

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

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PUBLIC SERVICE  
COMMISSION

**In the Matter of:**

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

**ANSWER TO INTERVENOR DOERRFELD'S FIRST DATA  
REQUEST DATED JANUARY 20, 2006**



EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00458

INFORMATION REQUEST RESPONSE

INTERVENOR DOUG DOERRFELD'S 1<sup>ST</sup> DATA REQUEST DATED 1-20-06

ITEM 1

RESPONSIBLE PARTY: MARK BREWER, JOE SETTLES,  
MARY JANE WARNER

**REQUEST:** Please provide a copy of all correspondence in your possession between EKPC and the U.S. Forest Service concerning the proposal to construct the 138 kV transmission line, including all letters, maps and other documents identifying or describing the route or route(s) proposed by EKPC for the 138 kV transmission line which include traversing any portion of the national forest.

**RESPONSE:** Please refer to Commission's Data Response Item 21 Exhibit A which includes all available correspondence between EKPC and the U.S. Forest Service regarding this project.



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PSC CASE NO. 2005-00458

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ITEM 2

RESPONSIBLE PARTY: DARRIN ADAMS

**REQUEST:** Please describe in detail the genesis of the transmission constraints (overloading problems identified in the Warner prepared testimony) experienced in the EKPC system, that the proposed 138 kV transmission line is intended to remedy, including the (a) approximate date on which EKPC first experienced the transmission constraints; (b) a record of those instances in which non-economic dispatch of EKPC units has been required due to the transmission constraints; (c) the cause or cause(s) of the system or line congestion or overloading; and (d) the extent to which this new line will resolve the necessity for non-economic dispatch.

**RESPONSE:** (a) EKPC first identified the potential constraints during its system impact studies for the E.A. Gilbert Unit, which commenced in the latter part of 2000. Further study determined that some of the constraints and other reliability issues would be present even without the addition of the E.A. Gilbert Unit. Therefore, a separate transmission study ("Cranston-Rowan Study") was performed by Stanley Consultants, Inc. on behalf of EKPC to assess the need for system improvements to address transmission issues in the Rowan County area. That study, entitled *Justification of*

*Cranston-Rowan 138 kV Line*, and dated April 23, 2002, identified the Cranston-Rowan 138 kV Project as the recommended solution.

Actual occurrence of the constraints identified in the justification study was first experienced around June 2005

**(b)** The first incident specifically requiring non-economic unit dispatch for Goddard – Rodburn 138 kV loading occurred 11/30/05 during a contingency outage of the Goddard 138/69 kV transformer. The Goddard transformer outage and subsequent congestion problems resulted in a TLR on Goddard – Rodburn 138 kV (Flowgate 2877), necessitating EKPC generation re-dispatch. The cost incurred as a result of this re-dispatch was approximately \$172,300 for the two-day period between 11/30/05 and 12/1/05. (See also **EKPC Response to Commission Staff’s 1<sup>st</sup> Data Request, Item 16, Part (b)** for further discussion).

**(c)** The causes of the excessive line loadings in the area of interest can be attributed to a combination of the following factors:

- EKPC member system loads served in the area
- KU and AEP system loads served in the area
- Decreased levels of generation at EKPC’s J.K. Smith Combustion Turbine site due to the availability of more economical off-system purchases
- Decreased levels of generation at KU’s Brown Power Plant
- The changes in dispatch of nearby generating units due to the new Midwest ISO Market
- The changes in dispatch of nearby generating units due to membership additions in the PJM Market
- Partial implementation of the planned transmission system additions/modifications in the Spurlock area and in adjacent areas.
- The frequent occurrence of significant levels of north-south transfers creating large parallel flows across Kentucky

The combination of all of these factors has contributed to anticipated and actual heavy loadings on facilities in the Rowan County area.

(d) The Cranston-Rowan 138 kV line will reduce loadings on many facilities in the area. Studies indicate that this line will eliminate the need to re-dispatch units to relieve loadings on the Goddard-Rodburn 138 kV line and the Goddard-Plummers Jct.-Hilda 69 kV line, which were identified as being limiting facilities in both the Cranston-Rowan Study and in analysis of actual system loadings for the March-December 2005 period. The discussion of the actual system loadings is discussed in EKPC Response to Commission Staff's 1<sup>st</sup> Data Request, Item 16, Part (b).

In EKPC Response to Commission Staff's 1<sup>st</sup> Data Request, Items 30 and 31, power flow results are provided which show that the addition of the Cranston-Rowan 138 kV Project will reduce the number and severity of overloads expected for the 2006-2008 period. However, limitations are still identified for that time period with the Cranston-Rowan 138 kV Project. Therefore, the Cranston-Rowan 138 kV Project plus other planned transmission system additions and modifications are required to completely eliminate all of the potential overloads identified in the area between EKPC's Spurlock and J.K. Smith Generating Stations for the assumed conditions. If conditions differ from those assumed in the studies, non-economic dispatch of units may still be required to address problems. Therefore, there is no guarantee that the construction of the Cranston-Rowan 138 kV line and implementation of the other planned transmission projects in the area will completely eliminate the need for unit re-dispatch, but these projects are expected to at least substantially reduce the need for re-dispatch.





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ITEM 3

RESPONSIBLE PARTY: MARK BREWER

**REQUEST:** For each of the "primary" alternative routes described in the January 13, 2006 Assessment of the Completeness of Alternative Routes Considered by East Kentucky Power Cooperative In Its Application To Construct the Cranston-Rowan County 138 kV Transmission Line – Case No. 2005-00458 authored by Jerry E. Mendl of MSB Energy Associates, Inc. (MSB Assessment), and any other alternative routes that EKPC has considered which were not mentioned in the MSB Assessment, please provide the following information:

**REQUEST A:** All documentation in the possession of EKPC evidencing that it considered the routing alternative and the criteria and basis for determining that the alternative was or was not feasible;

**RESPONSE A:** All the documentation that EKPC still has in its possession related to routing has been provided in the Application.

**REQUEST B:** Cost estimates and the basis for the cost estimates for each primary alternative evaluated.

**RESPONSE B:** Cost estimates for two of the alternatives were provided in the Justification of the Cranston – Rowan 138kV Line dated April 23, 2002 by Stanley

Consultants and was included in the application for a permit sent to the USFS, which is included in EKPC's Response to Item 21 of the Commission's First Set of Data Requests. The USFS was the agency evaluating potential alternatives. To the best of the Responsible party's recollection, EKPC provided the USFS with a formula to arrive at a rough estimate of the direct construction costs for a project such as this. Again, to the best of the Responsible Party's recollection, this formula was approximately \$250,000 per mile of line, with an added cost of \$10,000 to \$40,000 per additional angle or dead-end structure.

In July of 2003, as a result of permitting activities with the FAA and KAZC, direct cost estimates were performed for the addition of lighting and marker balls to the USFS preferred route. The purpose of performing these estimates was to compare the cost of modifying the preferred route so that it followed ridge lines and was pulled down into the hollows. This modification was vehemently objected to by the USFS due to the significant increase in impact, and the resulting estimates are not included since they had no impact on the comparison of potential alternatives.



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INTERVENOR DOUG DOERRFIELD'S 1<sup>ST</sup> DATA REQUEST DATED 1-20-06

ITEM 4

RESPONSIBLE PARTY: MARK BREWER

**REQUEST:** Please provide any letters, emails or other records reflecting requests by EKPC to share or parallel existing utility transmission corridors (gas or electric) with any other utility or transmission company, and any responses received.

**RESPONSE:** No electric utility was contacted for purposes of sharing or paralleling existing transmission lines. In the evaluation process of potential alternatives, details are typically not pursued for all the possible alternatives, unless some potential factors exist that would preclude EKPC from utilizing such alternatives. In this case, EKPC was aware that paralleling KU's line was possible so long as there was no interference with the operation of their line. EKPC was also aware that spans were going to be of such length that sharing right of way with KU would interfere with their line. So sharing right of way was not reasonable, but paralleling KU's line was. Just exactly how far off the edge of KU right of way the EKPC facility would be required to be would have had no impact on the evaluation of alternatives.

El Paso Gas Company was contacted by phone for their input and recommendations. Refer to EKPC's response to Item 23 of the Commission Staff's First Data Request.



EAST KENTUCKY POWER COOPERATIVE, INC.

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ITEM 5

RESPONSIBLE PARTY: DARRIN ADAMS, MARY JANE WARNER

**REQUEST:** Please provide a copy of any studies that have been undertaken or commissioned by EKPC concerning alternative to the proposed Rowan-Cranston 138 kV line that are not already of record in this proceeding.

**RESPONSE:** All such studies have been either referenced or provided in the Application or EKPC's Responses to Data Requests.



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PSC CASE NO. 2005-00458

INFORMATION REQUEST RESPONSE

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ITEM 6

RESPONSIBLE PARTY: MARK BREWER

**REQUEST:** As part of an alternative route that would parallel I-64 in part, did EKPC consider accessing a parallel transmission corridor from KY Route 377 and county roads rather than from the federal highway? If the answer is "yes," please provide any documentation supporting the answer, and explain why such access to a transmission corridor paralleling I-64 was rejected.

**RESPONSE:** Yes, access from KY 377 was considered for a parallel I-64 route. To utilize access from KY377, the parallel I-64 route would have to be located on the North side of I-64, along and near the North Fork of Triplett Creek. All construction and maintenance access roads would involve crossing this creek. There are a number of environmental concerns when crossing creeks, such as bank erosion, silting and other biological impacts. Since EKPC will need access to each structure, a significant number of creek crossings would be required. In addition, there are several gas pipelines that parallel a large section of the I-64 corridor on this same side. EKPC would not be able to overbuild these gas lines. Refer to Brewer Exhibit B<sub>2</sub>, B<sub>5</sub> and B<sub>6</sub> in the Prepared Testimony of Mark Brewer.





EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00458

INFORMATION REQUEST RESPONSE

INTERVENOR DOUG DOERRFIELD'S 1<sup>ST</sup> DATA REQUEST DATED 1-20-06

ITEM 7

RESPONSIBLE PARTY: MARK BREWER

**REQUEST:** Please provide any documentation (or if the documentation is already of record, please provide an appropriate citation) reflecting that EKPC considered a route parallel to and adjacent to the southern right-of-way of 64 with access to the transmission corridor from the south rather than from I-64, and explain why this alternative was deemed infeasible.

**RESPONSE:** Exhibit B2 in the Prepared Testimony of Mark Brewer shows a route (identified as 1) that roughly parallels the southern right-of-way of I-64. This alternative was located as close to I-64 as possible, but could not be located adjacent to the right-of-way because of the steep slopes. Structures and associated access roads, cut through steep slopes present numerous environmental concerns and are to be avoided whenever possible. This was specifically requested by the USFS in EKPC's consideration of all alternatives and variations. Access to this route could be attained via USFS maintenance roads but would require the construction of significantly more access roads than the preferred route.



EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00458

INFORMATION REQUEST RESPONSE

INTERVENOR DOUG DOERRFIELD'S 1<sup>ST</sup> DATA REQUEST DATED 1-20-06

ITEM 8

RESPONSIBLE PARTY: MARK BREWER

**REQUEST:** Regarding the Prepared Testimony of Mark Brewer at p. 7, please explain with more specificity:

**REQUEST A:** the relative number of property owners affected by the Post-Hearing parallel route and the EKPC proposed route;

**RESPONSE A:** The Post-Hearing parallel route has an estimated 32 property parcels, and EKPC is not aware of the exact number of property owners. The EKPC proposed route has 17 parcels, and 13 property owners. This information is based on data acquired from the Rowan County PVA office.

**REQUEST B:** the relative number and length of access roads needed to support each of those two routes;

**RESPONSE B:** There are approximately 8.75 miles of access roads needed for the EKPC preferred route. The exact number of miles of access roads needed for the Post Hearing parallel route have not been determined, but will be significantly more since this route is longer with more structures requiring access roads and is located farther away from existing roads than the preferred route.

**REQUEST C:** the relative number of residential developments affected by each of the two routes.

**RESPONSE C:** The EKPC proposed route has no residences within 100 feet and 23 residences within 500 feet of the centerline. The Post-Hearing Alternative Route has 6 residences within 100 feet and 54 within 500 feet of the centerline. This information is based on data acquired from aerial photography for this project.



EAST KENTUCKY POWER COOPERATIVE, INC.

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INFORMATION REQUEST RESPONSE

INTERVENOR DOUG DOERRFIELD'S 1<sup>ST</sup> DATA REQUEST DATED 1-20-06

ITEM 9

RESPONSIBLE PARTY: MARK BREWER

**REQUEST:** Also regarding the Brewer testimony at p. 6, please explain in detail how the Post-Hearing parallel route was “adjusted by EKPC for viability[.]”

**RESPONSE:** The unadjusted Post Hearing parallel route crossed over, between and very near many residences in the Cranston area. In an effort to minimize this impact, less intrusive paths (near this route) were sought and investigated on aerial photography. This potential revision was field investigated and refined to the current “adjusted route”.





EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00458

INFORMATION REQUEST RESPONSE

INTERVENOR DOUG DOERRFIELD'S 1<sup>ST</sup> DATA REQUEST DATED 1-20-06

ITEM 10

RESPONSIBLE PARTY: JOE SETTLES

**REQUEST:** Is it the position of EKPC that the U.S. Forest Service mandated the location of the proposed EKPC routing of the transmission line?

**RESPONSE:** It is the position of EKPC that the USFS has sole jurisdiction to determine, evaluate and approve the location of transmission projects such as this upon National Forest System Lands. No entity may locate a transmission line on National Forest System Lands unless that location is approved by the USFS. Whether this equates to mandating the location of a given line is merely an issue of semantics. EKPC determined that a transmission line was needed between the Rowan and Cranston substations. EKPC applied for a Special Use Permit to cross National Forest System Lands for the proposed project. The USFS presented the project to the public, identified the significant issues relative to the project, developed alternatives, and evaluated those alternatives in relation to the significant issues identified for the project. Alternatives D, E, F, G, and H were dismissed from further detailed evaluation because they did not satisfy the significant issues identified by the USFS and the public. Alternatives A, B, and C were evaluated in detail. Their impacts or effects on endangered and threatened species, soil and water resources, DBNF sensitive species, aesthetics, etc were evaluated

and disclosed in the Environmental Assessment prepared for the project. A Finding of No Significant Impact was issued by the DBNF for Alternative A for the proposed project. That decision was appealed and the Regional Forester upheld the decision. The USFS followed the federally-required decision making process that involved the public and EKPC, and the USFS made the decision that the proposed project would not have significant impact on the DBNF.



EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00458

INFORMATION REQUEST RESPONSE

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ITEM 11

RESPONSIBLE PARTY: MARK BREWER

**REQUEST:** The November 27, 2005 letter to the Kentucky Transportation Cabinet requested to parallel and share right-of-way with I-64 and to "remove and keep the right-of-way clear of trees, signs and/or structures with 50 feet of the line" and also "access for construction and maintenance for this line from I-64." The November 28, 2005 response indicated that "most of the conditions you require for the transmission line are not permitted on a fully controlled access highway."

Did EKPC request clarification from KDOT as to which conditions would be permitted, since the November 28, 2005 letter did not state that all the requirements were inconsistent with the fully-controlled access highway designation. If so, which conditions did KDOT indicate would be allowable? Please provide documentation supporting the answer.

**RESPONSE:** First it is important to note that if EKPC were to share R/W with I-64, all of the requests contained in EKPC's letter (except access) would have to be met by KYDOT. For this project, access from the USFS was not a suitable option due to the steep slopes adjacent to I-64. In Mr. Brewer's conversation with a Mr. Dan Suit, the KYDOT Permits Supervisor, on or about November 17, 2005, EKPC was advised that

the KYDOT had not previously allowed access from I-64, the restriction of signs and structures or the installation of utility structures within the corridor of I-64. He recommended that if EKPC wanted an official response, it should send a letter to the Chief District Engineer.



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ITEM 12

RESPONSIBLE PARTY: MARK BREWER

**REQUEST:** Has EKPC entered into any agreements, including options, leases or purchase, of any easements from private property owners to support the proposed EKPC transmission route? If so, please identify the date(s) on which such rights were obtained.

**RESPONSE:** Yes. There have been thirteen (13) Options signed as follows:

| <b>Date Signed</b> | <b>Number Signed</b> |
|--------------------|----------------------|
| September 20, 2004 | 1                    |
| October 4, 2004    | 1                    |
| October 15, 2004   | 1                    |
| December 6, 2004   | 1                    |
| December 8, 2004   | 1                    |
| December 10, 2004  | 2                    |
| January 6, 2005    | 1                    |
| March 9, 2005      | 1                    |
| May 5, 2005        | 1                    |
| May 16, 2005       | 3                    |





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ITEM 13

RESPONSIBLE PARTY: MARK BREWER

**REQUEST:** Has EKPC evaluated the cost and feasibility of entering into an agreement with KU to share or overlap right-of-way that would include installation of new poles at shorter intervals in order to reduce conductor blow-out concerns or to share transmission towers or poles. If so, please explain why these options were rejected, and provide any correspondence or assessment of such an option.

**RESPONSE:** While it is true that rebuilding KU's line and building EKPC's to shorter spans could make sharing right of way more feasible. The practice of building a "short span" line in mountainous terrain would be very impractical, difficult, excessively costly to construct and maintain and would have a tremendously greater impact on the Daniel Boone National Forest. Structures placed on the sides of steep slopes are to be avoided whenever possible because of the required excavation into the hillside for equipment access for construction of access roads and foundation pads as well as future maintenance. These cuts can lead to erosion problems, slope instability and future risks of slides.

In addition taking the KU line out of service long enough to rebuild it would not be a viable option due to unacceptable system operational problems.