and evaluated. The first route alternative was suggested by the Commission and would parallel the existing KU 138 kV line. This route was essentially the same route that was initially considered in 2002 by EKPC, and again in 2003 by the USFS as USFS Alternative Route D. The second route was a further refinement of the first route to make it workable and minimize impact on the community. A preliminary design was developed on this Post-Hearing parallel route to determine its impact. Finally, a third Post-Hearing I-64 route, that would parallel and/or share right of way with Interstate I-64, was also considered. This route had been suggested by Intervenors. A request was made to the Kentucky Department of Highways to share and/or parallel I-64. This request was denied by letter dated November 28, 2005. The letter of request and letter of denial are attached hereto as **Brewer Exhibit D and Brewer Exhibit E**. All three Post-Hearing alternatives are shown on Application Exhibit VIII₃.

7. Why did EKPC not provide to the Commission all of the routes considered for this project as a part of Exhibit VIII₁ – Exhibit VIII₃ to the initial Application in Case No. 2005-00089?
 - A. There were two reasons. First, it was EKPC's opinion based on prior transmission cases that route location was not germane to this type of proceeding. In accordance with KRS 278, our focus was directed to establishing the need and necessity for the line. Second, based on our understanding of Federal laws, EKPC

has no right or authority to determine the location of a transmission line across federal lands. EKPC could make suggestions and discuss options with the USFS, which it did, but it was the USFS that developed and considered the alternative routes, and evaluated their preferred route in the approved EA. It was our opinion at the time of the first application and it still remains our opinion that the USFS is the legally authorized agency to determine the location of a transmission line across National Forest System Lands. The USFS had issued a Finding of No Significant Impact (FONSI) which was upheld on Appeal, and EKPC had no legal recourse, short of filing an action in Federal Court, but to accept the route developed and approved by the USFS.

8. Do you believe that the route selected by the USFS is the best route alternative?

And, if so, why?

A. Yes, I agree with the finding of the USFS. Their preferred route is basically one of the three routes that we had identified initially. The reasons for this conclusion are as follows: (1) It is the shortest of all the evaluated alternatives. (2) It requires the least amount of right of way. (3) It requires the least amount of deforestation. (4) It requires the least amount of impact due to access roads for construction purposes. (5) It affects fewer private property owners. (6) It has the least amount of impact to residential developments. And finally, (7) the process followed by the USFS in determining and selecting the route as identified in the EA is in compliance with the National Environmental Policy Act (NEPA) as well as all applicable Federal and State Environmental policies. A Finding of No Significant Impact (FONSI) was issued for this route on February 4, 2005, which

was appealed. On May 13, 2005 the Regional Forester for the USFS upheld the FONSI decision and denied the appeal.

9. In your opinion did the USFS personnel thoroughly evaluate potential alternative routes?

A. Yes. The National Environmental Policy Act (NEPA) requires that potential routes he identified and receive a "hard look", which is a term used to describe the level of effort necessary to adequately assess alternative routes. Since the USFS was the lead agency for NEPA in determining compliance with Federal Environmental Laws they had a duty to assure these routes received this "hard look".

10. Did you look at and consider a route that was parallel to the Kentucky Utilities Line?

A. Yes, at three different times.

11. In reference to the Post-Hearing parallel route, can you explain to the Commission why this route was not a good option?

A. The Post-Hearing parallel route (as adjusted by EKPC for viability) was not selected over the preferred route for the following reasons: (1) It is 3.0 miles longer than the preferred route. (2) Although 1.7 miles of this is a rebuild on existing right-of-way, there is still is 1.3 miles more new right-of-way. (3) Approximately 4.29 miles of line are still located on USFS property. (4) The USFS has already considered a number of routes, one of which included a route parallel to the KU line and after many years of extensive study and review ruled out this route. (5) Because of conductor blow out considerations (See **Brewer**

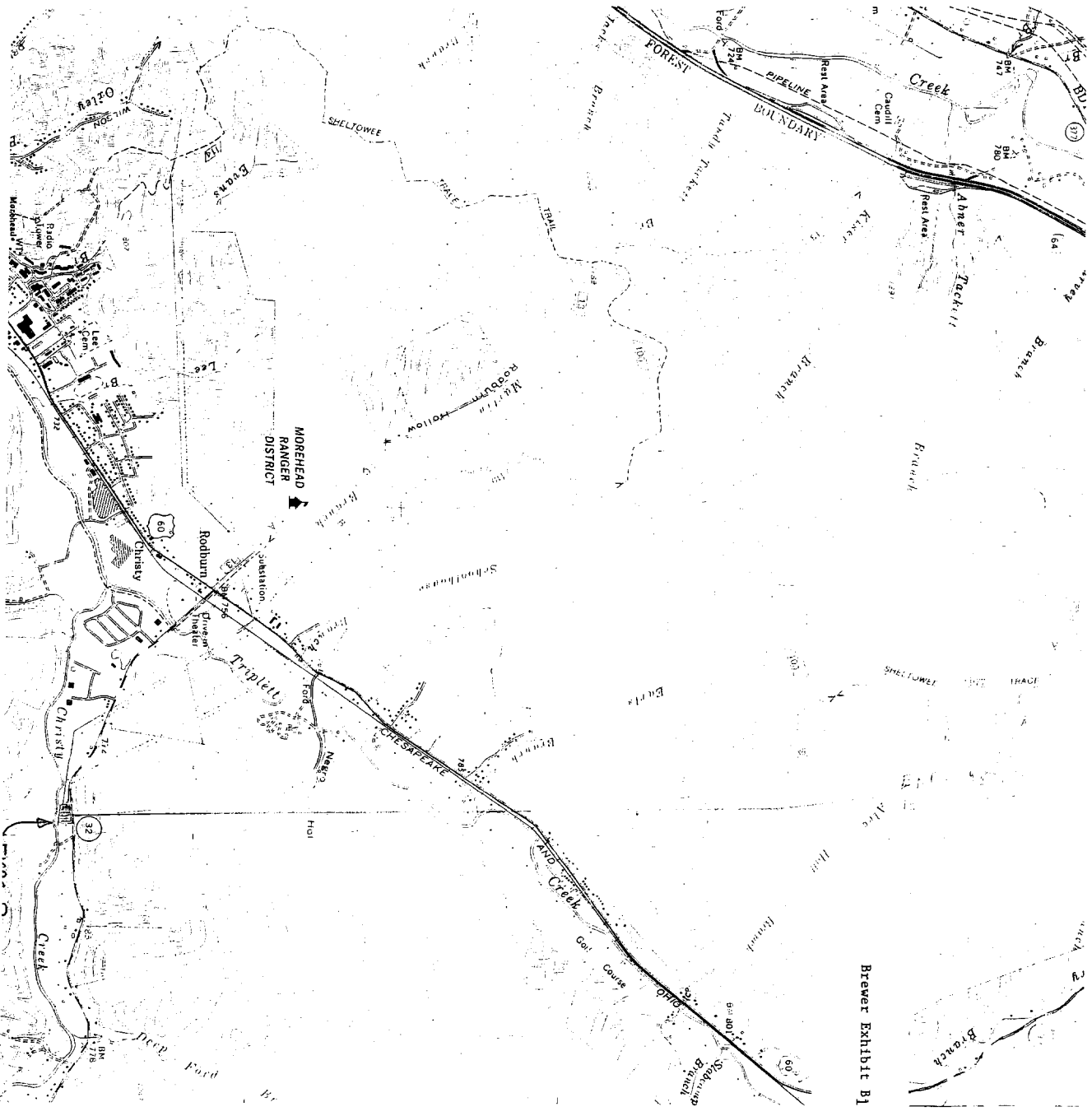
Exhibit F), applying the National Electric Safety Code high wind case results in the Post-Hearing route not being able to share right of way with the existing Kentucky Utilities line, due to phase-to-phase contact. As a result, this would require a completely new 100' wide right-of-way to be cut parallel to the KU line, but leaving a strip of trees 35' wide between the two rights-of-way. This is depicted on **Brewer Exhibit G**. (6) The Post-Hearing parallel route requires 16 additional acres of right-of-way. (7) The Post-Hearing parallel route is primarily forested area, and additional forestlands will need to be cleared for this route. The USFS route left 18.4% of the total projected right-of-way (24.1% of the right-of-way on the DBNF) uncut in the "hollows", and the Post-Hearing parallel route would only leave an estimated 12% of the total Project right-of-way uncut. Therefore, additional deforestation created by the Post-Hearing parallel route is approximately 19.5 acres more than the USFS preferred route. (8) The Post-Hearing parallel route requires significantly more access roads to be built. (9) The Post-Hearing parallel route will affect 87.5% more property owners. (10) The Post-Hearing parallel route will have a significantly larger impact to residential developments.

11. Does this conclude your testimony?

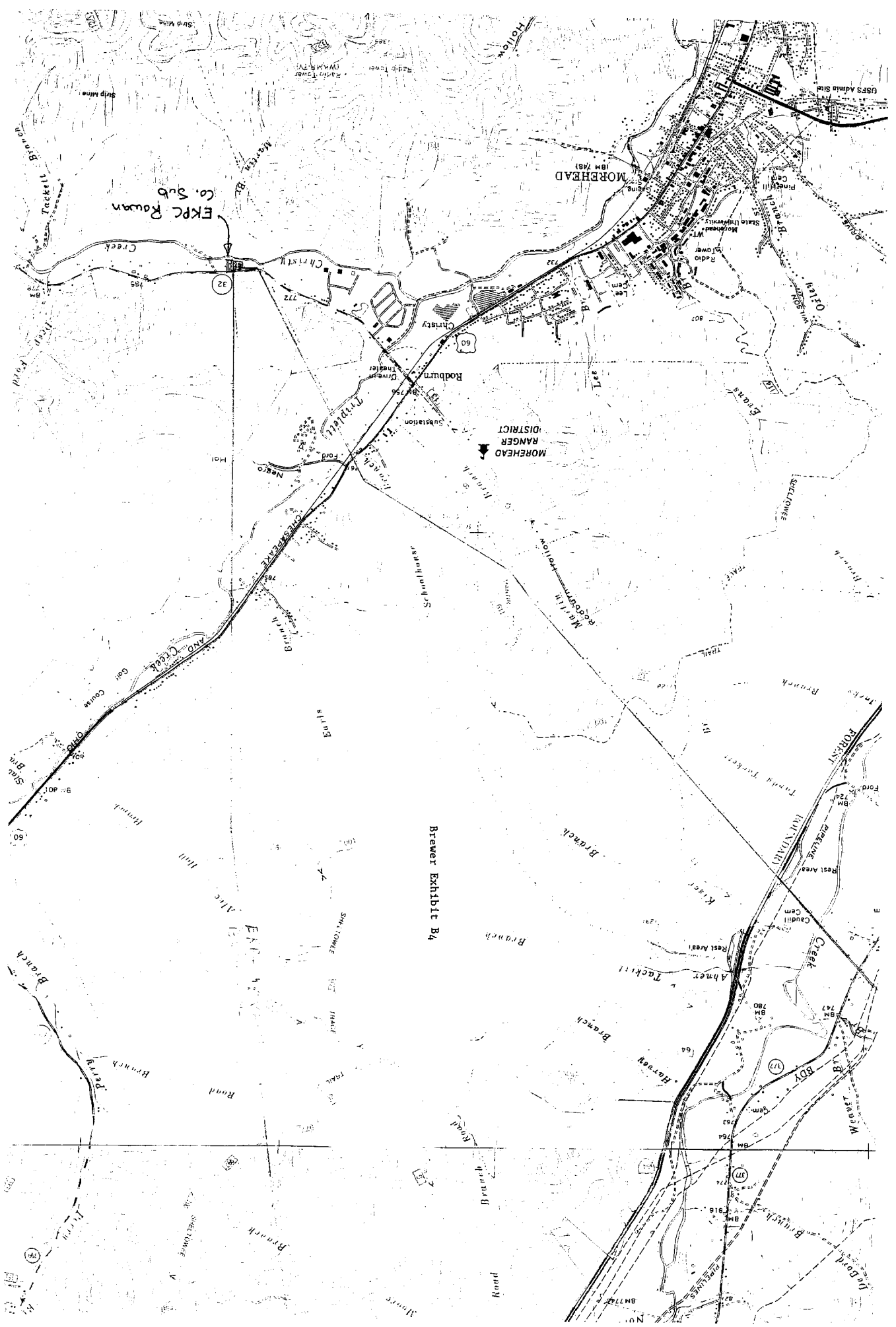
A. Yes, it does.

CRANSTON - ROWAN 138KV ROUTE ALTERNATIVES

Alternative Routes	Length miles		Length Existing miles	USFS miles	Private miles	R/W acres	route specifics	Comments
	New	Old						
Option1	6.73	6.73	0	4.67	2.06	81.6	preferred route	
Option2	8.37	6.22	2.15	2.75	5.62	75.4	parallel KU	High impact along NF Triplet creek conflict with gas lines
Option3	7.73	7.73	0	2.84	4.79	93.7	along Perry Branch	High public impact, high visibility Adverse effects on triplet creek
USFS - A	6.9	6.9	0.0	4.9	2.0	83.4		preferred option
USFS - B	6.9	6.9	0.0	4.9	2.0	83.4	No Herbicide	herbicides plan developed
USFS - C	NO ACTION						No Action	Does not meet purpose and need
USFS - D	8.0	8.0	0.0	5.0	3.0	97.0	2.9mi. Parallel KU	High impact Highly visible from I64 and 377
USFS - E	10.4	10.4	0.0	0.0	10.4	126.1	Through Morehead	High Public impact, high visibility Adverse effect on Triplet Creek
USFS - F	4.4	4.4	0.0	0.0	4.4	53.3	Recon13.7mi.Godard-Hilda Recond 4.35 mi. KU	Does not meet purpose and need KU rejected, elec un-equivalent
USFS - G	7.7	7.7	0.0	2.1	5.6	93.3	2.3mi. Parallel AEP	High Public impact Riparian issues along Triplet Ck
USFS - H	9.2	9.2	0.0	1.2	8.0	111.5	along Triplet Creek	High impact to community Riparian issues along Triplet Ck
Proposed Alternative	6.8	6.8	0.0	4.87	1.93	82.4	preferred route	Route submitted with 1st Application
Post Hearing Parallel	9.9	8.2	1.7	3.0	6.9	99.4	2.3mi. Parallel KU	Conflict with residential development High environmental impact
Post Hearing Parallel (Adjusted)	9.9	8.2	1.7 (0.82USFS)	4.29	5.61	99.4	3.15 Parallel KU (1.95USFS)	High Impact to community High environmental impact
Post Hearing I64	8.22	6.32	1.9	4.22	4.0	76.6	parallel I64	rejected by KY DOT



Brewer Exhibit B1



EKPC Rouan
G. S. 26

Brewer Exhibit B4

MOREHEAD

MOREHEAD
RANGER
DISTRICT

USFS Admin Bldg

Prickett
Cem

Prickett
State University

Radio
Tower

Lee
Cem

Lee
Cem

Lee
Cem

Lee
Cem

Lee
Cem

Lee
Cem

Lee
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Lee
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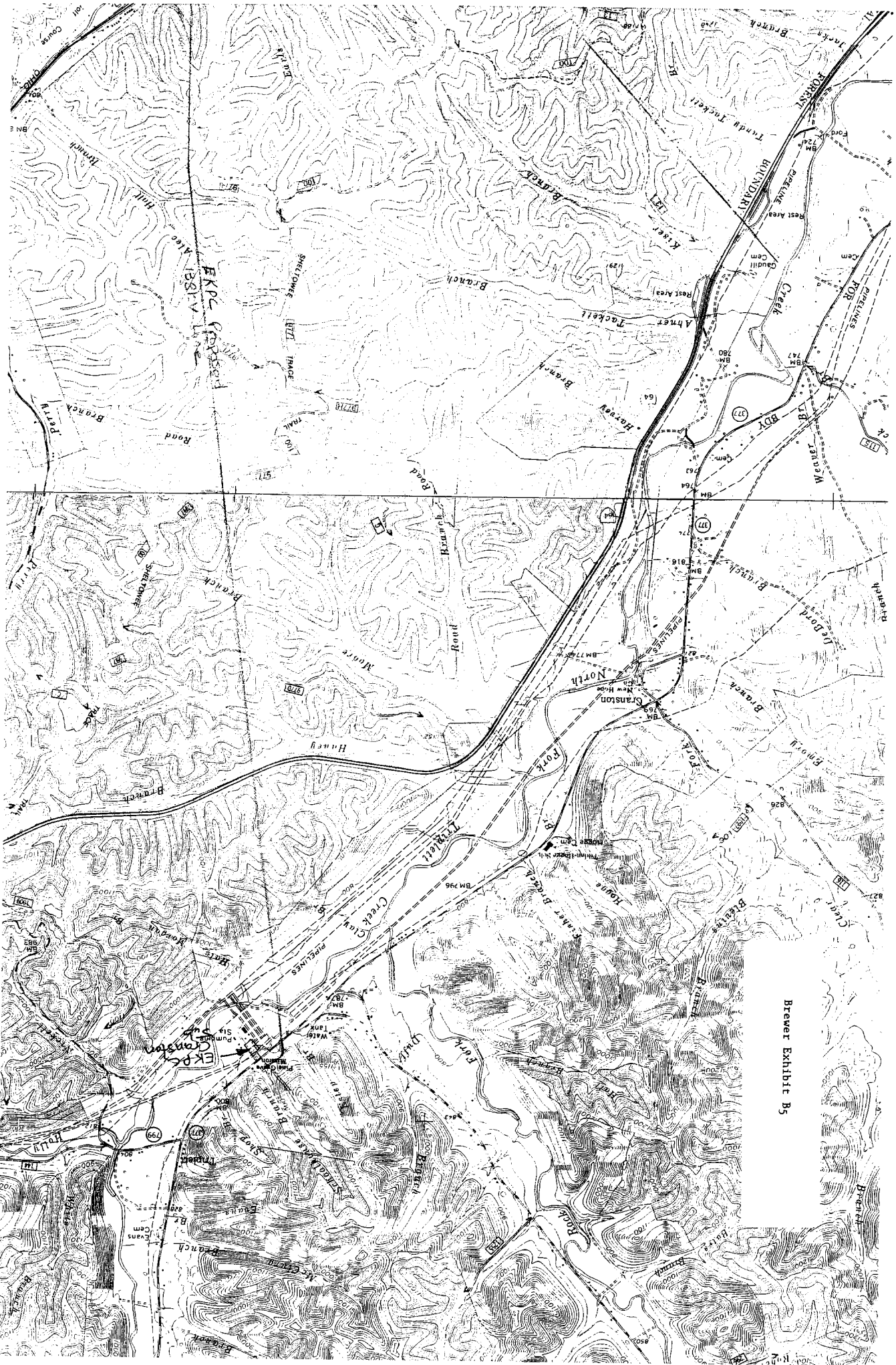
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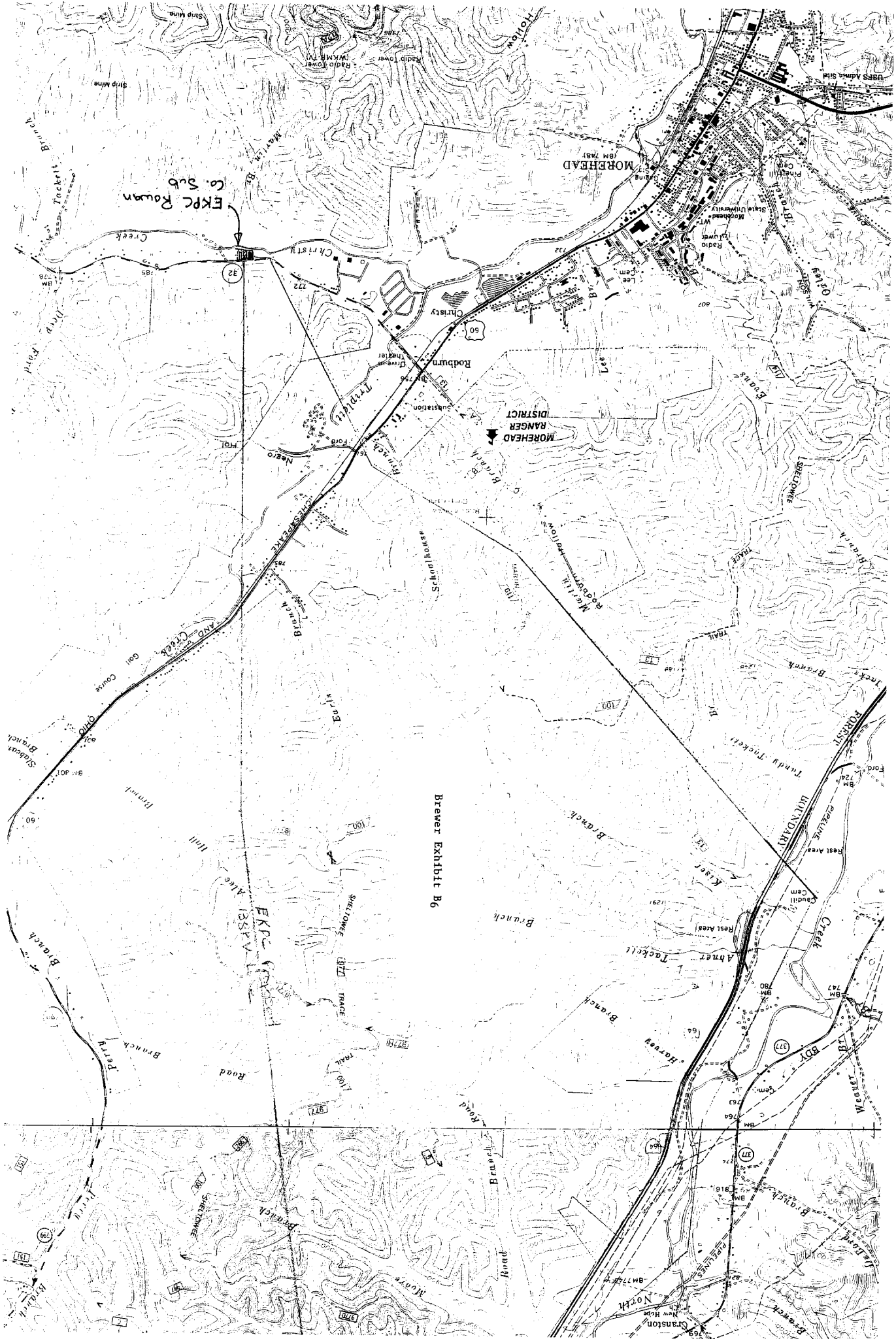
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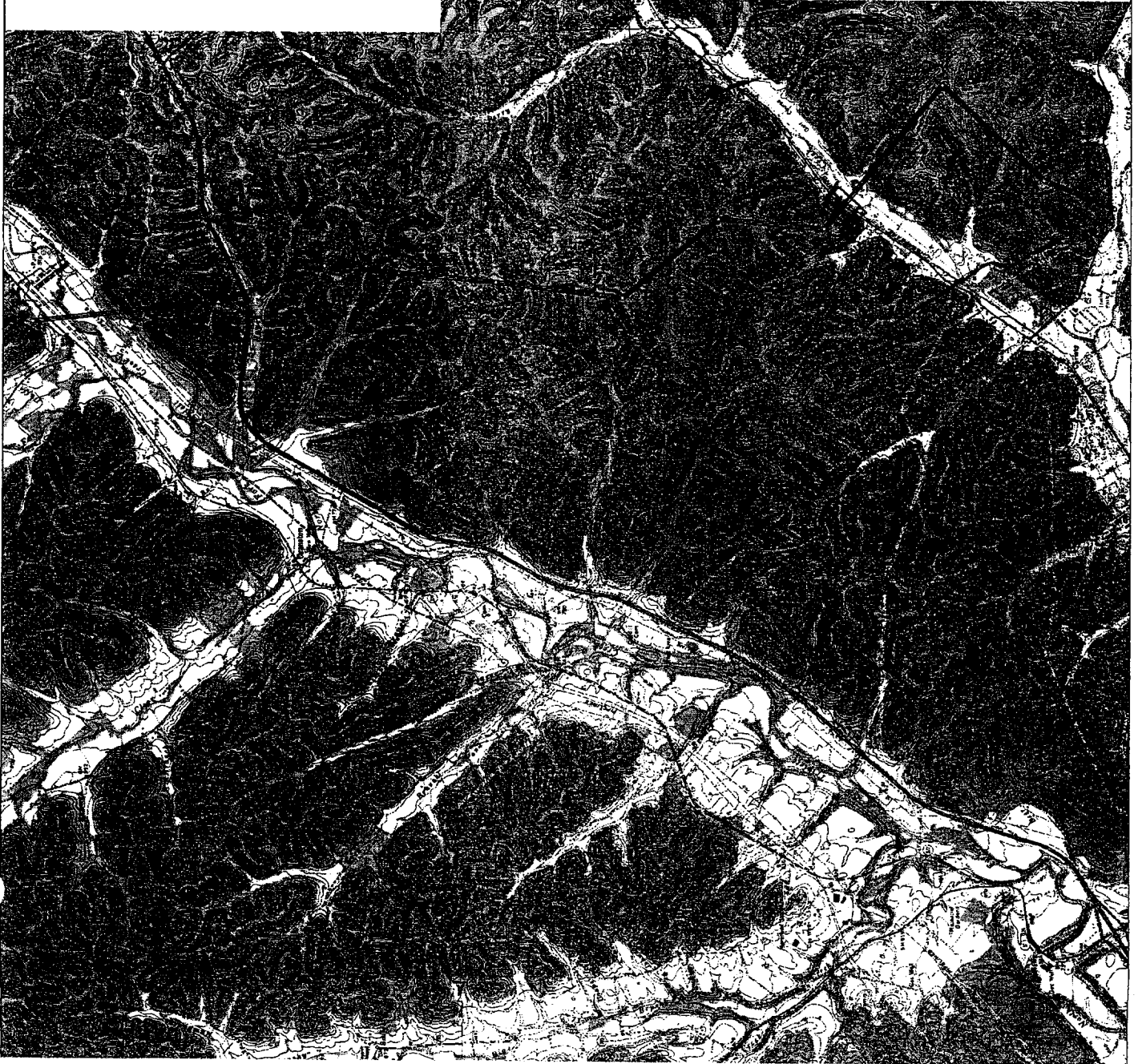


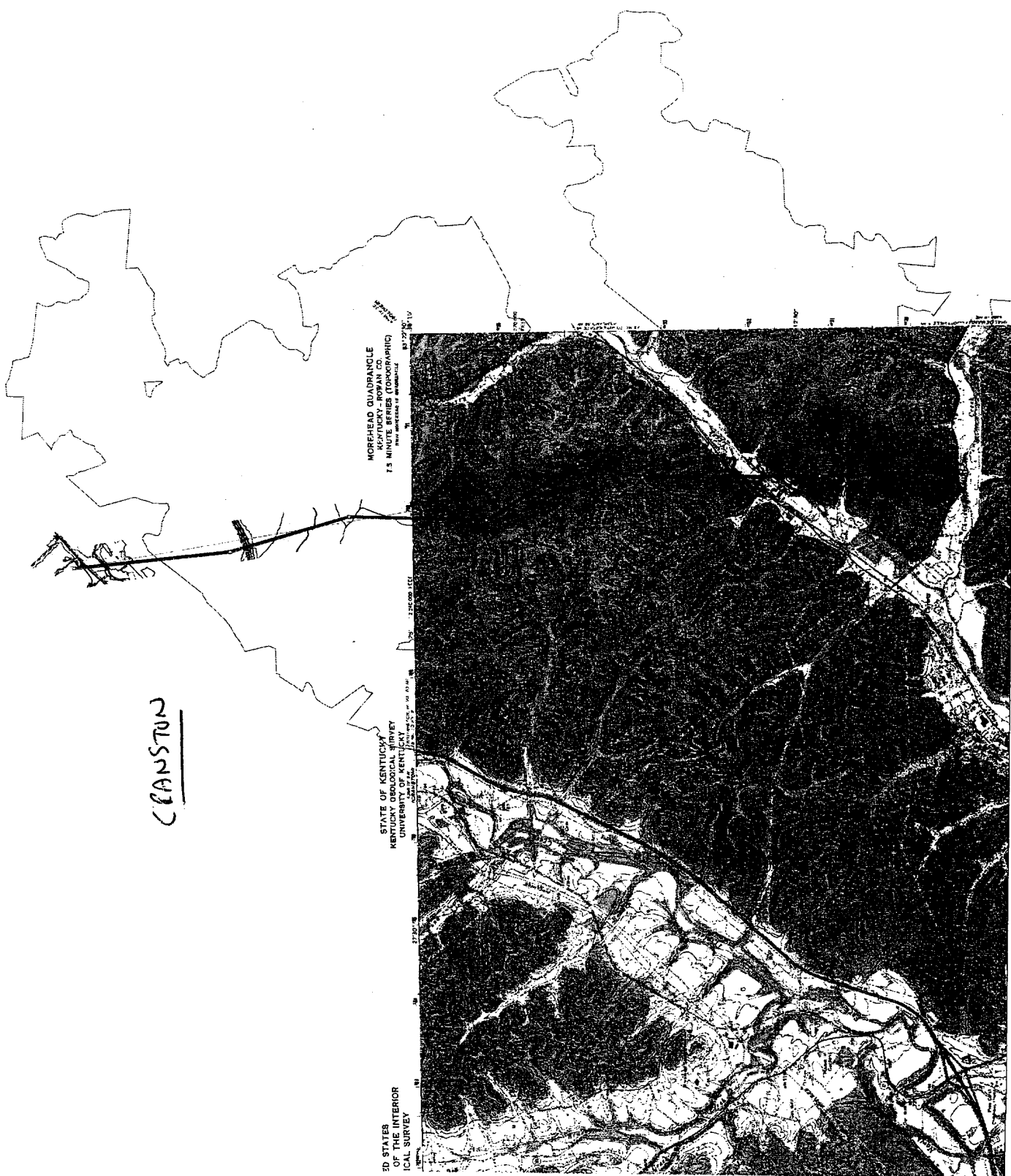
Brewer Exhibit B5



Prelim. map

East Kentucky Power Co-op, Project: "preliminary.xyz"
PLS-CADD Ver 5.10, 10:33:38 AM Monday, April 21, 2003

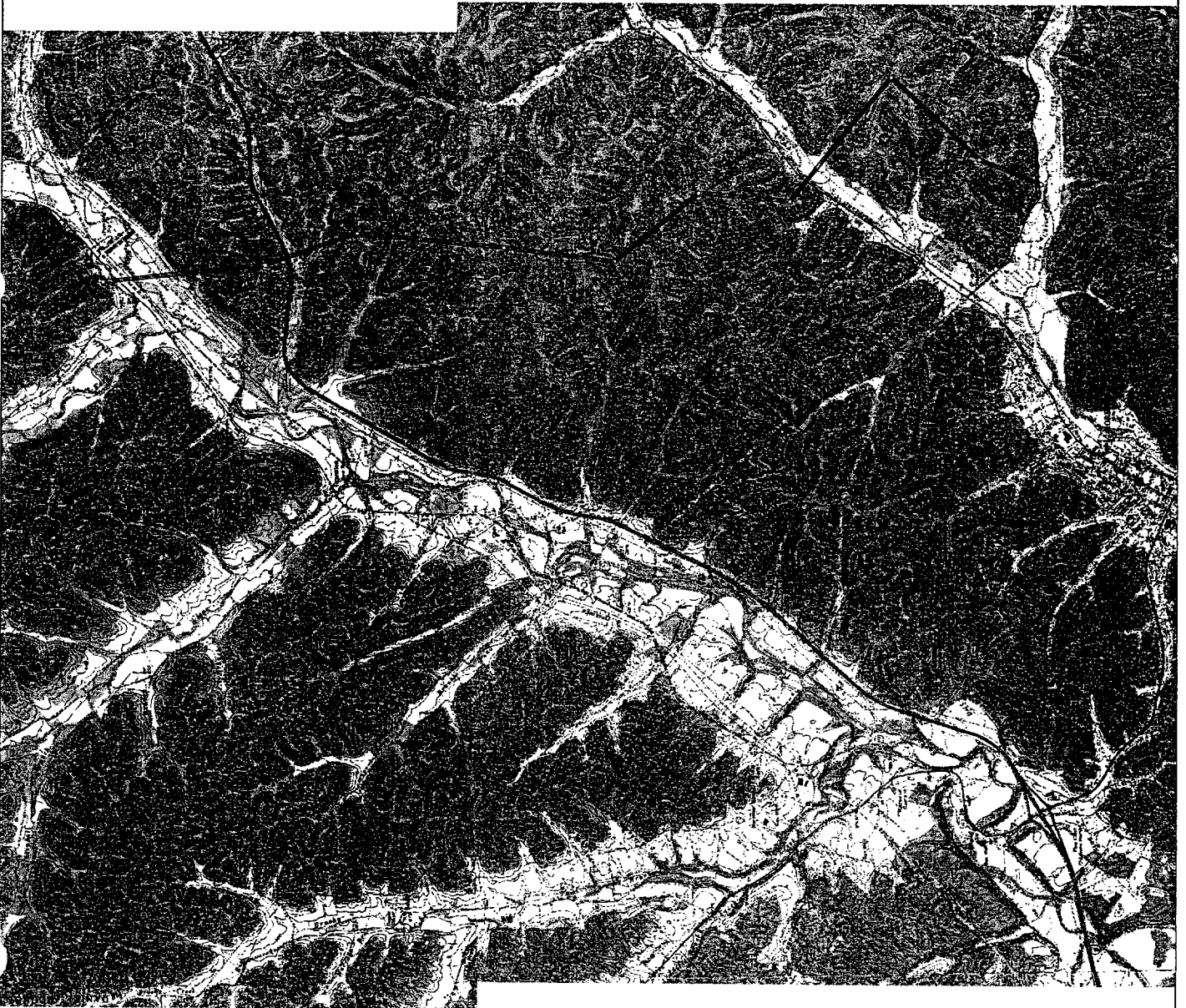


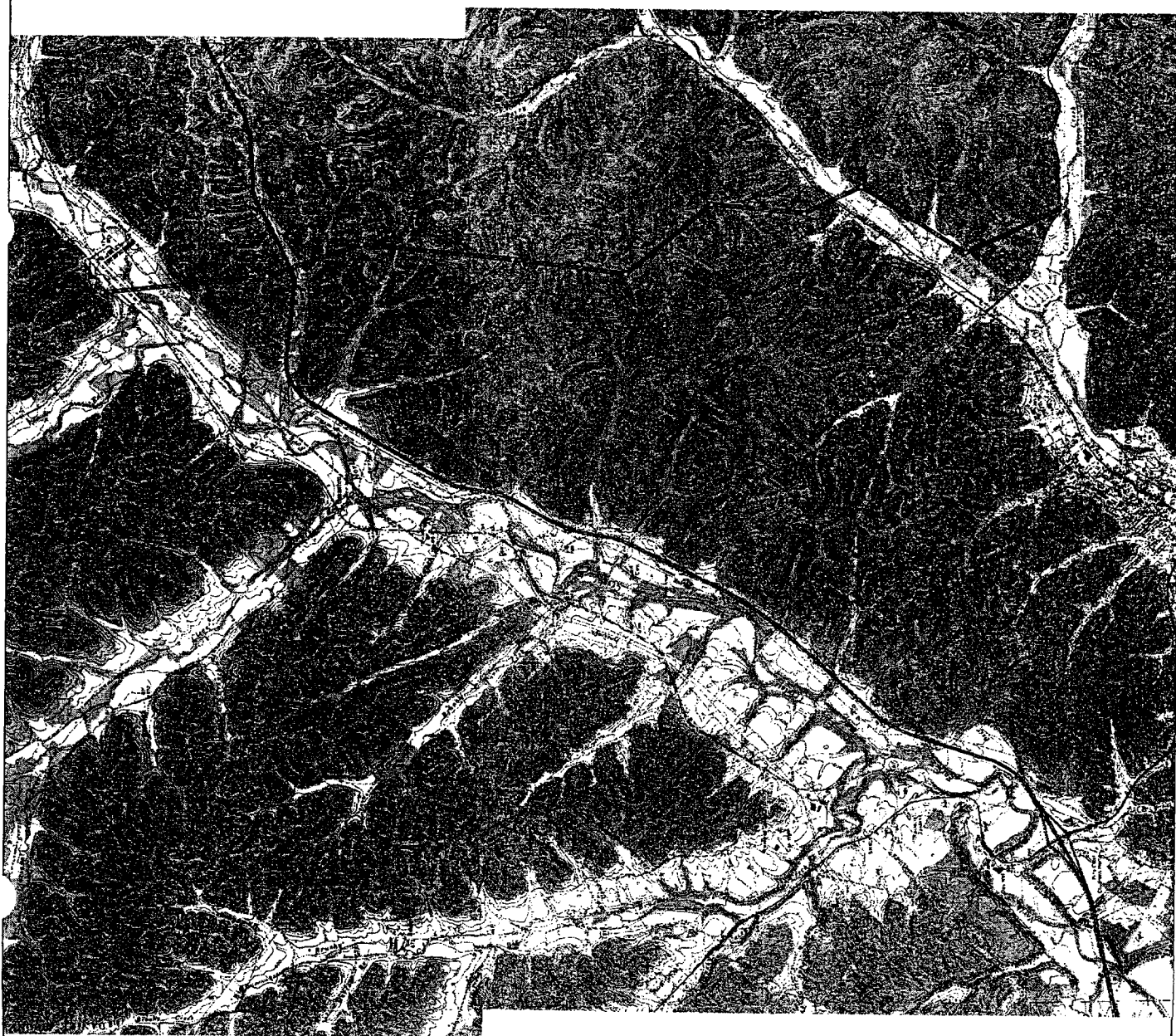


CRANSTON

MOREHEAD

East Kentucky Power Co-op, Project: "preliminary.xyz"
PLS-CADD Ver: 5.10, 9:55:47 AM Monday, April 28, 2003





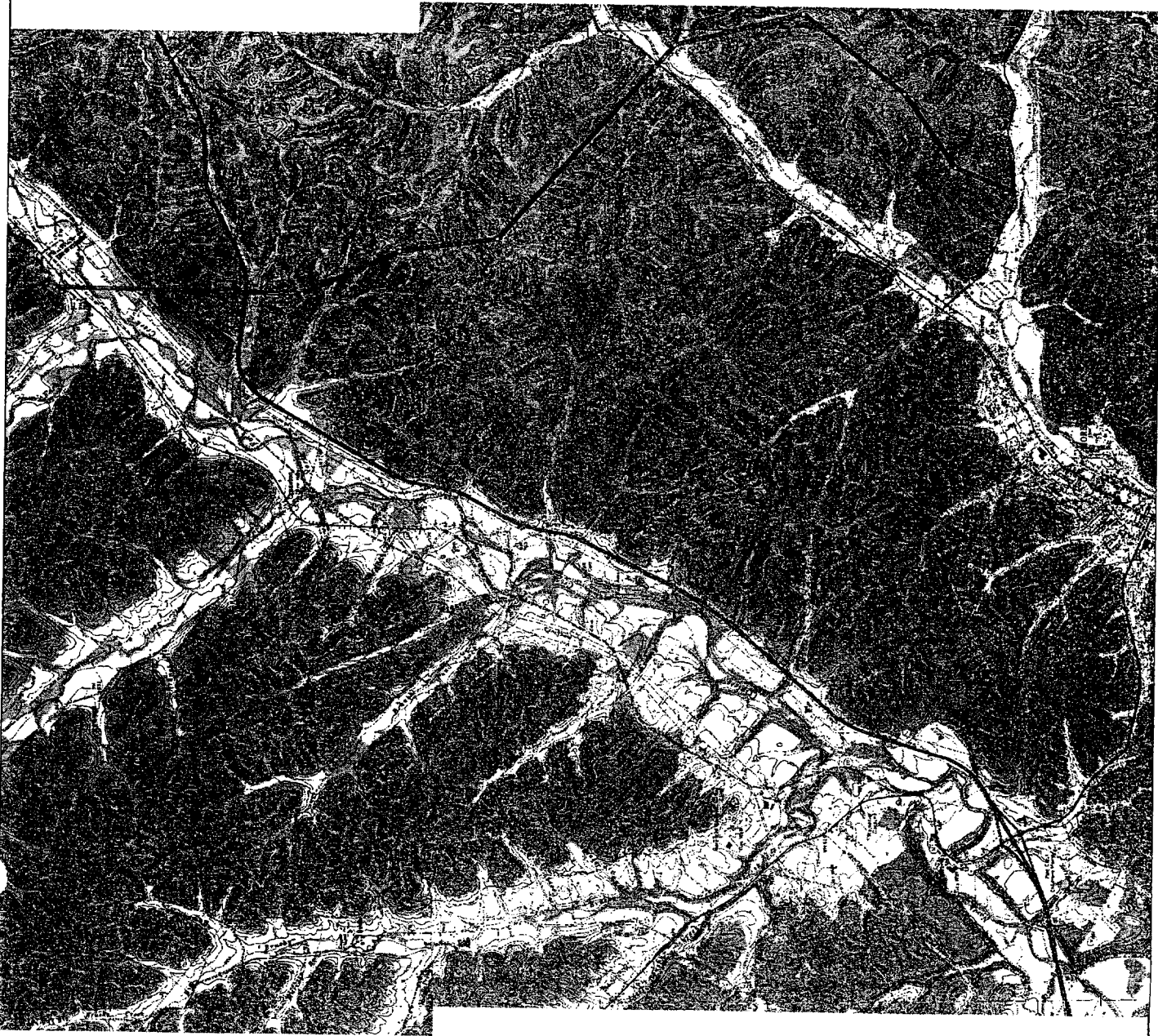
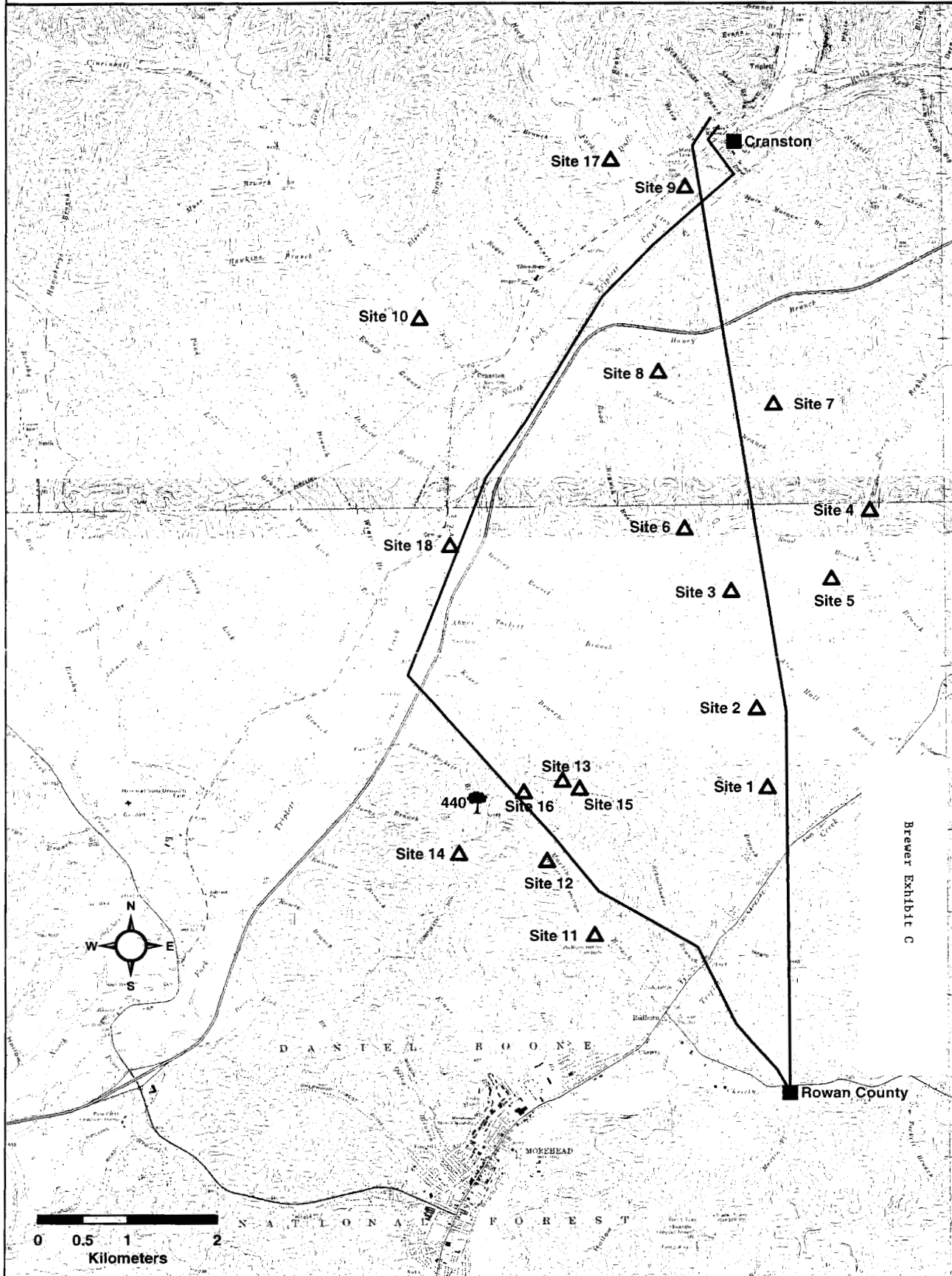


Figure 2. Mistnet sites and Indiana bat roost tree surveyed during August 2002 for two proposed routes for Rowan-Cranston transmission line, Rowan Co., Ky.



Brewer Exhibit C



Roost Tree



Mist Net Sites



Substations



ROW Alternative 1



ROW Alternative 2

Project No. 21140
 Rowan Co.-Cranston Transmission Line
 Rowan County, Kentucky
 August 2002



EAST KENTUCKY POWER COOPERATIVE
 P. O. Box 707
 Winchester, KY 40392-0707

November 27, 2005

Ms. Katrina Bradley
Chief District Engineer
Kentucky Department of Transportation
P. O. Box 347
Flemingsburg, KY 41041

Dear Ms. Bradley:

East Kentucky Power is evaluating alternative transmission line corridors in Rowan County, Kentucky, near the City of Morehead. One of the routes we are evaluating is to parallel and share right-of-way with Interstate 64 (I-64) from the approximate I-64 mile marker of 138 to approximately mile marker 141. To do this we would need a permit from the DOT that would allow EKPC to remove and keep the right of way clear of trees, signs and/or structures within 50 feet of the line. We would also need to request access for construction and maintenance for this line from I-64.

We ask for your consideration in sharing right-of-way and request your comments and reply on this proposal.

If you should have any questions concerning the above, please give me a call at 859-745-9672. My e-mail address is mark.brewer@ekpc.coop.

Thanks in advance for your consideration.

Sincerely,



Mark S. Brewer, PE
Administrative and Support Team Supervisor
Power Delivery Production



BREWER EXHIBIT E

Ernie Fletcher
Governor

TRANSPORTATION CABINET

Department of Highways District 9 Office
822 Elizaville Road
P.O. Box 347
Flemingsburg, KY 41041
(606) 845-2551

Bill Nighbert
Acting Secretary

Marc Williams
Commissioner of Highways

November 28, 2005

East Kentucky Power Cooperative
4775 Lexington Road
Winchester, KY 40392-0707

RE: Request for I-64 Right of Way Use
Rowan County, KY, Mile points 138 to 141

Att: Mr. Mark S. Brewer, P.E.
Administrative and Support Supervisor
Power Delivery Production

Dear Mr. Brewer,

We have received your request in the letter dated November 27, 2005 and appreciate the inquiry. However, we must deny the Utility location request according to our Permits Policy Manual concerning utility installations on fully controlled access highways (I-64). Most of the conditions you require for the transmission line are not permitted on a fully controlled access highway.

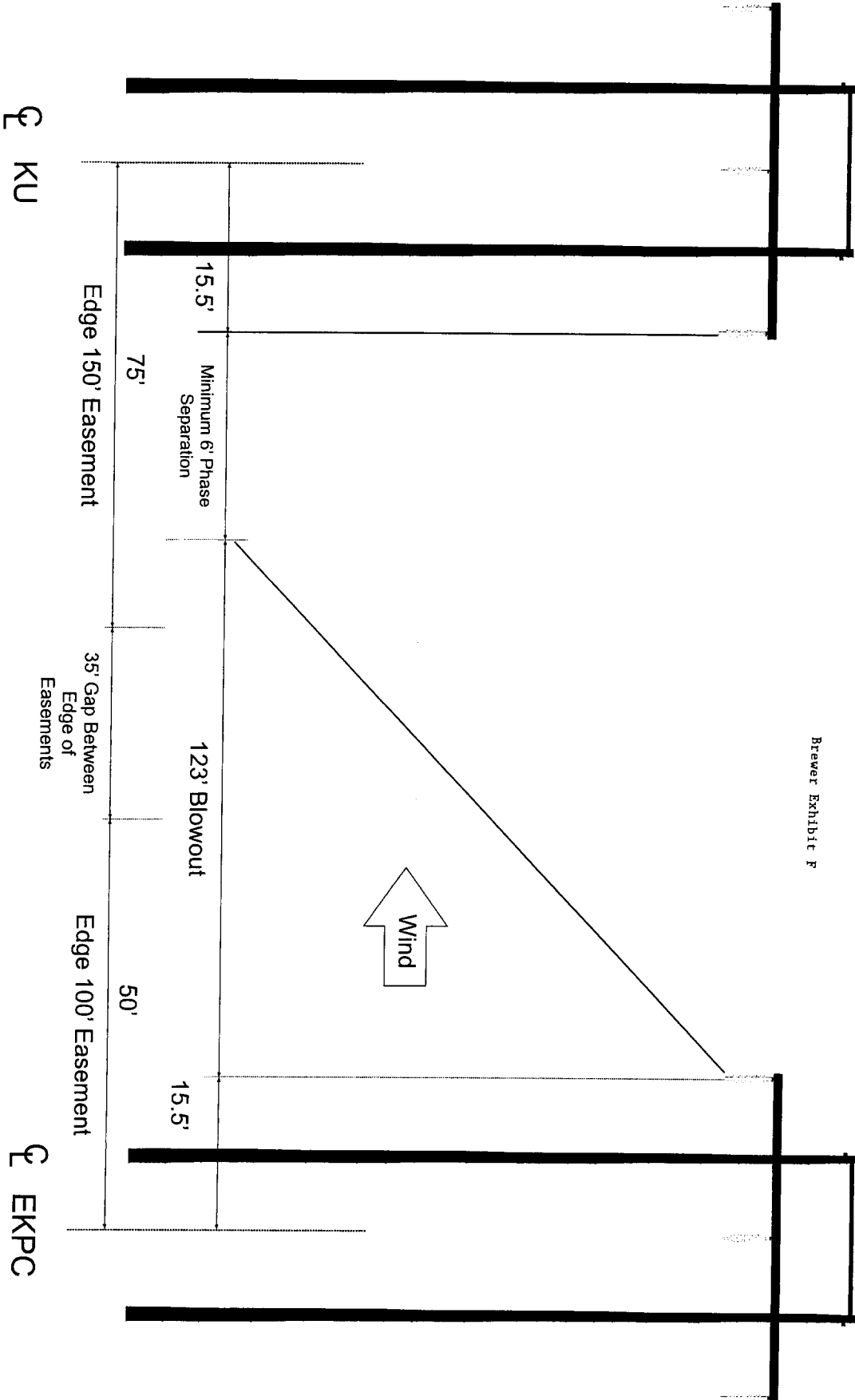
We are sorry that your request cannot be accommodated at this time. If you have any questions concerning this matter, please do not hesitate to contact me, at 606-845-2551.

Sincerely,

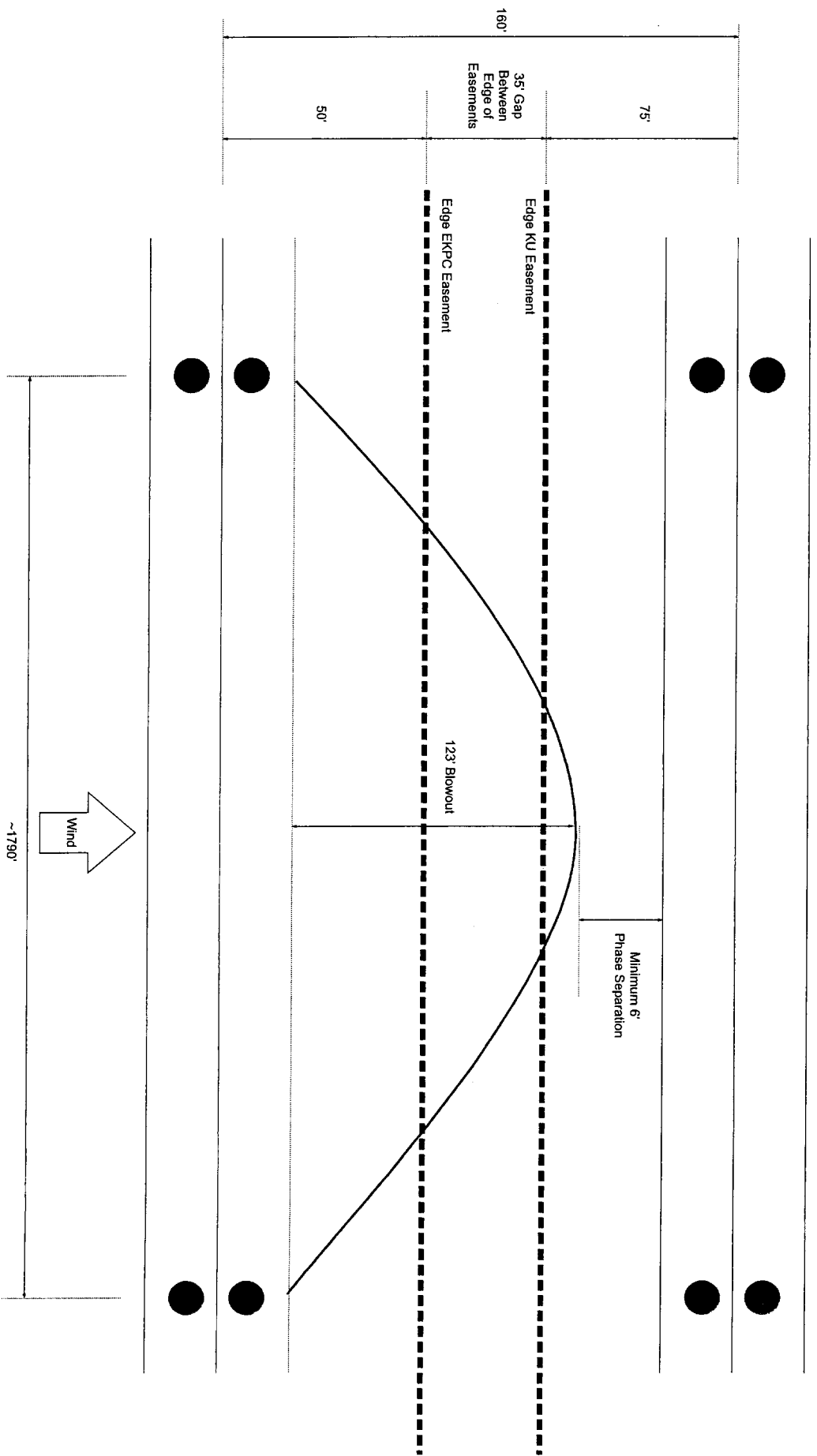
Daniel W. Suit
Permits Supervisor

DWS/ch

Brewer Exhibit F



Brewer Exhibit G



**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

THE APPLICATION OF EAST KENTUCKY)	
POWER COOPERATIVE, INC. FOR A CERTIFICATE)	
OF PUBLIC CONVENIENCE AND NECESSITY FOR)	CASE NO
FOR THE CONSTRUCTION OF A 138 kV ELECTRIC)	2005-00458
TRANSMISSION LINE IN ROWAN COUNTY,)	
KENTUCKY)	

AFFIDAVIT OF NICK COMER

Comes the Affiant, Nick Comer, and states after first being duly sworn as follows:

1. That the Affiant is communications coordinator for the Applicant, and in that capacity, will conduct, supervise and direct communications regarding the Applicant's Cranston-Rowan Transmission Project including giving all required notices to property owners.
2. That the Affiant certifies that, to the best of his knowledge, each property owner over whose property the Cranston-Rowan transmission line will cross has been:
 - a. Notified of the proposed construction by first-class mail;
 - b. Given the commission docket number of this proceeding;
 - c. Given a map showing the proposed route of the line;
 - d. Given the address and telephone number of Executive Director, Elizabeth O'Donnell;

- e. Informed of the right to intervene in these proceedings and to request a local public hearing; and
 - f. Given a description, including the proposed scope of the project.
3. A Notice of Intent to construct the Cranston-Rowan Transmission line appeared in the Friday, December 2, 2005, edition of Morehead News, which is a newspaper of general circulation in Rowan County, Kentucky.
4. That said Notice included the following:
- a. A map showing the proposed route of the Line;
 - b. A statement that interested persons have the right to move to intervene and request a local public hearing.


Further Affiant Sayeth Not



NICK COMER

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Subscribed and sworn before me by Nick Comer on this 1st day of December, 2005.



My commission expires 12/20/08

Notary Public, State of Kentucky-at-large

EXHIBIT XI

East Kentucky Power Cooperative
 Affected Property Owners
 Cranston-Rowan Co. 138-kV Transmission Line Project

EKPC Map #	Last Name	First Name	2nd Name/Company	Address	City	State	Zip
12	Bishop	Charles		1190 Delaney Ferry Road	Versailles	KY	40383
15	Blevins	Timothy	Rhonda Blevins	6765 Cranston Road	Morehead	KY	40351
5	Calvert	William	Frankie Calvert	2710 U.S. 60 E.	Morehead	KY	40351
10,11	Dacci	Lawrence	Janet Dacci	3399 U.S. 60 E.	Morehead	KY	40351
14	Eldridge	Steve	Unadell Eldridge	7825 Cranston Road	Morehead	KY	40351
13	Hall	James	Lisa Hall	3340 U.S. 60 E.	Morehead	KY	40351
3	Messer	Larry		PO Box 1187	Morehead	KY	40351
6	Plank	Addie		2221 U.S. 60 E.	Morehead	KY	40351
16	Ramsey	Paul	Tennessee Gas Pipeline	2 Brentwood Commons	Brentwood	TN	37037
7,8	Riddle	Wilda		PO Box 142	Morehead	KY	40351
4	Stamper	Mose	Pauline Stamper	214 Morehead Plaza	Morehead	KY	40351
9	Stevens	Melvin	Wilma Stevens	7410 U.S. 60 E.	Morehead	KY	40351
	Stevens	Marty	Lois Stevens	8030 U.S. 60 E.	Morehead	KY	40351
1,2	Tucker	Ronald		1703 Wood Duck Court	Lexington	KY	40511
	Manner	Dave	Daniel Boone National Forest	2375 Ky. 801 South	Morehead	KY	40351

December 6, 2005

[NAME]
[ADDRESS]
[ADDRESS]

Dear [NAME]:

Subject: Cranston-Rowan 138 kV Transmission Line

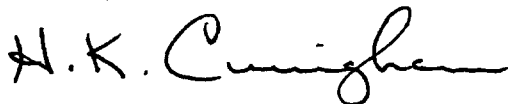
East Kentucky Power Cooperative, Inc., (EKPC) proposes to construct a 138 kV electric transmission line, a portion of which will cross your property. This is the same transmission line that was the subject of the Open House held on June 15, 2004.

This transmission line will run from the EKPC's existing Rowan County Substation on Ky. 32 for approximately seven (7) miles to an existing EKPC Rowan County switching station located on Ky. 377. Enclosed is a map showing the entire proposed route.

The transmission line will require a certificate of public convenience and necessity to be issued by the Kentucky Public Service Commission (PSC). This process will proceed on PSC Docket No. 2005-00458. EKPC plans to apply for a route that is identical to the route for which it applied previously in PSC Docket No. 2005-00089. The PSC did not approve that certificate. EKPC plans to provide further documentation that it has fully considered alternative routes.

You have the right to intervene in these proceedings should you desire and request a local public hearing. Should you have any questions concerning this process, the Executive Director of the Commission is Elizabeth O'Donnell, Kentucky Public Service Commission, P. O. Box 615, 211 Sower Boulevard, Frankfort, Kentucky 40602-0615, telephone (502) 564-3940.

Sincerely,

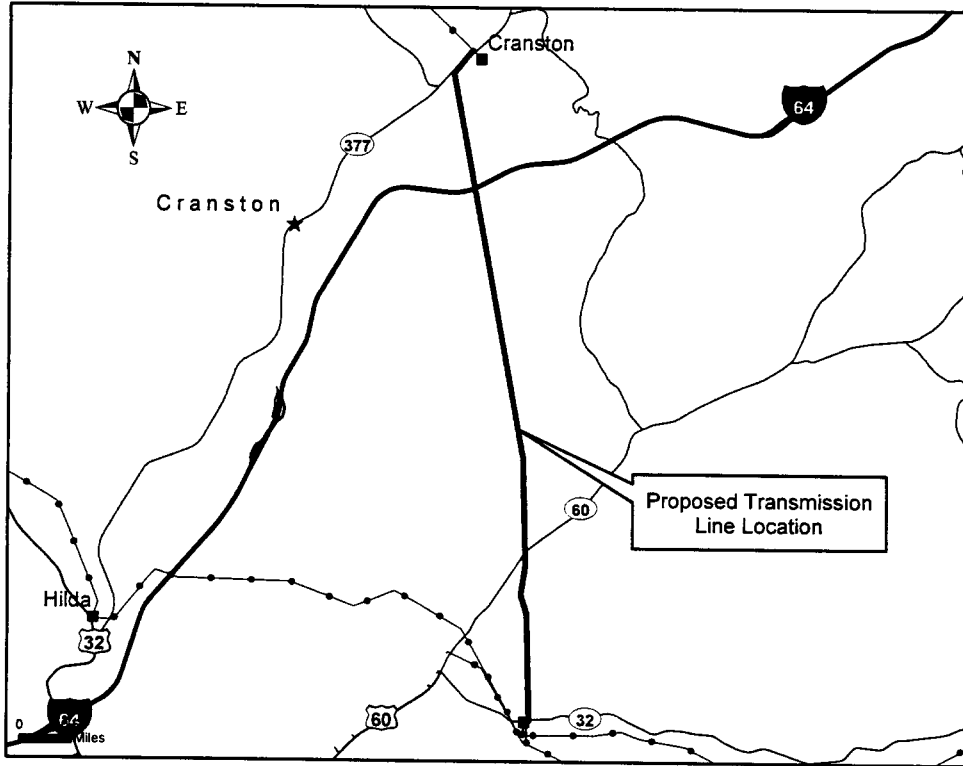


H. K. Cunningham, Senior Right-of-Way Agent
Power Delivery-Expansion

HKC:npc

Enclosures: Map

Proposed Route of Cranston-Rowan 138 kV Transmission Line



or drugs, guilty, pretri-
 vocation ordered, \$500,
 50, revoke 2 years, 30
 in jail, alcohol educa-
 class; driving motor ve-
 while license suspend-
 r DUI, guilty, 90 serve

representative today.

Chris Wilcox
 Investment Representative
 The Blair Building
 257 East Main Street
 Morehead, KY 40351
 606-780-0248
 www.edwardjones.com



Member SPIC

Edward Jones

MAKING SENSE OF INVESTING

Renfro Valley, KY
 40473



Saturday, December 3

7 & 9:15 p.m. Old Barn Theater



k Cocker mix
 ack Lab X
 y pups
 dle Dog
 er puppies & dogs

he cost for adoption
 h includes neutering or
 ing and their shots is
 The pound's phone
 ber is 784-4930.

Notice of Intent

EXHIBIT XII

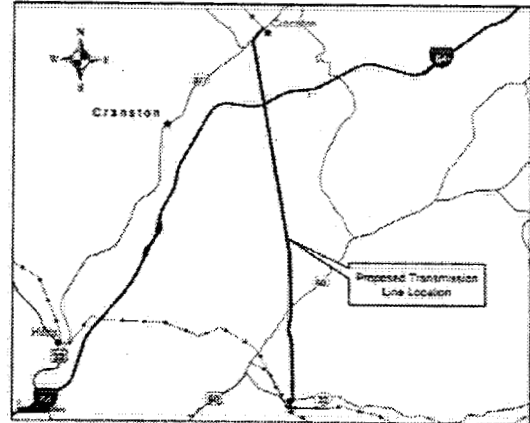
To Construct Proposed Transmission Line

East Kentucky Power Cooperative (EKPC) proposes to construct a 138-kV electric transmission line that will run from the EKPC's existing Rowan County Substation on Ky. 32 for approximately seven (7) miles to an existing EKPC Rowan County switching station located on Ky. 377.

The transmission line will require a certificate of public convenience and necessity to be issued by the Kentucky Public Service Commission (PSC). This process will proceed on PSC Docket No. 2005-00458.

EKPC plans to apply for a route that is identical to the route for which it applied previously in PSC Docket No. 2005-00089. The PSC did not approve that certificate. EKPC plans to provide further documentation that it has fully considered alternative routes.

Interested parties have the right to intervene in these proceedings should you desire and request a local public meeting. Should you have any questions concerning this process, the Executive Director of the Commission is Elizabeth O'Donnell, Kentucky Public Service Commission, P.O. Box 615, 211 Sower Boulevard, Frankfort, Kentucky 40602-0615, telephone (502) 564-3940.



**EAST KENTUCKY
 POWER COOPERATIVE**

*for people...
 not for profit*

To find out more about East Kentucky Power Cooperative, please visit us at www.ekpc.coop

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

THE APPLICATION OF EAST KENTUCKY)	
POWER COOPERATIVE, INC. FOR A CERTIFICATE)	
OF PUBLIC CONVENIENCE AND NECESSITY FOR)	CASE NO
FOR THE CONSTRUCTION OF A 138 kV ELECTRIC)	2005-00089
TRANSMISSION LINE IN ROWAN)	
COUNTY, KENTUCKY)	

AFFIDAVIT OF MARY JANE WARNER

Comes the Affiant, Mary Jane Warner, and states after first being duly sworn as follows:

1. She is presently the Manager of Power Delivery Expansion for East Kentucky Power Cooperative, Inc. ("EKPC"), and in that position has direct responsibility for the planning, routing, location, design and construction of all electric transmission lines of EKPC.
2. Because of recent constraints on the transmission grid in northeastern Kentucky that occurred subsequent to the hearing held herein, and the resulting estimated increases in EKPC's charges to its members, a load flow analysis was conducted under her direction and supervision to estimate EKPC's generation redispatch costs resulting from transmission constraints caused by the overloading of the KU Goddard-Rodburn line, which will be eliminated by the Cranston-Rowan line.
3. The primary reason for this increase in generation redispatch cost is the transmission constraints caused by overloading of the existing transmission grid in northeastern Kentucky. EKPC on numerous occasions, has had to reduce coal-fired

baseload generation at Spurlock Power Station and replace it with much higher priced gas-fired combustion turbine generation at J.K. Smith Station or purchased power.

4. These power flow cases were run for both peak load and shoulder peak for summer and winter of the years in question, and determined the amount of generation that would have to be reduced at Spurlock Power Station to prevent overloading of the Goddard-Rodburn line. The studies also determined the megawatts of redispatch for each hour of the years in question. A capacity factor of 91% was used and a cost of \$50/mWh was used for replacement energy cost. Two scenarios were run, one with no north-south power transfers and one with 4,000 MW of north-south transfers. A three-year period was used based on the amount of time it took to obtain approval for the current Environmental Assessment.

5. The results of the study are as follows:

EKPC Redispatch Costs Without North-South Transfers		EKPC Redispatch Costs With 4,000 MW of North-South Transfers	
2005	\$ 150,000		\$ 8,160,000
2006	\$ 550,000		\$ 44,760,000
2007	\$ 120,000		\$ 38,950,000
2008	<u>\$23,800,000</u>		<u>\$129,290,000</u>
Total	\$24,620,000		\$221,160,000

The two numbers bracket the risk and the actual costs should lie somewhere in the middle.

6. The cascading blackouts in northeastern Kentucky referenced in the most recent East Central Area Reliability Council Transmission Assessment would encompass 10 counties, including Bath, Carter, Elliott, Fleming, Johnson, Lawrence, Menifee, Montgomery, Morgan and Rowan.

7. The proposed Cranston-Rowan transmission route as approved by the USFS crosses 18 parcels of private property totaling 2.01 miles and 24.36 acres of right-of-way. The alternate Cranston-Rowan route proposed at the hearing by the

Commission's Consultant, Jerry Mendl and proposed by the Commission, crosses 35 parcels of private property, 34 of which are new, totaling 5.19 miles and 62.91 acres of right-of-way. The EKPC proposed route crosses National Forest system lands for 4.87 miles totaling 59.03 acres of right-of-way. The Mendl/Commission route alternative crosses National Forest system lands for 4.71 miles totaling 57.09 acres of right-of-way. Sixteen of the 18 property owners on the EKPC proposed route have agreed to voluntarily convey easements to EKPC.

8. On September 6, 2005, KU's Goddard-Rodburn 138 kV line was taken out of service for maintenance. This resulted in a peak flow during the outage of approximately 235 MVA on EKPC's Avon-Boonesboro North 138 kV line, which is approximately 106% of the line's summer emergency rating.

Subsequent analysis has determined that cascading outages could have potentially occurred as a result of the Goddard-Rodburn outage on that day. The analysis showed that if the Avon-Boonesboro North line had tripped at a loading of 235 MVA, overloads would have occurred on the 69 kV system in the Goddard area of nearly 120%. If that overloaded facility were to trip, subsequent facilities could have tripped due to excessive loading, until a significant amount of load was dropped in the northeastern part of Kentucky. This potential for cascading had been identified in EKPC's Assessment of Expected System Performance for 2005 Summer conditions, performed to satisfy ECAR requirements to assess potential limitations for the transmission system.

Further Affiant Sayeth Not


MARY JANE WARNER

RECEIVED

OCT 24 2005

Public Service Commission

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

**THE APPLICATION OF EAST KENTUCKY)
POWER COOPERATIVE, INC. FOR A CERTIFICATE)
OF PUBLIC CONVENIENCE AND NECESSITY FOR) CASE NO.
THE CONSTRUCTION OF A 138 kV ELECTRIC) 2005-00089
TRANSMISSION LINE IN ROWAN COUNTY, KENTUCKY)**

**PREPARED TESTIMONY OF DARRIN ADAMS
ON BEHALF OF
EAST KENTUCKY POWER COOPERATIVE, INC.**

- 1. Please state your name and address.
 - A. Darrin W. Adams, East Kentucky Power Cooperative (EKPC), 4775 Lexington Road, Winchester, Kentucky 40391
- 2. By whom are you employed and in what position?
 - A. I am employed by East Kentucky Power Cooperative, Inc., as Supervisor of the Planning Team in the Power Delivery Business Unit.
- 3. As background for your testimony, please briefly describe your educational background and work experience?
 - A. I am a graduate of Transylvania University with a Bachelor of Arts in Liberal Studies, and a graduate of the University of Kentucky with a Bachelor of Science in Electrical Engineering. I am a Licensed Professional Engineer in the Commonwealth of Kentucky. I was employed as a transmission planning and operations engineer with Kentucky Utilities/LG&E Energy for more than ten years. I have been employed in my current position with EKPC for more than one year.

4. What are your duties and responsibilities as Supervisor of Planning in EKPC's Power Delivery Expansion Department?
 - A. I supervise and perform studies related to the planning of all transmission additions to the EKPC system.
5. Did you prepare the estimates of the re-dispatch costs reflected as a result of the delay in the construction of the Cranston-Rowan project that was contained in the Affidavit of Mary Jane Warner that was attached to the Application for Rehearing?
 - A. Yes.
6. What natural gas prices were those re-dispatch costs originally based upon?
 - A. Those re-dispatch costs were based on an estimated cost of natural gas of \$6 per MMBtu, which equates to an approximate cost of \$77 per megawatt-hour for EKPC's combustion turbines at J.K. Smith. The estimated cost used for generation at EKPC's Spurlock Generating Station was \$27 per megawatt-hour. Therefore, the net cost to re-dispatch from Spurlock to the J.K. Smith combustion turbines was \$50 per megawatt-hour.
7. Were those costs reasonable at the time those estimates were prepared?
 - A. Yes.
8. Have those natural gas prices increased since that time?
 - A. Yes, immediately after Hurricane Katrina and Hurricane Rita passed through the Gulf of Mexico in August and September of 2005, natural gas future prices for January 2006 increased to approximately \$14 per MMBtu, which equates to a cost of \$175 per megawatt-hour for the J.K. Smith combustion turbines.
9. When did EKPC become aware of this price change?

- A. In the latter part of September 2005.
10. Have you recalculated the potential re-dispatch costs based upon these new natural gas prices? If so, what are those new costs.
- A. Yes. Those future gas prices were used to update the expected potential re-dispatch costs for the winter of 2006. Furthermore, the estimates for the generation costs for the J.K. Smith combustion turbines beyond the winter of 2006 were changed to \$102 per megawatt-hour (\$8 per MMBtu natural gas) to better reflect expected future gas prices. Using those values of \$175 per megawatt-hour for winter of 2006 and \$102 per megawatt-hour for the remainder of 2006 and all of 2007 and 2008, the net re-dispatch cost (assuming a Spurlock production cost of \$27 per megawatt-hour) becomes \$148 per megawatt-hour for the winter of 2006 and \$75 per megawatt-hour for the remainder of 2006 and all of 2007 and 2008. As a result, the expected total re-dispatch costs become:

	EKPC Re-dispatch Costs Without North-South Transfers	EKPC Re-dispatch Costs With 4,000 MW of North-South Transfers
2006	\$ 910,000	\$ 59,600,000
2007	\$ 170,000	\$ 58,430,000
2008	<u>\$35,710,000</u>	<u>\$193,940,000</u>
Total	\$36,790,000	\$311,970,000

This range better reflects the potential total costs to EKPC of generation re-dispatch based on the current expectations for natural gas prices.

11. Does this conclude your testimony?
- A. Yes, it does.

RECEIVED

OCT 24 2005

REGISTRY

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

**THE APPLICATION OF EAST KENTUCKY)
POWER COOPERATIVE, INC. FOR A CERTIFICATE)
OF PUBLIC CONVENIENCE AND NECESSITY FOR) CASE NO.
THE CONSTRUCTION OF A 138 kV ELECTRIC) 2005-00089
TRANSMISSION LINE IN ROWAN COUNTY, KENTUCKY)**

**PREPARED TESTIMONY OF WILLIAM A. BOSTA
ON BEHALF OF
EAST KENTUCKY POWER COOPERATIVE, INC.**

Q. Please state your name and address.

A. My name is William A. Bosta, East Kentucky Power Cooperative (EKPC), 4775 Lexington Road, Winchester, Kentucky 40391.

Q. By whom are you employed and in what position?

A. I am Manager of Pricing for EKPC.

Q. As background for your testimony, please briefly describe your educational background and work experience?

A. I have a Bachelor's Degree in Economics from Virginia Tech, Blacksburg, Virginia, and a Master's Degree in Industrial Management from Lynchburg College, Lynchburg, Virginia. My professional career began as an Economist with the engineering consulting firm of Hayes, Seay, Mattern & Mattern in Roanoke, Virginia. I then worked in the rates and regulatory area for two AEP subsidiaries, Appalachian Power Company in Roanoke, Virginia and Indiana Michigan Power Company in Ft. Wayne, Indiana. In 1993, I accepted a position

in Regulatory Affairs at Kentucky Utilities Company in Lexington, Kentucky and was subsequently promoted to Director of Regulatory Management for LG&E Energy in Louisville, Kentucky following the merger of KU Energy and LG&E Energy in 1998. In May 2001, I was offered an opportunity to join the EKPC system as Pricing Manager and in June 2001 I assumed my current position.

Q. Please provide a brief description of your duties at EKPC.

A. As Pricing Manager, I am responsible for rate and regulatory matters and issues at EKPC and provide support services for all sixteen Member Systems on these issues. I report directly to the Vice President of Finance and Planning.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide an estimate of the effect on customers' monthly bills if the proposed 138 kV transmission line is delayed through the year 2008.

Q. How did you prepare the estimates?

A. I began with the estimated additional fuel costs developed by Mr. Adams for 2006, 2007 and 2008 that come about in recognition of the absence of the proposed transmission line. As explained by Mr. Adams, these costs are derived from a redispatch of EKPC's generating units. EKPC would be required to use its Combustion Turbines to generate electricity rather than its coal-fired generation if the proposed line is not built. As the fuel cost for the combustion turbines is expected to be significantly higher than fuel costs for coal fired generation, EKPC will incur a higher level of fuel cost. Mr. Adams is providing an update of the projected natural gas cost for the 2006-

2008 period as a result of recent catastrophic events which were unanticipated and must be recognized.

Q. Please continue.

A. The additional fuel cost amount by year was then divided by the projected level of kWh sales to derive an annual per unit cost (\$/kWh). The per unit cost increase was applied to a typical residential customer using 1,000 kWh per month to derive a monthly dollar increase amount. This dollar amount was then divided by the projected average monthly bill amount to derive a percentage increase in the monthly bill.

Q. Can you provide a summary of the results?

A. Yes. Shown below are the results by year under the two load flow scenarios outlined by Mr. Adams.

Year	Without N-S Flows		With 4,000 MW N-S Flows	
	Dollar Increase	% Increase	Dollar Increase	% Increase
2006	\$0.07	.1%	\$4.64	6.2%
2007	\$0.01	.01%	\$4.39	5.9%
2008	\$2.33	3.1%	\$12.68	16.9%

Q. Does this conclude your testimony?

A. Yes, it does.

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY)
POWER COOPERATIVE, INC. FOR A CERTIFICATE)
OF PUBLIC CONVENIENCE AND NECESSITY FOR) CASE NO.
THE CONSTRUCTION OF A 138 kV ELECTRIC) 2005-00458
TRANSMISSION LINE IN ROWAN COUNTY, KENTUCKY)

PREPARED TESTIMONY OF DARRIN ADAMS
ON BEHALF OF
EAST KENTUCKY POWER COOPERATIVE, INC.

1. Please state your name and address.
 - A. Darrin W. Adams, East Kentucky Power Cooperative (EKPC), 4775 Lexington Road, Winchester, Kentucky 40391
2. By whom are you employed and in what position?
 - A. I am employed by East Kentucky Power Cooperative, Inc., as Supervisor of the Planning Team in the Power Delivery Business Unit.
3. As background for your testimony, please briefly describe your educational background and work experience?
 - A. I am a graduate of Transylvania University with a Bachelor of Arts in Liberal Studies, and a graduate of the University of Kentucky with a Bachelor of Science in Electrical Engineering. I am a Licensed Professional Engineer in the Commonwealth of Kentucky. I was employed as a transmission planning and operations engineer with Kentucky Utilities/LG&E Energy for more than ten years. I have been employed in my current position with EKPC for more than one year.

4. What are your duties and responsibilities as Supervisor of Planning in EKPC's Power Delivery Expansion Department?
 - A. I supervise and perform studies related to the planning of all transmission additions to the EKPC system.
5. Have transmission system problems attributable to the absence of the Cranston-Rowan 138 kV line been experienced recently?
 - A. Yes.
6. What was the nature of these transmission system problems?
 - A. EKPC experienced an outage of the Goddard-Charters 69 kV line and the Goddard 138-69 kV autotransformer from November 30, 2005 through December 2, 2005. These outages created severe overload conditions on the Goddard-Rodburn 138 kV transmission line. EKPC's initial response to these conditions was to re-dispatch generation to reduce the critical flows. EKPC subsequently employed a transmission switching procedure to decrease the line loadings. However, this did not completely eliminate the loading problems.
7. Would these problems have occurred if the Cranston-Rowan 138 kV line had been completed at the time?
 - A. No. The Cranston-Rowan line is expected to reduce the Goddard-Rodburn line flow by approximately 34%. Such a reduction would completely eliminate loading issues on the line, thereby eliminating the need for EKPC to dispatch its generating units in an uneconomical manner for this transmission line overload.
8. Does this conclude your testimony?
 - A. Yes, it does.

