EAST KENTUCKY POWER COOPERATIVE

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April 21, 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. 2005-00089

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 several of the Exhibits to the prepared testimony were of such length that it was impractical to make copies to include with these responses. As a result, we have copied the data files to CD/Rom and have included them as part of the Exhibits.

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

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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 THE CONSTRUCTION OF A 138 kV ELECTRIC TRANSMISSION LINE IN ROWAN COUNTY, KENTUCKY	)	**CASE NO 2005-00089**

APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. TO COMMISSION STAFF DATED APRIL 21, 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 FOR THE CONSTRUCTION OF A 138 kV ELECTRIC TRANSMISSION LINE IN ROWAN COUNTY, KENTUCKY	))))))	**CASE NO 2005-00089**

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 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 ft right-of-way.

6. Attached as Applicant's **Exhibits II and III** are the Prepared Testimony of Mary Jane Warner and Robert J. Rusch, respectively dealing with the need for the proposed transmission line.

7. Attached as Applicant's **Exhibit IV** is the Affidavit of Frank J. Oliva which contains an explanation of the Applicant's plans for financing the proposed transmission line and a statement that the Project will not involve sufficient capital outlays to materially affect the financial condition of the Applicant.

8. There will be no franchises required from any public authority for the construction of the proposed project.

There will be a Special Use Permit required from the United States Department of Agriculture (USDA), United States Forest Service (Forest Service) for that portion of the line that crosses the Daniel Boone National Forest. The Environmental Assessment (EA) for the Project was finalized by the Forest Service as lead agency and the USDA Rural Utilities Service (RUS) as cooperating agency on January 28, 2005. A Decision Notice and Finding of No Significant Impact was issued on the EA by the Forest Service on February 4, 2005, and an appeal of that decision was filed by an environmental organization, Kentucky Heartwood, Inc., and others on March 31, 2005. In accordance

with the manditory procedural schedule set forth in Forest Service regulations (36 CFR Sec. 11 through 20), the Applicant expects a favorable decision by the regional forester in Atlanta by May 16, 2005, and the issuance of a Special Use Permit by May 31, 2005. The Applicant will provide the Commission with a copy of the Special Use Permit when received.

There is also required a Permit from the Commonwealth of Kentucky, Transportation Cabinet for any crossings of State Highways that may occur on the Project. The Applicant annually receives from Transportation Cabinet, District No. 8, Flemingsburg, a blanket permit for any such road crossings that may occur in that district during that particular year. The project is located wholly within District 8, and any such road crossings will be covered by this blanket permit. A copy of this permit for 2005 is attached as **Exhibit V**.

No other permits are required for this Project.

9. Typical drawings of the types of structures to be constructed as part of the Project are attached as Applicant's **Exhibit VI_1 –EXHIBIT VI_9.**

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

11. Attached as Applicant's **EXHIBIT VII_1-EXHIBIT VII_3** are maps of a scale of one inch equals 500 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. Attached as **EXHIBIT VII_4** is a table identifying by number the owner of each property shown on **EXHIBIT VII_1-EXHIBIT VII_3**.

12. Attached as **EXHIBIT VIII$_1$-EXHIBIT VIII$_3$** are maps of the same scale showing the proposed centerline and any alternative centerline locations considered by the Applicant. The alternative centerline locations are shown in broken red lines while the proposed centerline is shown in solid red.

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

14. Attached as Applicant's **Exhibit IX** is an Affidavit of H.K. Cunningham 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.

15. Attached as Applicant's **Exhibit X** 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 14 above.

16. Applicant's **Exhibit IX,** Affidavit of H.K. Cunningham, 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.

17. Attached as Applicant's **Exhibit XI** is a copy of page A-9 of the Tuesday, April 12, 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.

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 20th day of April, 2005.

My notarial commission expires: October 28, 2006

NOTARY PUBLIC, KY
STATE-AT-LARGE.

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EXHIBIT I

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 FOR THE CONSTRUCTION OF A 138 kV ELECTRIC TRANSMISSION LINE IN ROWAN COUNTY, KENTUCKY	))))))	**CASE NO 2005-00089**

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

In the Matter of:

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

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 25, 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 FOR THE CONSTRUCTION OF A 138 kV ELECTRIC TRANSMISSION LINE IN SPENCER COUNTY, KENTUCKY	))))))	**CASE NO 2005-00089**

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 LGEE'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 FOR THE CONSTRUCTION OF A 138 kV ELECTRIC TRANSMISSION LINE IN ROWAN COUNTY, KENTUCKY	))))))	**CASE NO 2005-00089**

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 - Introduction 1-1

Section 2 - Today's Planning Environment 2-1

Section 3 - Need for System Improvement 3-1
General 3-1
Load Flow Studies 3-2

Section 4 - Alternate Solutions 4-1

Section 5 - System Performance with Alternate Solutions 5-1

Section 6 - Comparison of Alternates 6-1

Section 7 - Summary and Recommendations 7-1

APPENDICES

Appendix A - Load Flow Results without New Facilities A-1

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

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

Appendix C - Capital Cost Estimates C-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.

Section 2

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 sitting 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 kVline 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:

	Estimated Capital Costs
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.

Section 7

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 Out
Summer Loads (2005)				
Dispatch Scenario				
0	93.0	101.6	99.1	106.6
3	102.0	109.3	107.9	113.6
6 (revised)	114.1	115.6	118.1	119.2
Winter Loads 2005/06)				
Dispatch Scenario				
0	93.7	101.4	96.6	103.6
3	101.9	108.0	104.7	110.7
6 (revised)	117.5	117.5	120.7	120.5
Summer Loads (2010)				
Dispatch 6 (revised)	--	--	130.5	133.4
0	--	--	114.6	121.4
Winter Loads (2010/11)				
Dispatch 6 (revised)	--	--	118.2	120
0	--	--	102.9	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
Summer Loads (2005)				
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
Winter Loads (2005/06)				
Dispatch Scenario				
0	80.7	96.1	82.7	98
3	--	--	87.5	102.5
6 (revised)	99	108	101	109.9
Summer Loads (2010)				
Dispatch 6 (revised)	--	--	113.9	128.1
0	--	--	100.6	117.3
Winter Loads (2010/11)				
Dispatch 6 (revised)	--	--	102.5	113.5
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
Summer Loads (2005)				
Dispatch 6	86.2	86	88.2	88.0
Dispatch 0	86.7	85.6	88.8	87.7
Winter Loads (2005/06)				
Dispatch 0	93.2	92.2	94.2	94.2
Dispatch 6	92.9	92.9	94.6	94.5
Winter Loads (2010/11)				
Dispatch 30	--	--	93.3	92.9
0	--	--	93.0	91.8
Summer (2010)				
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
Summer Loads (2005)					
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
Winter Loads (2005/06)					
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
Summer Loads (2010)					
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
Winter Loads (2010/11)					
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
Summer Loads (2005)				
Dispatch 6 (revised)	78.7	79.2	--	--
Winter Loads (2005/06)				
Dispatch 6 (revised)	80.3	79.7	--	--
Summer Loads (2010)				
Dispatch 6 (revised)	--	--	89.6	91.1
Winter Loads (2010/11)				
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
Summer Loads (2010)					
Dispatch 6 (revised)	Hilda 12.5 kV	--	--	96.0	95.2
	Elliottville 12.5 kV	--	--	98.0	97.3
WinterLoads((2010)					
Dispatch 6 (revised)	Hilda 12.5 kV	--	--	94.9	94.2
	Elliottville 12.5 kV	--	--	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
Summer Loads (2005)					
Dispatch 6 (revised)	Hilda 12.5 kV	95.7	95.6	--	--
	Elliottville 12.5 kV	97.5	97.0	--	--
Winter Loads (2005/06)					
Dispatch 6 (revised)	Hilda 12.5 kV	95.8	94.5	--	--
	Elliottville 12.5 kV	97.9	96.5	--	--
Summer Loads (2010)					
Dispatch 6 (revised)	Hilda 12.5	--	--	94.5	92.7
	Elliottville 12.5 kV	--	--	96.2	94.2
Winter Loads (2010/11)					
Dispatch 6 (revised)	Hilda 12.5	--	--	94.3	92.8
	Elliottville 12.5 kV	--	--	96.8	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
Summer Loads (2005)				
Dispatch 6 (revised)	48.2	50.4	--	--
Winter Loads (2005/06)				
Dispatch 6 (revised)	46.7	48.3	--	--
Summer Loads (2010)				
Dispatch 6 (revised)	--	--	54.5	57.7
Winter Loads (2010/11)				
Dispatch 6 (revised)	--	--	49.7	52.3

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
Summer Loads (2010)				
Dispatch 6 (revised)	--	--	36.3	36.7
Winter Loads (2010/11)				
Dispatch 6 (revised)	--	--	36.2	36.6

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
Summer Loads (2005)				
Dispatch 6 (revised)	80.1	80.6	--	--
Winter Loads (2005/06)				
Dispatch 6 (revised)	82.6	82	--	--
Summer Loads (2010)				
Dispatch 6 (revised)	--	--	91.6	92.7
Winter Loads (2010/11)				
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
Summer Loads (2005)				
Dispatch 6 (revised)	66.0	72.1	--	--
Winter Loads (2005/06)				
Dispatch 6 (revised)	66.3	71.4	--	--
Summer Loads (2010)				
Dispatch 6 (revised)	--	--	74.4	82.3
Winter Loads (2010/11)				
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 Out
Summer Loads (2005)					
Dispatch 6 (revised)	Hilda 12.5 kV	98.3	95.7	--	--
	Elliottville 12.5 kV	100.0	96.8	--	--
Winter Loads (2005/06)					
Dispatch 0	Hilda 12.5 kV	99.6	97.3	--	--
	Elliottville 12.5 kV	101.9	99.2	--	--
Summer Loads (2010)					
Dispatch 0 /6 (revised)	Hilda 12.5 kV	--	--	95.8	92.4
	Elliottville 12.5 kV	--	--	97.1	92.9
Winter Loads (2010/11)					
Dispatch 6 (revised)	Hilda 12.5 kV	--	--	96.6	92.9
	Elliottville 12.5 kV	--	--	98.8	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)				
Dispatch 6 (revised)	--	--	58.8	58.7
Winter Loads (2010/11)				
Dispatch 6 (revised)	--	--	60.4	60.3

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)					
Dispatch 6 (revised)	Hilda 12.5 kV	--	--	97.4	96.9
	Elliottville 12.5 kV	--	--	99.8	99.4
Winter Loads (2010/11)					
Dispatch 6 (revised)	Hilda 12.5 kV	--	--	95.6	95.1
	Elliottville 12.5 kV	--	--	98.3	97.9

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 (2005)					
Dispatch 0	Hilda 12.5 kV	91.0	90.2	90.5	90.0
	Elliottville 12.5 kV	91.3	90.7	90.9	90.4
Dispatch 6	Hilda 12.5 kV	91.0	90.6	91.4	91.1
	Elliottville 12.5 kV	91.2	90.9	91.8	91.5
Winter Loads (2005/06)					
Dispatch 0	Hilda 12.5 kV	88.5	87.8	88.2	87.5
	Elliottville 12.5 kV	89.0	88.4	88.7	88.1
Dispatch 6	Hilda 12.5 kV	86.6	86.3	86.1	85.8
	Elliottville 12.5 kV	87.2	87.0	86.7	86.5
Summer Loads (2010)					
Dispatch 6 (revised)	Hilda 12.5 kV	--	--	89.7	89.3
	Elliottville 12.5 kV	--	--	90.3	90.0
Dispatch 0	Hilda	--	--	90.5	89.8
	Elliottville	--	--	91.0	90.4
Winter Loads (2010/11)					
Dispatch 6 (revised)	Hilda 12.5 kV	--	--	86.7	86.2
	Elliottville 12.5 kV	--	--	87.9	87.6
Dispatch 0	Hilda	--	--	87.3	86.7
	Elliottville	--	--	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

Project Name	Estimated Cost	Effective Year of Cost	Install Date (Year)	Escalation	IDC @ 5.0%	Escalated Cost + IDC
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

EXHIBIT IV

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 FOR THE CONSTRUCTION OF A 138 kV ELECTRIC TRANSMISSION LINE IN ROWAN COUNTY, KENTUCKY	))))))	**CASE NO 2005-00089**

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

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

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

ERNIE FLETCHER
GOVERNOR

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,

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

Released Date _____

ENCROACHMENT PERMIT

PERMIT NO. 09-0088-05

APPLICANT IDENTIFICATION:

NAME: EAST KENTUCKY POWER COOPERATIVE, INC.
CONTACT PERSON: MIKE TRAVIS
ADDRESS: PO BOX 707, 4775 LEXINGTON ROAD
CITY: WINCHESTER
STATE: KY ZIP CODE: 40391
PHONE: area code (859) 744-4864, Ext. 483

PROJECT IDENTIFICATION:

ACCESS CONTROL [X] By Permit [X] Partial [ ] Full
COUNTY: VARIOUS PRIORITY ROUTE NO: VARIOUS
MILEPOINT: VARIOUS [ ] Left [ ] Right [ ] X-ing
PROJECT STATUS: [ ] Maint. [ ] Const. [ ] Design
PROJECT # STATE: _____
PROJECT # FEDERAL: _____
ROAD/STREET NAME: _____

TYPE OF ENCROACHMENT:

- [ ] COMMERCIAL ENTRANCE - BUSINESS _____
- [ ] PRIVATE ENTRANCE: [ ] Single Family [ ] Farm
- [X] UTILITY: [X] Overhead [ ] Underground
- [ ] GRADE: [ ] Fill [ ] Landscape on R/W
- [ ] AIRSPACE: [ ] Agreement [ ] Lease
- [ ] OTHER: (Specify)

ATTACHMENTS:

- [ ] Standard Drawings (List on TC 99-21 under Misc.)
- [X] Applicant's Plans
- [ ] Highway Plan and Profile Sheets
- [ ] TC 99-3 (Ponding Encroachment Specs. & Conditions)
- [ ] TC 99-4 (Rest Area Usage Specs. & Conditions)
- [ ] TC 99-5 (Tree Cutting/Trimming Specs. & Conditions)
- [ ] TC 99-6 (Chemical Use of Specs. & Conditions)
- [ ] TC 99-10 (Typical Hwy. Boring Crossing Detail)
- [ ] TC 99-12 (Overhead Utility Encroachment Diagram)
- [ ] TC 99-13 (Surface Restoration Methods)
- [ ] TC 99-21 (Encroachment Permit General Notes & Specs.)
- [ ] TC 99-22 (Agreement for Services to be Performed)
- [ ] TC 99-23 (Mass Transit Shelter Specs. & Conditions)
- [ ] Other Attachments (Specify):

TYPE OF INDEMNITY: [X] Bond $5,000. [ ] Cash
[ ] SELF-INSURED AMOUNT ENCUMBERED $ _____
[ ] OTHER _____

NAME AND ADDRESS OF LOCAL INSURANCE AGENCY OR SELF-INSURED REPRESENTATIVE: KY RECC Bond Company

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 permitee, 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 [X] 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.

opy of this permit and all documents shall be given to your contractor and shall be readily available at the work site for the encroachment permit 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.**

PERMIT NO. 09-0088-05

KENTUCKY TRANSPORTATION CABINET
Department of Highways
Permits Branch

ENCROACHMENT PERMIT GENERAL NOTES & SPECIFICATIONS

I. SAFETY

A. General Requirements

[X] 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.

[X] 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.

[X] 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.

[X] 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. .

[X] The traveled-way and shoulders shall be kept clear of mud and other construction debris at all times during construction of the permitted facility.

[X] No nonconstruction equipment or vehicles or office trailers will be allowed on the right-of-way during working hours.

[X] The right-of-way shall be left free and clear of equipment, material, and vehicles during non-working hours.

B. Explosives

[X] 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

[X] SEE ATTACHMENT "A"

II. 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.

[X] 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 Farenheit).

[ ] 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:

*Applies to Fully Controlled Access Highways ***ONLY***

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.

VII. 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 premolded 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.

VIII. 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.

IX. 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.

☐ All 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.

KENTUCKY TRANSPORTATION CABINET
Department of Highways
Permits Branch

TC 99-12
Rev. 7/95

OVERHEAD UTILITY ENCROACHMENT DIAGRAM

COUNTY _____

APPLICANTS NAME

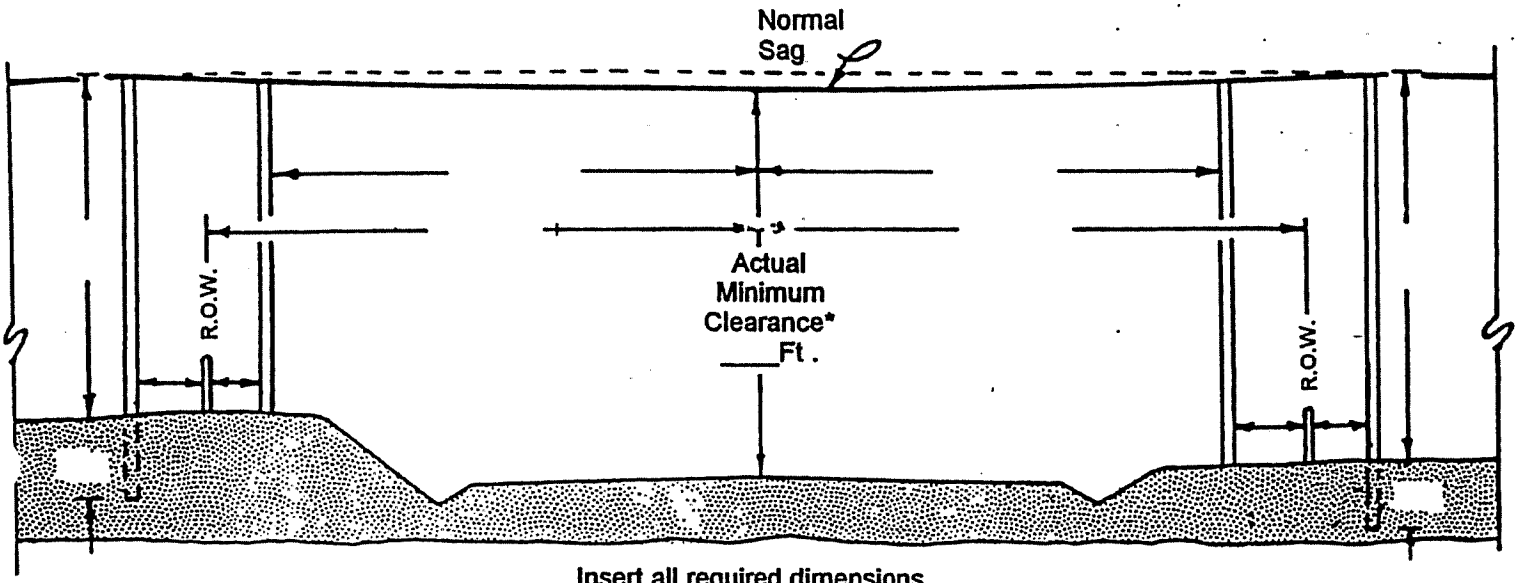
_____

Permit No. _____

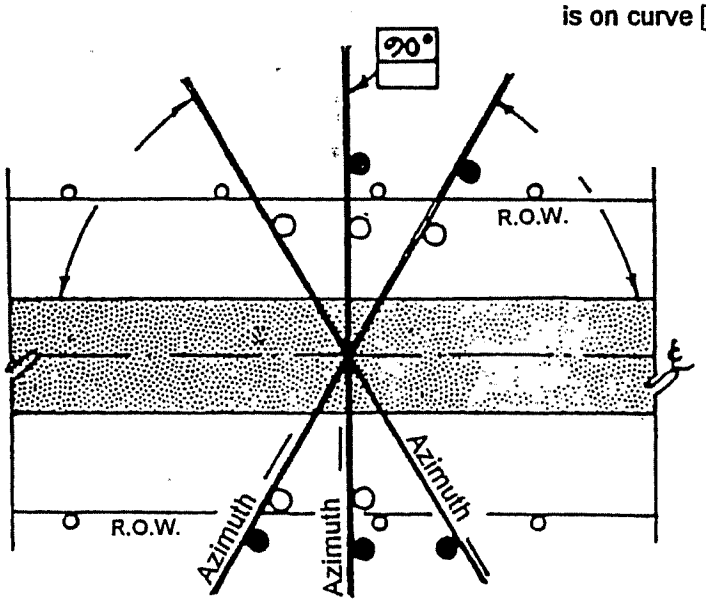
Maint. Project No. _____

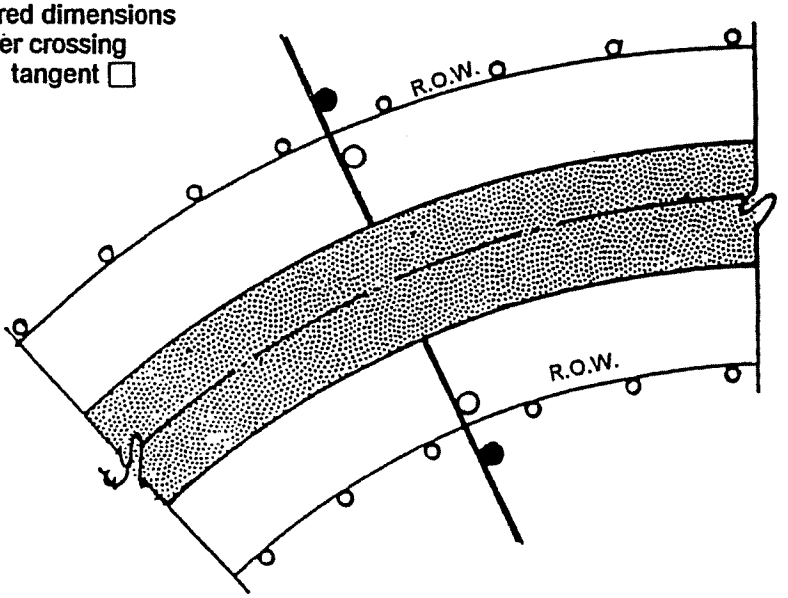
Const. Project No. _____

Mile Point _____



Insert all required dimensions
indicate whether crossing
is on curve ☐ tangent ☐

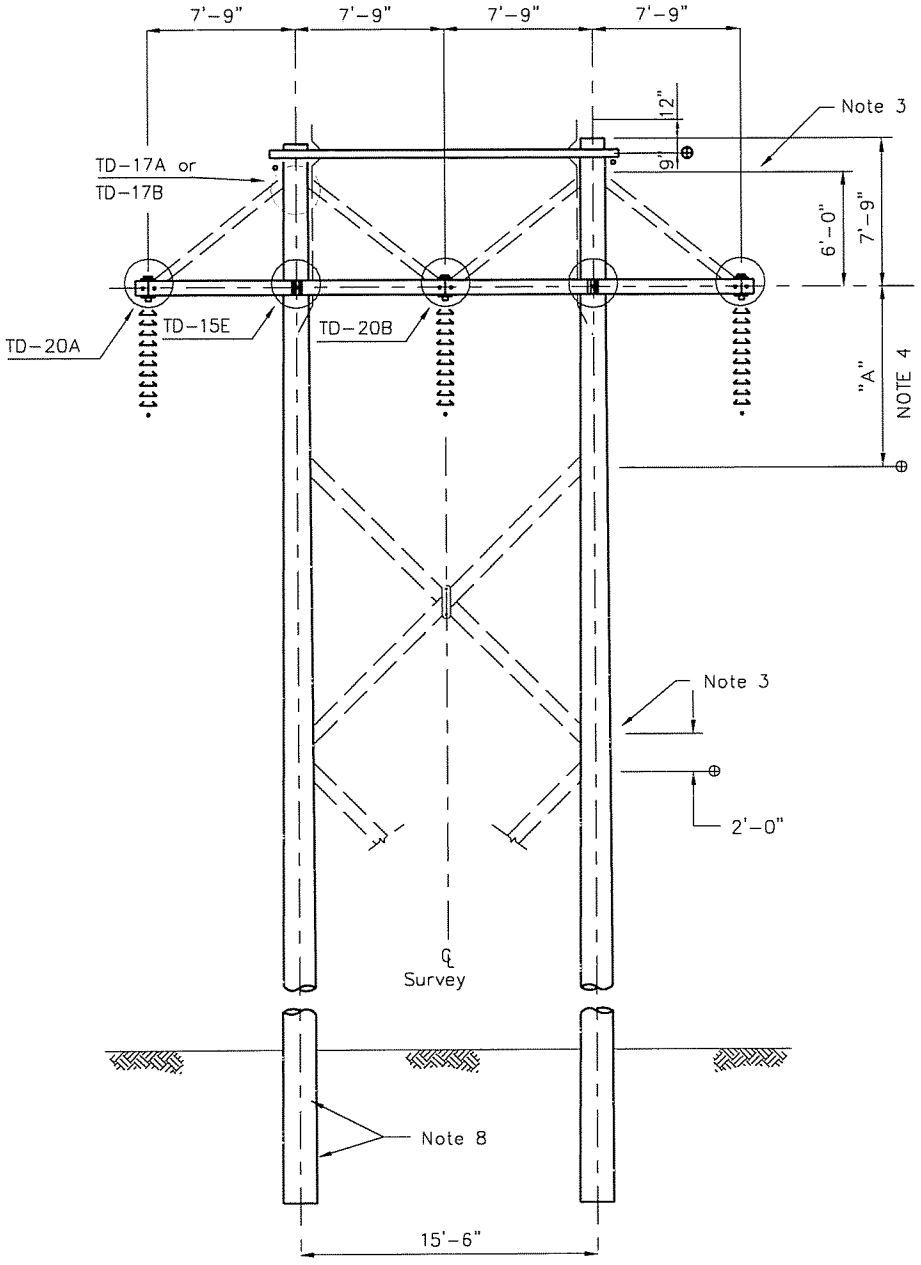




INSERT ANGLE OF CROSSING & AZIMUTH OF LINE

* 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:

1. Description and materials for structures are as follows:
   TH-10 – no braces
   TH-10X – one brace
   TH-10VO – two outside x-arm braces
   TH-10VOX – same as TH-10VO 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)
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. 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 guidence 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 SRUCTURE

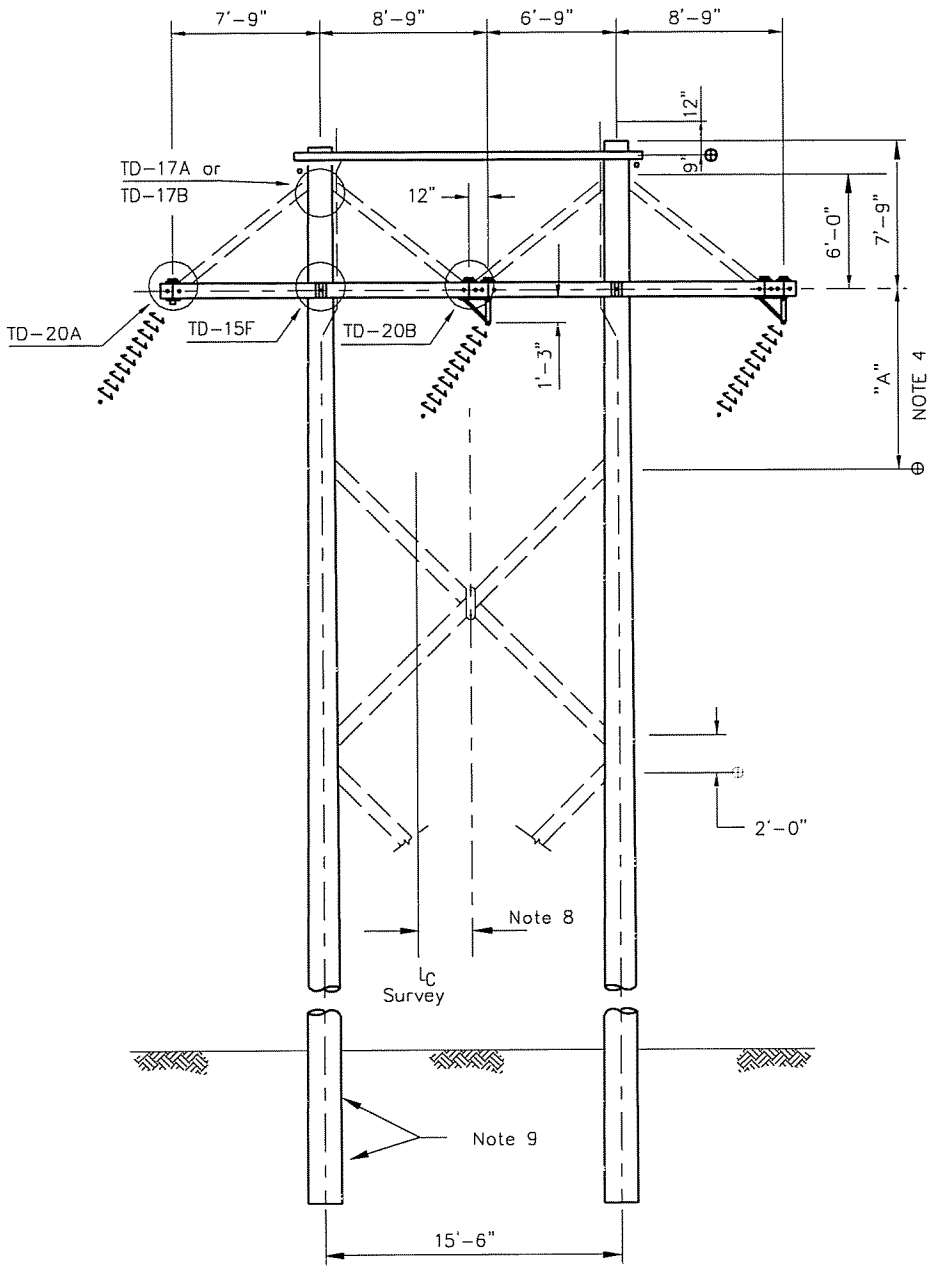
STEEL TANGENT H-FRAME

(161kv MAXIMUM)

NO.	REVISION	DATE

Reissued 05/98

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 guidence 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 an staking sheets: POLES, POLE GROUNDING ASSEMBLIES, AND ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.

TRANSMISSION LINE SRUCTURE

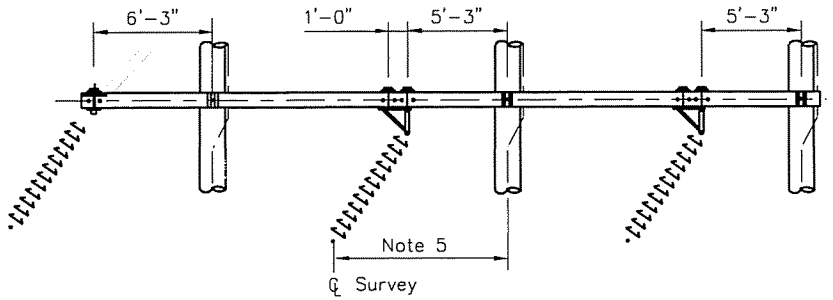
STEEL SMALL ANGLE H-FRAME

(161kv MAXIMUM)

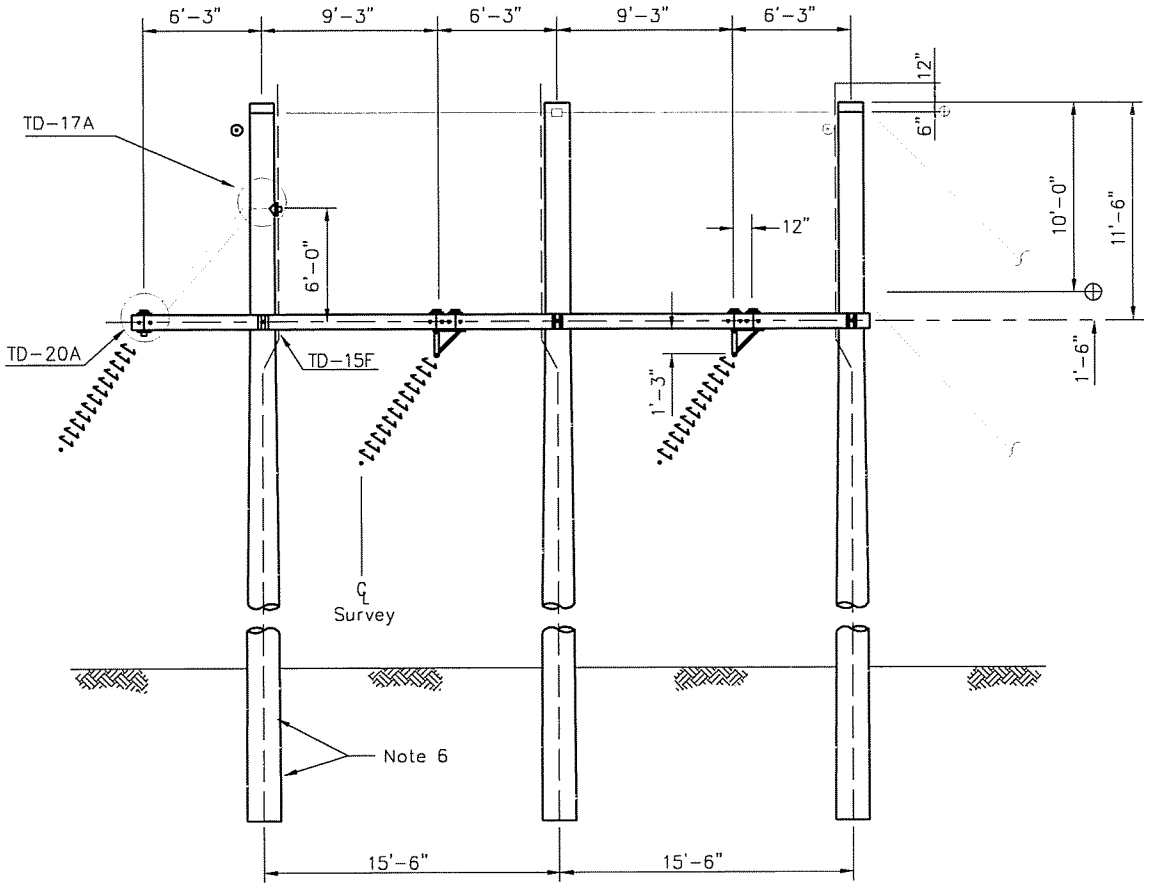
NO.	REVISION	DATE

Reissued 03/98

TH-11 SERIES



TH-12B (or) TH-12C



TH-12 (or) TH-12A

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 guidence 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 SRUCTURE

STEEL INTERMEDIATE ANGLE
(161kv MAXIMUM)

NO.	REVISION	DATE

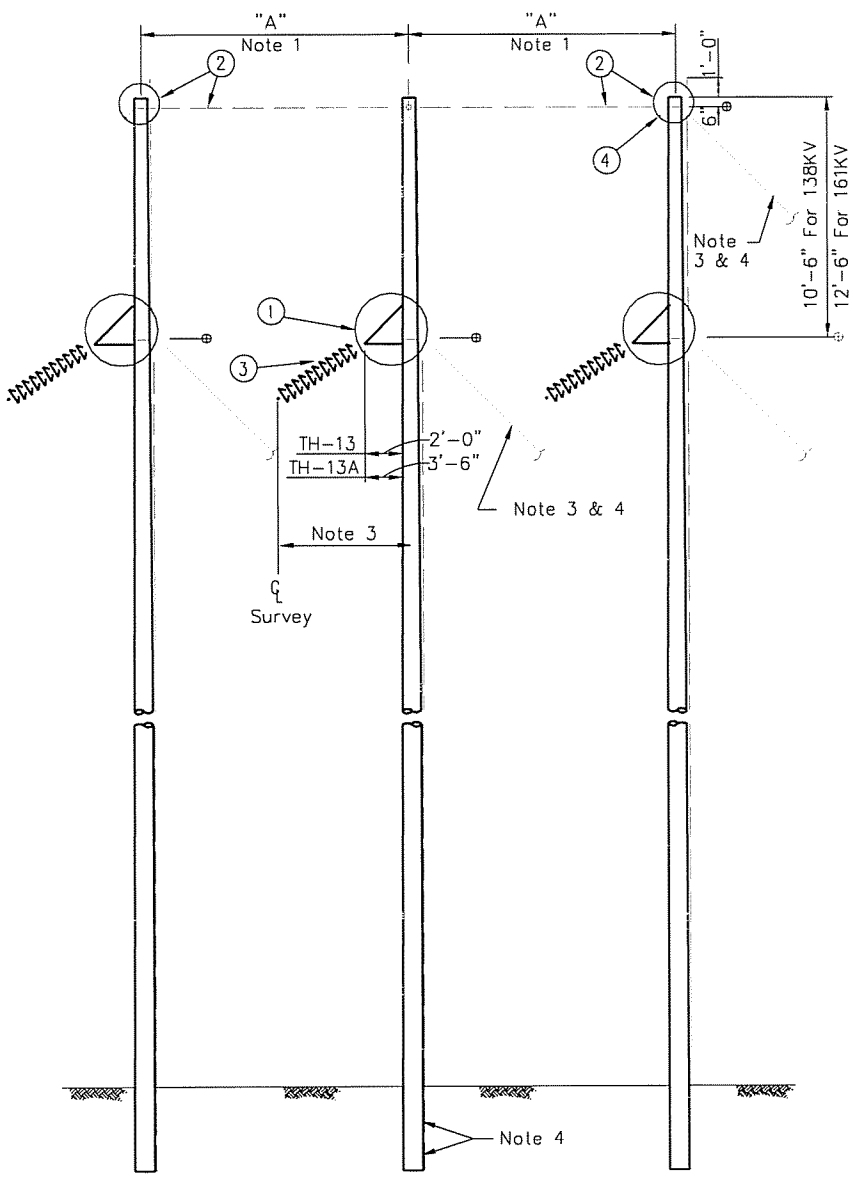
Reissued 03/98

TH-12 SERIES

EXHIBIT VI$_4$

LIST OF MATERIALS

DWG. REF.	QTY.	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:

1. 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"

2. Drawing TE-2 gives guidence to subassembly alternatives.
3. For guying arrangements and offset table, see drawing TMG-13. Pole spacing shall conform to minimum dimensions unless otherwise indicated.
4. The following materials are to be specified on plan and profile drawinds and staking sheets: POLES, POLE GROUNDING ASSEMBLY, GUYING ASSEMBLIES, ANCHORS, AND ANY ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.

TRANSMISSION LINE STRUCTURE

STEEL MEDIUM ANGLE

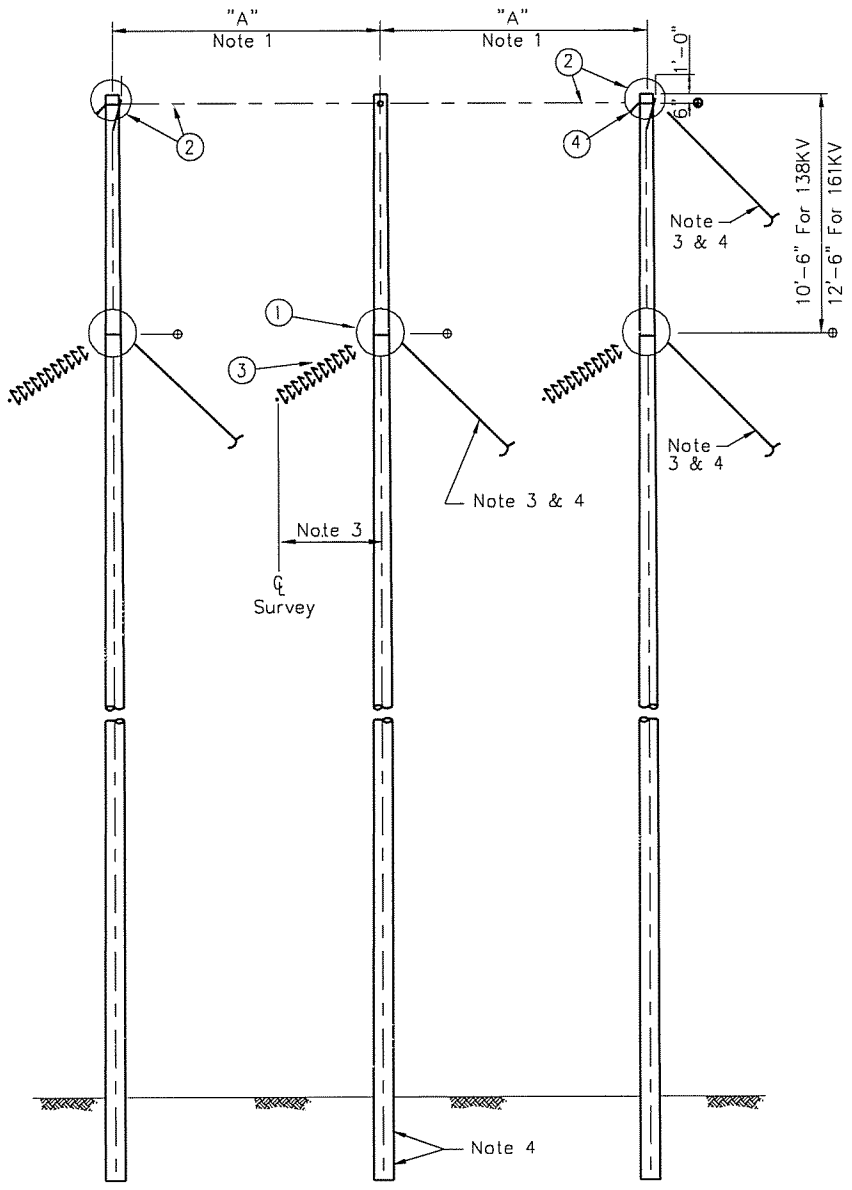
(161kv MAXIMUM)

Reissued 03/98

NO.	REVISION	DATE

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:

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

Structure	138 kv	161 kv
TH-14	17'-6"	20'-0"

2. Drawing TE-2 gives guidence to subassembly alternatives.
3. For guying arrangements and offset table, see drawing TMG-13. Pole spacing shall conform to minimum dimensions unless otherwise indicated.
4. 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

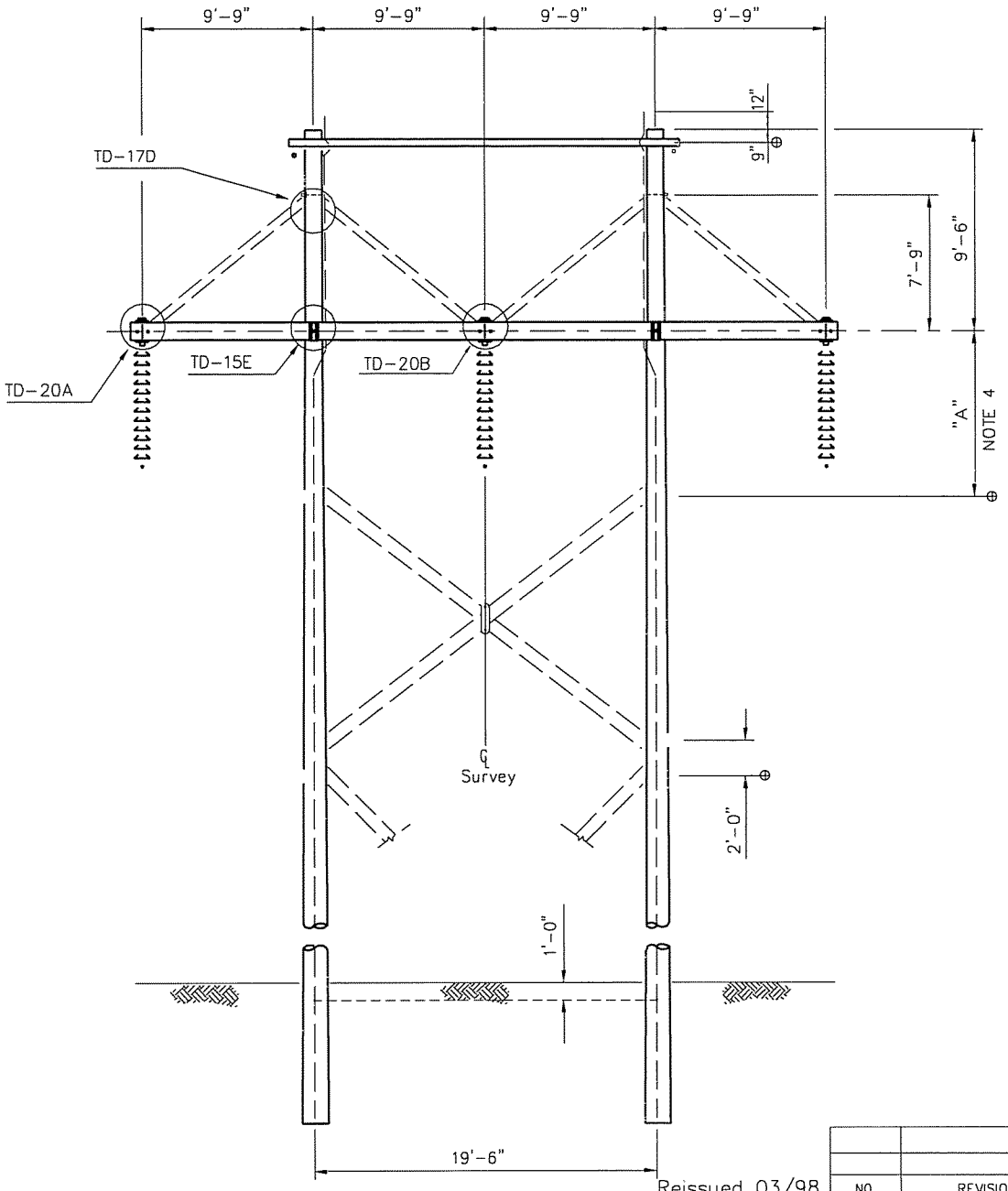
LARGE ANGLE

(161kv MAXIMUM)

Reissued 03/98

NO.	REVISION	DATE

TH-14



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 guidence 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.

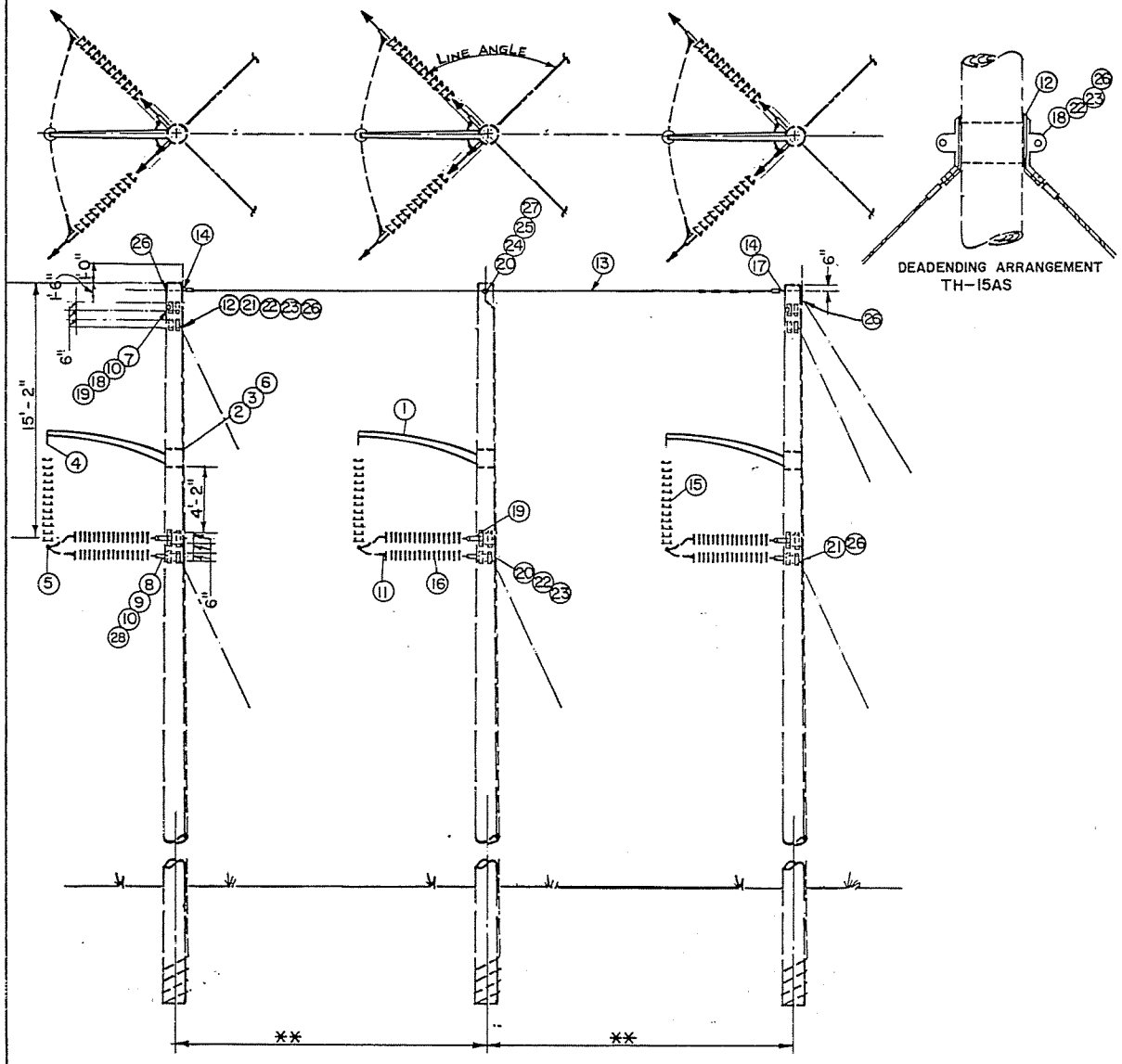
TRANSMISSION LINE STRUCTURE

STEEL TANGENT H FRAME
(230kv MAXIMUM)

NO.	REVISION	DATE

Reissued 03/98

TH-230



DEADENDING ARRANGEMENT
TH-15AS

NOTES:

*1. AS REQUIRED, SEE DRG. TM-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.

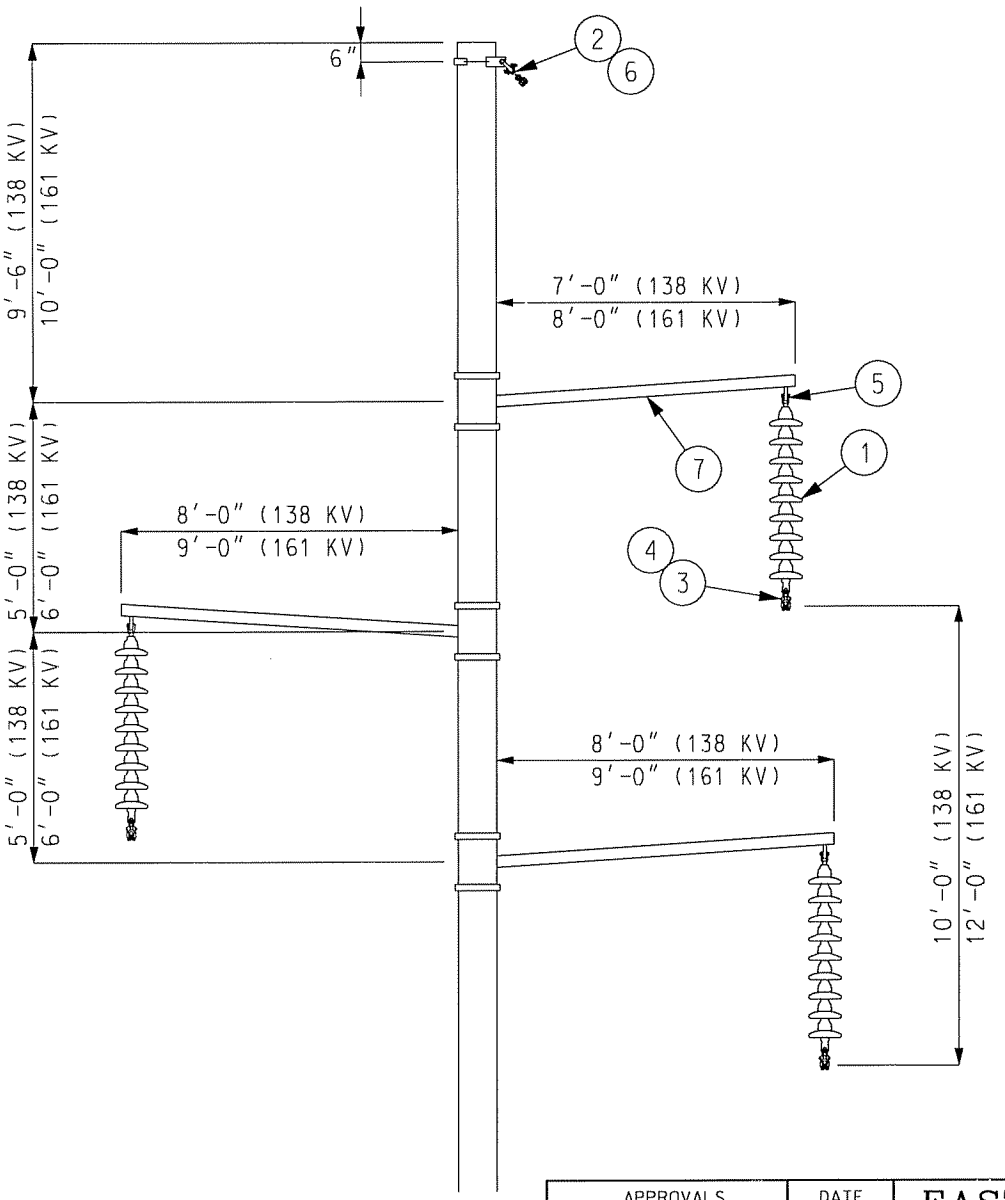
DRAWN	DATE 4/6/84	EAST KENTUCKY POWER COOPERATIVE WINCHESTER KENTUCKY	TRANSMISSION LINE DOUBLE DEADEND STRUCTURE — THREE POLE
TRACED	DATE		SHEET 1 OF 1
CHECKED	DATE 4/10/84		SCALE: NONE REV.

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	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

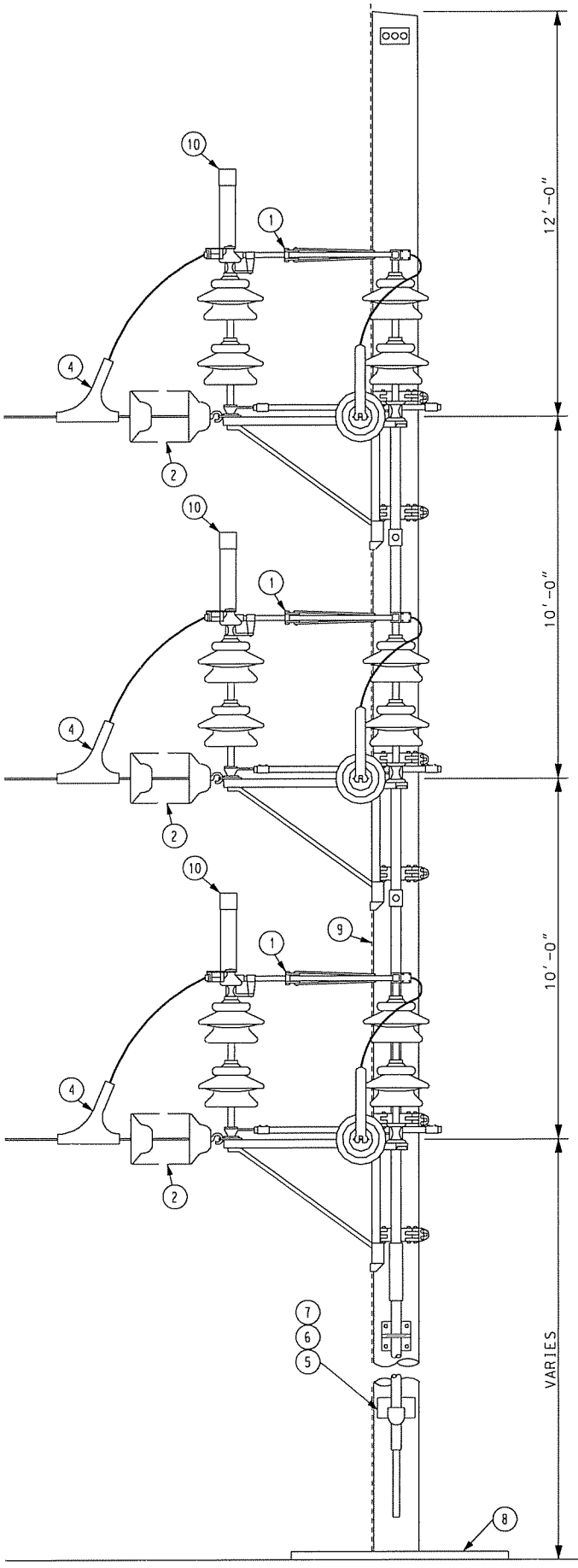
EXHIBIT VI$_8$



APPROVALS	DATE	EAST KENTUCKY POWER
DRAWN *Mike Travis*	*5-11-04*	WINCHESTER, KENTUCKY 40392
DESIGNED		SINGLE POLE DAVIT ARM STEEL POLE 161 KV CONSTRUCTION TU-1S
CHECKED *Jim Morton*	*6-1-04*	
APPROVED *Dominic Ballard*	*6-1-04*	
B.C. _____ W.O. _____		SCALE: NONE
AS BUILT =		SHEET 1 OF 1

A	DWG. NO. TU-1S	REV 0

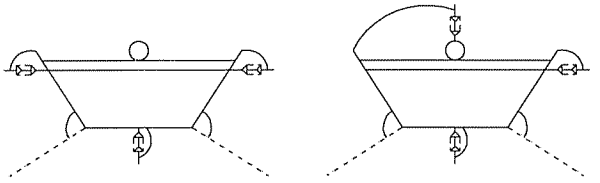
EXHIBIT VI$_9$

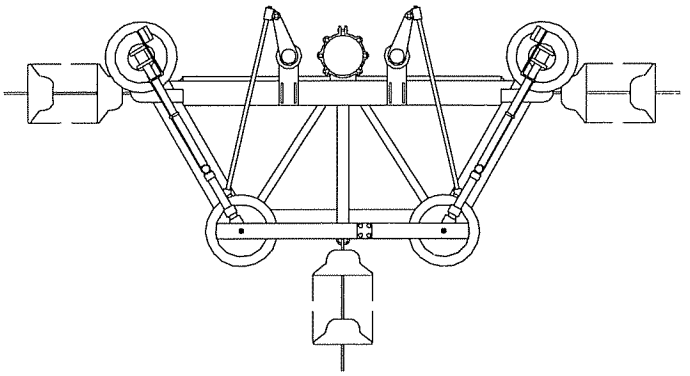


LIST OF MATERIAL		
DWG REF	REQ'D	DESCRIPTION
1	1	2-WAY AIR BREAK SWITCH ASSEMBLY
2	54	5 3/4" X 10" SUSPENSION INSULATORS
3	9	SUSPENSION HOOKS
4	9	DEAD END CLAMP & CONNECTION PIECE
5	4	5/ 8 " X 22" MACHINE BOLT
6	4	LOCKNUTS FOR 5/ 8" BOLT, MF TYPE
7	2	2 1/4" X 2 1/4" X 3/16" GALV. SQ. WASHER 13/16"
8	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:

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





NO	REVISION	DWN	APP

DRAWN MIKE TRAVIS
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

EAST KENTUCKY POWER COOPERATIVE

Transmission Line Siting Data List

Cranston - Rowan Co.

EXHIBIT VII$_4$

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 VII$_4$

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, Tennesse 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

EXHIBIT IX

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 FOR THE CONSTRUCTION OF A 138 kV ELECTRIC TRANSMISSION LINE IN ROWAN COUNTY, KENTUCKY	))))))	**CASE NO 2005-00089**

AFFIDAVIT OF H. K. CUNNINGHAM

Comes the Affiant, H. K. Cunningham, and states after first being duly sworn as follows:

1. That the Affiant is employed by the Applicant in the position as Senior Right-of-Way Agent, and in that capacity, will conduct, supervise and direct all right-of-way acquisition on the Applicant's Cranston-Rowan Transmission Project including giving all required notices.

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 Tuesday, April 12, 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

H. K. Cunningham

H. K. CUNNINGHAM

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Subscribed and sworn before me by H. K. Cunningham on this 21st day of April, 2005,

My Commission expires: October 28, 2006

Notary Public

EXHIBIT X

April 13, 2005

Melvin Stevens
7410 U.S. 60 E
Morehead, KY 40351

Dear Mr. Melvin Stevens:

Subject: Cranston-Rowan 138 kV Transmission Line

As you are aware 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. You have been contacted by EKPC representatives for acquisition of an Option to Purchase for the necessary 100 foot right-of-way.

This transmission line will run from the EKPC's existing Rowan County Substation on KY Hwy. 32 for approximately seven (7) miles to an existing EKPC Rowan County switching station located on KY Hwy. 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. 2005-00089. 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) 564-3460.

Enclosed are some informational materials about EKPC, our "Open House" format and this specific project. You may want to read over these materials prior to contacting our office. We look forward to talking with you regarding any additional questions regarding this project.

Sincerely,

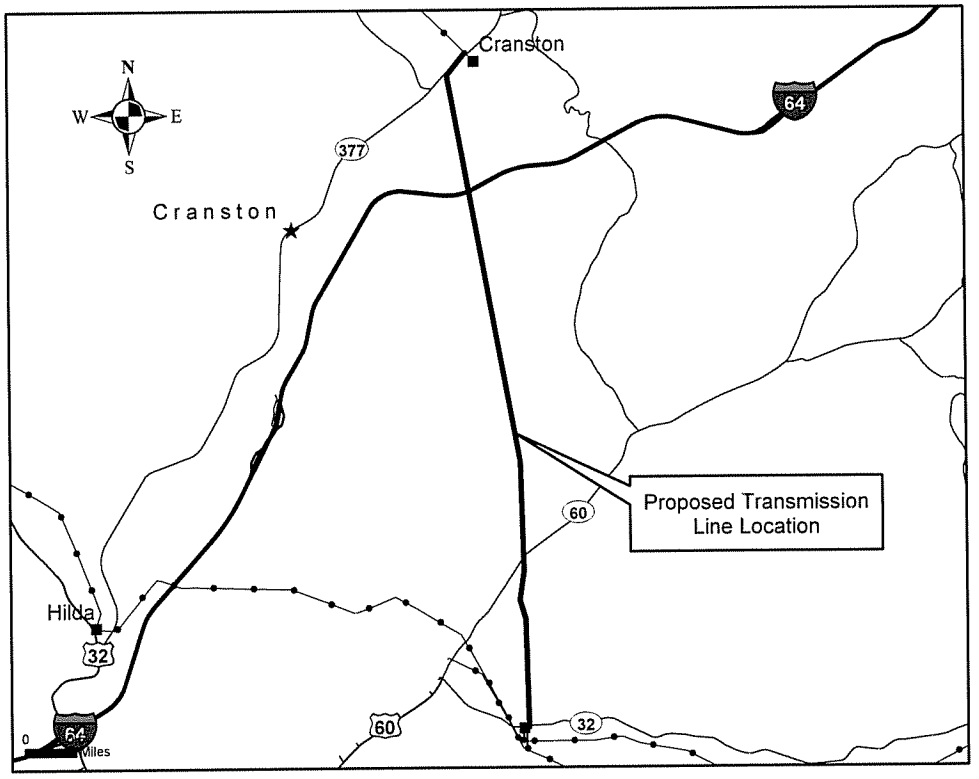
H. K. Cunningham, Senior Right-of-Way Agent
Power Delivery-Expansion

HKC:npc

Attachment

Cranston-Rowan_CONletter_FINAL.doc
Cranston-Rowanlabels.doc

Proposed Route of Cranston-Rowan 138 kV Transmission Line

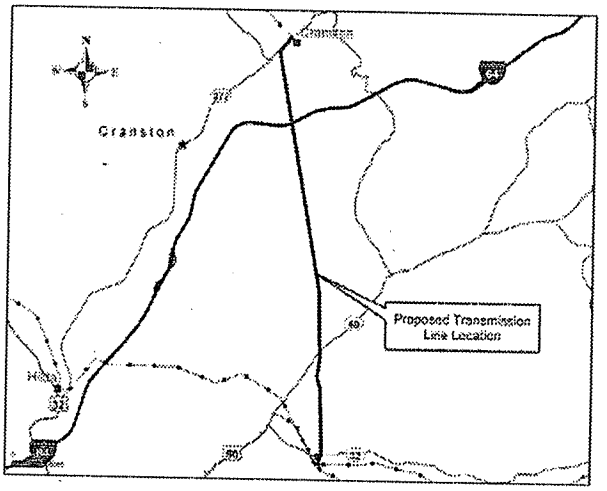


Notice of Intent

EXHIBIT XI

To Construct Proposed Transmission Line

st Kentucky Power Cooperative (EKPC) proposes to construct a 138 kV electric transmission line which 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 P.S.C Docket No. 2005-00089. 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