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November 29, 2011

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HAND DELIVERED

RECEIVED
NOV 29 2011
PUBLIC SERVICE COMMISSION

Jeff R. Derouen
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602-0615

RE: Case No. 2011-00295

Dear Mr. Derouen

Enclosed please find the original and ten copies of Kentucky Power Company's responses to "Commission Staff's First Request For Information To Kentucky Power Company."

Because Kentucky Power Company is filing a motion seeking confidential treatment of its responses to Data Request numbers 7(d), 8(b), and 9(d), the responses to those data requests have been redacted. The complete original responses to those requests are filed with the accompanying motion.

Please do not hesitate to contact me if you have any questions.

Very truly yours,

STITES & HARBISON, PLLC

Mark R. Overstreet

MRO
cc: Dennis G. Howard II (with redacted enclosure)
Michael L. Kurtz (with redacted enclosure)

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY POWER COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT A 138 KV TRANSMISSION LINE AND ASSOCIATED FACILITIES IN BREATHITT, KNOTT AND PERRY COUNTIES, KENTUCKY (BONNYMAN-SOFT SHELL LINE)	)	CASE NO. 2011-00295

* * * * * * * *

PETITION FOR CONFIDENTIAL TREATMENT

Kentucky Power Company ("Kentucky Power" or "Company") moves the Commission pursuant to 807 KAR 5:001, Section 7, for an Order granting confidential treatment to Kentucky Power's responses to Data Request Numbers 7(d), 8(b) and 9(d) in the Commission Staff's first set of data requests. Pursuant to 807 KAR 5:001, Section 7 Kentucky Power is filing an unredacted copy of the responses along with ten redacted copies.

A. The Requests And The Statutory Standard.

The Data Requests at issue seek the following information:

7(d) What other maps, beyond the active permit maps available from the Kentucky Mine Mapping System, were used in the GIS analysis for future mining? If other maps were used, provide a copy of those maps.

8(b) If any areas for future land use for industrial/commercial development are in the study area, provide a map showing their locations.

9(d) Provide data for Potential Relocation Risk for Table 2.

Kentucky Power does not object to responding to these Data Requests and providing the Commission with the mapping and relocation risk information. However, the information should be afforded confidential treatment.

KRS 61.878(1)(c)(1) excludes from the Open Records Act:

> Upon and after July 15, 1992, records confidentially disclosed to an agency or required to be disclosed to it, generally recognized as confidential or proprietary, which if openly disclosed would permit an unfair commercial advantage to competitors of the entity that disclosed the records.

This exception applies to Kentucky Power's responses to Staff Data Requests 7(d), 8(b) and 9(d).

B. The Information Provided by Kentucky Power in its Response to Staff Data Requests 7(d), 8(b) and 9(d) is Generally Recognized as Confidential and Proprietary.

The Data Requests call for the production of maps used by Kentucky Power in the GIS analysis illustrating future mining, maps showing locations of future industrial and commercial development in the study area, and Potential Relocation Risk data related to future mining activity. Thus, the information to be protected involves non-public plans regarding future economic activity. This information is highly confidential. The confidential information was furnished by landowners or governmental officials to Kentucky Power following extensive negotiations with Kentucky Power. Disclosure was conditioned on Kentucky Power's promise to take all reasonable steps to prevent the information from being disclosed to the public.

The landowners are engaged in the development of the subject properties and are actively acquiring mineral and other property rights from third parties. The landowners reasonably believe that the public disclosure of the purpose behind these

acquisition efforts will impair their ability to negotiate and lead to a marked escalation in acquisition prices.

Dissemination of the information for which confidential treatment is being requested is restricted by Kentucky Power and American Electric Power Service Corporation ("AEPSC"). The Company and AEPSC take all reasonable measures to prevent its disclosure to the public and to persons within the Company who do not have a need for the information.

Simply stated, the information sought by the Commission was provided to Kentucky Power on the condition that Kentucky Power maintain it as confidential, and the landowners had a reasonable basis to impose that condition. Accordingly, the Commission should find that confidential treatment is appropriate for Kentucky Power's responses to these Requests from Commission Staff.

C. Disclosure Of The Information Included in Kentucky Power's Response to Staff Data Requests 7(d), 8(b) and 9(d) Will Result In An Unfair Commercial Advantage.

Public disclosure of the confidential information at issue will result in an unfair commercial disadvantage to both Kentucky Power and the landowners that provided the confidential information to Kentucky Power. Kentucky Power will be injured because it will be significantly more difficult to carry out transmission projects going forward if landowners know they cannot provide information to Kentucky Power without the information being disclosed to the public. Kentucky Power reasonably anticipates that landowners will be reluctant or unwilling to work with Kentucky Power under those circumstances. Moreover, the landowners will be injured because confidential information about planned mining activities and commercial and industrial developments

will be made public at a time when the confidentiality of those plans is vital to the landowners' economic interests. Disclosure of the confidential information will impair or derail commercial opportunities planned by third parties that have no direct interest in the outcome of this proceeding.

D. The Information Included in Kentucky Power's Responses to Staff Data Requests 7(d), 8(b) and 9(d) Is Required To Be Disclosed To An Agency.

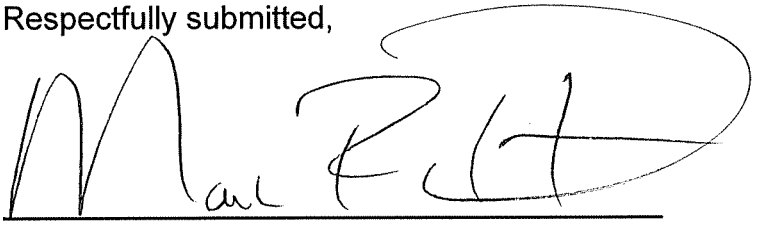
Finally, the information requested in Staff Data Requests 7(d), 8(b) and 9(d) is by the terms of the Data Request required to be disclosed to the Commission, a "public agency" as that term is defined at KRS 61.870(1). Kentucky Power acknowledges the information sought in the Data Requests is within the scope of the Commission's review, and that Commission Staff should have access to the information. Any filing, however, should be subject to a confidentiality order and anyone requesting such information should enter into a confidentiality agreement. If such an agreement cannot be reached, the information should be subject to a protective order issued pursuant to 807 KAR 5:001, Section 7(5)(b).

Wherefore, Kentucky Power Company respectfully requests the Commission to enter an Order:

1. According confidential status to and withholding from pubic inspection Kentucky Power's response to Staff Data Requests 7(d), 8(b) and 9(d); and

2. Granting Kentucky Power all further relief to which it may be entitled.

Respectfully submitted,



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COUNSEL FOR KENTUCKY POWER COMPANY

COMMONWEALTH OF KENTUCKY

BEFORE THE

PUBLIC SERVICE COMMISSION OF KENTUCKY

IN THE MATTER OF

APPLICATION OF KENTUCKY POWER COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT A 138 KV TRANSMISSION LINE AND ASSOCIATED FACILITIES IN BREATHITT, KNOTT AND PERRY COUNTIES, KENTUCKY (BONNYMAN SOFT SHELL LINE	)	CASE NO. 2011-00295

RESPONSES OF KENTUCKY POWER COMPANY TO COMMISSION STAFF'S FIRST SET OF DATA REQUESTS

November 29, 2011

VERIFICATION

The undersigned, Michael G. Lasslo being duly sworn, deposes and says he is the Manager Customer and Distribution Services, Hazard District, Kentucky Power Company that he has personal knowledge of the matters set forth in the forgoing data requests and the information contained therein is true and correct to the best of his information, knowledge, and belief.

Michael G Lasslo

MICHAEL G. LASSLO

COMMONWEALTH OF KENTUCKY)
) CASE NO. 2011-00295
COUNTY OF PERRY)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by, Michael G. Lasslo, this the 17th day of November, 2011.

Ellis R McKnight

Notary Public

My Commission Expires: June 21, 2014

VERIFICATION

The undersigned, GEORGE T. REESE being duly sworn, deposes and says he is the Senior Environmental Manager, that he has personal knowledge of the matters set forth in the forgoing data requests and the information contained therein is true and correct to the best of his information, knowledge, and belief.

GEORGE T. REESE

COMMONWEALTH OF PENNSYLVANIA)
) CASE NO. 2011-00295
COUNTY OF ALLEGHENY)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by, George T. Reese, this the 22nd day of November, 2011.

Notary Public

My Commission Expires: 9-4-2012

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Janet L Toth, Notary Public
Homestead Boro, Allegheny County
My Commission Expires Sept. 4, 2012
Member, Pennsylvania Association of Notaries

VERIFICATION

The undersigned, Ranie K. Wohnhas, being duly sworn, deposes and says he is the Managing Director Regulatory and Finance for Kentucky Power, that he has personal knowledge of the matters set forth in the forgoing responses for which he is the identified witness and that the information contained therein is true and correct to the best of his information, knowledge, and belief

Ranie K. Wohnhas

COMMONWEALTH OF KENTUCKY)
) CASE NO. 2011-00295
COUNTY OF FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Ranie K. Wohnhas, this the 28th day of November, 2011.

Notary Public

My Commission Expires: January 23, 2013

Kentucky Power Company

REQUEST

Refer to page 2, paragraph 4, of the application where it states, "A 100-foot right of way will be required for the transmission line, with 50 feet of right of way on each side of the centerline."

a. Explain whether the entire 100-foot right-of-way will be cleared of vegetation for construction.

b. Explain the right-of-way maintenance clearing cycle proposed after construction to to ensure reliability.

RESPONSE

a. The entire 100-foot width will be cleared of woody stem vegetation on portions of the right-of-way where the conductor to ground clearance is 100 feet or less. When the conductor to ground clearance is in excess of 100 feet, only those trees that do not have the required conductor clearance (25 ft.) will be cut. In certain instances where the conductor to ground clearance is over 100 feet, all or part of the woody stemmed vegetation will be cut to allow for wire set-ups, work areas, etc. Under certain circumstances (unique topographic and/or environmentally sensitive conditions), Kentucky Power (KPCo) may allow compatible, low-growing species to remain in the right-of-way. In this mountainous terrain, approximately 60% to 70% of the 100-foot right-of-way would be expected to be cleared initially for a 138 kV line.

b. AEP Transmission Forestry's vegetation management program employs an integrated vegetation management program utilizing a variety of management techniques which are based upon researched outage histories. Maintenance does not occur on a rigid cycle basis; rather the maintenance technique and schedule is driven by the condition of the vegetation. Using inspection information and various data from other sources, specific transmission lines are identified and prioritized for inclusion in the upcoming year's plan. The lines are further prioritized based on any potential for tree-caused outages, criticality of the line, etc. The range of work may involve management of the vegetation along the entire line or addressing individual locations of concern. For this given line, a 3 to 6 year cycle would be a best approximation.

WITNESS: Michael G Lasslo

Kentucky Power Company

REQUEST

Refer to page 5, paragraph 11, of the application where it states, "To ensure the flexibility necessary to address last-minute or unanticipated issues regarding the construction of a transmission line, Kentucky Power requests authority to move the approved centerline 250 feet in either direction (i.e., within a 500-foot corridor) so long as: (1) the property owner onto whose property the line is moved was notified of this proceeding in accordance with 807 KAR 5:120, Section 3(2); and (2) the property owner who is subject to the move agrees in writing to the requested move."

a. Explain whether this request will increase the amount of right-of-way costs. If yes, does this change the total cost of the proposed $62.5 million project cost?

b. Explain whether Kentucky Power has discussed this request with property owners.

RESPONSE

a. This will not change the estimated right-of-way costs for this project. The intent of this request is to allow for minor changes in the centerline location of the line for engineering/construction reasons without having to burden the Commission.

b. Yes, Kentucky Power has explained to the property owners the following: 1) the Company is seeking to locate a 100-foot wide right-of-way for the transmission line within the 500 ft. corridor; 2) the current location is a best approximation until final engineering; and 3) the reason for the wider 500 ft. corridor is to allow for engineering/construction flexibility during line design and construction to address issues that, from experience, can result in very minor changes to the initial, conceptual centerline location. However, only a 100 ft. wide right-of-way will be sought from property owners for this line. All property owners within 250 feet of the current filed centerline have been noticed as part of this Commission process.

WITNESS: Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Refer to page 9 of the Direct Testimony of Ranie K. Wohnhas ("Wohnhas Testimony"), Section VI., Financial Aspects of the Proposed Construction, where it states, "The line and related facilities are expected to cost $62.5 million."

a. Provide, by electric plant account, how the $62.5 million is anticipated to be capitalized.

b. Provide, by plant account, any associated retirement of property and equipment.

c. Explain whether there will be any associated operation and maintenance costs during construction.

RESPONSE

a. Listed below is the estimated construction cost to be capitalized by electric plant account.

Account	Amount
350 - Land and Land Rights	$11.2M
352 - Structures and Improvements	$0.8M
353 - Station Equipment	$10.8M
354 - Towers and Fixtures	$5.8M
355 - Poles and Fixtures	$17.5M
356 - Overhead Conductors	$15.5M
357 - Underground Conduit	$0.3M
361 - Dist. Strs. and Improvements	$0.2M
362 - Dist. Station Equipment	$0.4M
Total =	$62.5M

b. Listed below is the estimated retirement of property and equipment by electric plant account.

Account	Amount
353 - Station Equipment	$0.22M
355 - Poles and Fixtures	$0.07M
356 - Overhead Conductors	$0.02M
	Total = $0.31M

c. The estimated operation and maintenance costs for the line component during construction totals $22,000.

WITNESS: Ranie K Wohnhas

Kentucky Power Company

REQUEST

Refer to page 9 of the Wohnhas Testimony where it states, "The Company previously estimated a cost of approximately $40 million for the project." Since the cost is now estimated to be $62.5 million, will Kentucky Power keep the Commission informed as to any significant changes in construction costs, including an increase or decrease of 10 percent or more, before and/or during construction?

RESPONSE

Yes, Kentucky Power commits to inform the Commission of any significant changes in construction costs, including an increase or decrease of 10 percent or more, before and/or during construction.

WITNESS: Ranie K. Wohnhas

Kentucky Power Company

REQUEST

The Electric Power Research Institute/Georgia Transmission Corporation's ("EPRI") "Overhead Electric Transmission Line Siting Methodology" and the "Kentucky Transmission Line Siting Methodology" have been adopted for use in Kentucky and used previously before the Commission[1]. The following questions concern the Kentucky EPRI Methodology and the one employed by Kentucky Power in Exhibit 13 of the application referred to as the GAI/KPC Methodology as presented by GAI Consultants, Inc.

a. Why did Kentucky Power use the GAI/KPC Methodology instead of the Kentucky EPRI Methodology?

b. How is the geographic information system ("GIS") methodology that GAI/KPC employed different from the Kentucky EPRI Methodology?

c. How is future land use defined and used in the Kentucky EPRI Methodology and in the GAI/KPC Methodology?

d. If Kentucky Power maintains that the GAI/KPC Methodology is better than the Kentucky EPRI Methodology, explain why.

---

[1] Case No. 2007-00177, The Application of Big Rivers Electric Corporation for a Certificate of Public Convenience and Necessity to Construct a 161 kV Transmission Line in Ohio County, Kentucky (Ky. PSC Oct. 30, 2007.)

RESPONSE

a. The GAI/KPCo methodology, as described in Exhibit 13 of the application, previously was used by Kentucky Power in filings before the Commission for projects located in eastern Kentucky (Case No. 2009-00235, 2007-00430 and 2007-00155) and was discussed with Staff at an informal conference on July 27, 2010.

This area of the Commonwealth exhibits a unique combination of engineering constraints, mineral extraction activities, and mineral rights issues that require a high degree of flexibility with stakeholders in order to develop acceptable route locations. The GAI/KPCo methodology has been highly successful in providing for this flexibility through its use of iterative professional judgment applications as opposed to fixed weight criteria assessments. As a result, Kentucky Power selected this methodology for use on the Bonnyman – Soft Shell Project.

Kentucky Power would be pleased to conduct a field view of the project area with Commission staff to illustrate the siting issues of concern and demonstrate how the relevant elements of the process were employed.

b. Both methodologies examine similar parameters in considering a variety of issues pertaining to the natural environment, built environment, and engineering concerns. Both methodologies utilize a GIS database as a primary means of compiling and analyzing data patterns. The primary difference between the methodologies is that the GAI/KPCo methodology does not employ a quantitative weighted ranking protocol as utilized in the Kentucky EPRI Methodology. Instead, professional judgment is used by the project team to locate and refine potential routes based upon information received from stakeholder input.

The use of standardized weights across the project study area is not feasible due to the variation in stakeholder requirements, and in some cases the limited geographic information provided concerning future land use plans. In the GAI/KPCo methodology, an iterative review was used that employed the siting criteria identified in Section 2 of Exhibit 13. These criteria were selected to avoid or minimize land use conflicts; impacts on human, natural, visual, and cultural resources; regulatory conflicts; construction, operation, and maintenance problems; and project schedule delays. Each alternative was reviewed with respect to these siting issues, and the relative suitability of each was assessed in order to select a preferred alternative.

c. Future land use is defined in the Kentucky EPRI Methodology as proposed development plans accepted by local government as provided by county planning and development departments (EPRI-GTC Overhead Electric Transmission Line Siting Methodology 2006). In the GAI/KPCo Methodology, future land use was defined to include: (1) proposed development plans accepted by local government; (2) large scale development plans (i.e. residential subdivisions or commercial facilities) of which local government was aware; (3) large-scale

development plans provided by landowners; and (4) future mineral extraction plans provided through project reviews and interviews. This definition gives a broader perspective on potential future conflicts with line location and was facilitated by Kentucky Power's extensive coordination efforts with local government officials, landowners, developers, and the coal companies. Future land use in this study area is dominated by mining, of which the local government may not be aware.

d. Kentucky Power does not contend that the GAI/KPCo Methodology is better than the Kentucky EPRI Methodology. However, as discussed in Response 5.a, Kentucky Power has found the GAI/KPCo methodology to be more suitable for this project. It has been effective in providing for the flexibility needed to address varying stakeholder concerns in previous eastern Kentucky projects filed with the Commission.

WITNESS: George T. Reese

Kentucky Power Company

REQUEST

Refer to Exhibit 13 of the application regarding slope. Slope was not a quantified parameter in Table 1, 2, or 4 of Exhibit 13.

a. How is a GIS layer for slope defined and used in the Kentucky EPRI Methodology ?

b. How did Kentucky Power use GIS data to determine severe slopes and to minimize the impact to severe slopes?

RESPONSE

a. The Kentucky EPRI Methodology classifies areas of slope in four classes: 0% – 15%; 15% - 3 30%; 30-40% and > 40%. Slope is derived from USGS 30 meter Digital Elevation Models (DEMs) using the slope algorithm from EPRI's Spatial Analyst. Steeper slopes receive a higher weight (less preferred) than do slighter slopes (more preferred).

b. Because of the extensive ongoing mining activity in the study area, the development of accurate Digital Elevation Models and GIS slope analysis are not feasible. Therefore, Kentucky Power used a combination of USGS 7.5 minute topographic mapping, aerial photography, and field observations to site line alternatives in areas of lesser slopes where feasible. Airborne laser survey (commonly referred to as "LIDAR"), photography and field views by the Company's engineers and construction personnel will be utilized to determine final locations for structures within the 500-foot corridor that avoid or minimize impacts to steep terrain to the extent feasible.

Additionally, the natural topography of the project area is relatively homogeneous, consisting of deep narrow v-shaped valleys that have eroded in a dendritic pattern across the Cumberland Plateau. Narrow ridgetops and valleys are typically the only areas of lesser slopes; the intervening hillsides are generally steep to very steep. Ridgetops are often capped by massive outcrops of sandstone. Strip mining has created and continues to create large flat areas resulting from ridgetop removal and valley fills. Typically, line segments were sited to be along or near the tops of ridges (where not prevented by rock outcrops) or on level reclaimed mine areas where feasible. Crossings of intervening stream valleys and the associated steep slopes were made as close to perpendicular as feasible, thereby minimizing the potential for disturbance of steep slopes. These stream valleys will typically be spanned by the line, and little right-of-way (ROW) clearing or other surface disturbance will be necessary due to the high vertical clearance of the conductors.

The potential for impacts to steep slopes will be further minimized during the design phase. In addition, the location of the preferred alternative in proximity to Route 80 is expected to minimize access road impacts by reducing the length of new roads that may be needed.

WITNESS: George T. Reese

Kentucky Power Company

REQUEST

Refer to Exhibit 13 of the application regarding mining activity.

a. How was the coal outcrop data used as an analysis parameter (see Table 1)?

b. How were the statistics for the previously mined areas in Table 2 determined? Describe the GIS layers that were used.

c. How were the statistics for current and future mining in Table 2 determined? Describe the GIS layers that were used.

d. What other maps, beyond the active permit maps available from the Kentucky Mine Mapping System, were used in the GIS analysis for future mining? If other maps were used, provide a copy of those maps.

e. Provide a map for the area of all of the study segments showing the following additional features derived from active permit maps available from the Kentucky Mine Mapping System:

(1) Active mining area;
(2) Proposed mining areas by year;
(3) The boundary of the permit areas;
(4) Mining method; and
(5) 1000-foot blasting boundary, if applicable.

Include a list of the active permit maps with the permit number and name of the permittee.

f. Describe, for each type of mining, how a transmission line and its towers/poles, and access to them, would interfere with the mining process.

g. How much of the underground area is available for deep mining in the area surrounding a transmission tower?

h. How much of the surface area of the right-of-way of the proposed electric transmission line is available for surface mining?

i. Are the owners or lessees of mineral rights reimbursed for those mineral rights along an electric transmission right-of-way?

j. If the answer to 7.i. above is yes, how is that amount calculated?

RESPONSE

a. Coal outcrop was used as a general term for mine facilities such as active mine portals or processing facilities. These areas were avoided during the development of project alternatives.

b. Previously mined areas were identified from GIS data layers of mined out areas obtained from the Kentucky Mine Mapping Information System. Source maps are provided to the Kentucky Office of Mine Safety and Licensing (OMSL) by the mining companies or their engineers in accordance with KRS 352.450.

c. During the early phases of the project, the current and future mining data in Table 2 and Table 4 were developed from information provided to Kentucky Power land agents by coal companies operating in the project area. This included information from ICG (currently Arch Coal), Kentucky River Properties, James River Coal Company, Kentucky Fuel Corporation, TECO, ACME Resources, Frasure Creek Coal, and others. It is important to note, coal companies were reluctant to share future plans until specific routes were identified. Hence, once alternative routes were developed, prior data was improved with further project reviews and interviews with coal companies resulting in the development of the "potential relocation risk" statistic provided in Table 4. This measure was used as a key parameter in route selection and supersedes the current and future mining data shown in Table 4.

d. Mapping from the Kentucky Mine Mapping System was not included in the analysis of future mining. Rather, current data from coal companies was obtained by Kentucky Power land agents to be more reflective of likely future conditions. These constraints were not included on the GIS constraints map (Exhibit 13 of the Application, Figure 6) due to confidentiality. The information used in this analysis is shown on the map attached to this response, for which confidential treatment is being sought.

e. As noted in Response 7.d, Kentucky Power utilized data obtained from coal companies by Kentucky Power land agents because it is believed to be more reflective of current and probable future conditions that might affect transmission line location. A copy of the mapping showing this information is provided in the response to 7.d. Kentucky Power does not have the Kentucky Mine Mapping System information readily available. The Company's consultant estimates it will take approximately 40 hours of work to produce this information.

f. Generally, because of the need to protect the integrity of transmission facilities, as well as other safety concerns, it is necessary to provide a buffer between mining activities and the Company's transmission facilities. This in turn limits the use mining companies may make of their property.

For a surface mine, Kentucky Power limits excavations near transmission line structures. Kentucky Power also requires clearances from mining/construction equipment to the energized overhead transmission conductors.

For an underground mine, surface subsidence can negatively affect transmission line structures. Kentucky Power normally engages a mining engineer to assist with assessing a specific mining operation plan and how they may affect its transmission line structures in the area.

g. Kentucky Power normally engages a mining engineer to assist in determining how a specific underground mining operation might affect transmission line structures on the ground surface above it. For relatively shallow coal seams, a zone of protection is developed around each transmission structure from the surface down to the coal seam. Sometimes, as much as 50% of the coal can be extracted within this zone of protection. For deep coal seams, the entire seam oftentimes can be extracted with little or no effect on transmission line structures above. In making this determination, the mining engineer considers the depth from the surface to the coal seam, the thickness of the coal seam, the type of underground mining employed, the type of earth/rock strata between the coal seam and the ground surface.

h. Each surface mining operation is unique. Proper clearances must be provided between the overhead energized conductors and the mining/construction equipment operating in or near the right-of-way. For a 138 kV transmission line this minimum clearance distance is 15 ft. Minimum clearance distances increase with increasing transmission line voltages. Also, material excavations and blasting must be kept at a sufficient distance from transmission line structures so

as not to compromise the structural integrity. This buffer distance varies depending on many variables including soils, strength of blasting, excavation methodology, and terrain. Typically, the Company engages mining engineers to determine risks and define buffers.

i. Compensation may be negotiated on a case-by-case basis to the extent the Company's transmission facilities impinge upon the rights of the owners of the legal estate.

j. (a) Oil & Gas Estate

Please see response to 7.i.

(b) Mineral Estate

Owners of mineral estates may be compensated in a negotiated amount to the extent the Company's transmission facilities affect the owners' legal estates.

In the absence of a contractual obligation requiring Kentucky Power to bear the cost under the right-of-way agreement, the coal owner bears all costs associated with the relocation at the owner's request.

WITNESS: George T. Reese

REDACTED IN ENTIRETY

ITEM 7D

Kentucky Power Company

REQUEST

How did Kentucky Power identify areas for future land use for industrial/commercial development in Table 1, Exhibit 13?

a. Why did those areas not appear as a parameter in Table 2 or Table 4?

b. If any areas for future land use for industrial/commercial development are in the study area, provide a map showing their locations.

RESPONSE

Kentucky Power contacted local government officials to identify proposed development plans accepted by local government and additional large scale development plans (i.e. residential subdivisions, industrial or commercial facilities) of which local government officials were aware. In addition, landowners and coal companies in the vicinity of the preferred alternative were consulted concerning large-scale development plans. This information was incorporated into the GIS database.

a. These areas were largely avoided through the siting process. In addition, boundaries of development sites were often not clearly defined by the persons providing the information. Therefore, it was not possible to quantify the information.

b. The map attached to this response shows the locations of potential industrial/commercial/residential development identified to Kentucky Power. Confidential treatment is being sought for this information.

WITNESS: George T. Reese

REDACTED IN ENTIRETY

ITEM 8B

Kentucky Power Company

REQUEST

One of the "Constructability Issues" identified in Table 1 of Exhibit 13 of the application is Relocation Risk.

a. What is Relocation Risk and how was that risk quantified in Table 4?

b. Refer to page 7 of the testimony of George T. Reese ("Reese Testimony.") Has Kentucky Power or American Electric Power ever relocated an electric transmission line of 138 kVor above in Kentucky?

c. If yes, what was the reason for the relocation and who bore the cost of that relocation?

d. Provide data for Potential Relocation Risk for Table 2.

RESPONSE

a. Relocation Risk represents a length of the line route expressed as a percentage of the total line route that may need to be relocated for future mining. This key parameter in route selection is based on iterative and extensive interviews with the coal companies resulting in the "potential relocation risk" statistic provided in Table 4. Kentucky Power land agents, who have collectively over 40 years of experience in working with local coal companies and are intimately familiar with the project area, quantified the risk based on interviews with coal company personnel. This data is the best approximation of future mining land use available.

b. Yes.

c. The majority of transmission line relocations in eastern Kentucky were undertaken for highway projects and surface coal mining projects. The allocation of relocation cost may be governed by an existing right-of-way easement agreement. For older easement agreements (typically obtained in the 1920-1940's era), provisions for mineral extractions were not usually addressed. During 1920's-1940's, surface mining was not commonly employed. If a developer acquires mineral rights and obtains mining permits to conduct a mining operation after a line is in place and operating with a valid

easement agreement that does not address mineral extractions, then the developer would typically pay for the cost of relocating the transmission line.

In addition, lines may be relocated because of planned mining activities; an example of which would be the movement of a 138 kV line as approved in Case No. 2009-00235. For projects such as the Bonnyman-Soft Shell Project, in which Kentucky Power proposes to cross lands where existing and future mineral extraction activities are planned, Kentucky Power negotiates a line relocation clause in the easement agreement

d. See the map attached to this response for which confidential treatment is being sought.

WITNESS: George T. Reese

REDACTED IN ENTIRETY

ITEM 9D

Kentucky Power Company

REQUEST

Provide a new series of maps, similar to those provided in exhibit 3, that includes:

a. The 2010 imagery in the background (instead of the United States Geological Survey topographic maps).

b. Roads.

c. All Property Valuation Administrator ("PVA") parcel boundaries for all of the alternative routes, and in particular the PVA parcel boundaries for the preferred route. "Additionally Notified Landowners" may be excluded. The parcels along the preferred route must be labeled with the Parcel Reference for Map.

d. The location of the towers for each route on the map, classified by type (see Exhibits 4, 5, and 6).

RESPONSE

Please see attached maps.

WITNESS: Michael G Lasslo

CASE NO: 2011-00295

CONTAINS

LARGE OR OVERSIZED

MAP(S)

RECEIVED ON: November 29, 2011

Kentucky Power Company

REQUEST

Refer to Exhibit 13 of the application. Provide the number of towers and type of tower for each segment in Table 2 and each route in Table 4.

RESPONSE

The number and type of towers were not determined at the segment level in Table 2, nor at the route level in Table 4. The length of the line at the route level was used to estimate tower costs (material and construction labor estimates) on a cost per mile basis to determine total estimated costs for each line route alternative.

WITNESS: George T. Reese

Kentucky Power Company

REQUEST

Refer to page 7 of the Reese Testimony. Were any maps with tower/pole locations shown to the public or used in the discussion of right-of-way issues with property owners or lessees?

RESPONSE

Yes. Along the preferred route, all preliminary tower locations (exact locations to be determined during final engineering) were disclosed. It was necessary to disclose the towers' locations to fully evaluate any proposed impact to the subject property and any affected coal reserves.

The tower's location is a standard component of the ROW negotiation process.

WITNESS: George T. Reese

Kentucky Power Company

REQUEST

Refer to Exhibit 13, page 14, of the application. One of the issues concerning construction identified in Table 1 of Exhibit 13 is cost. "The estimated costs to construct Alternative 3 are the lowest as compared to the other alternatives (approximately 10 percent less); this is a factor of line length, number of line angles, terrain, and forest clearing." Table 4 has a note that "Cost approximation includes right-of-way, structure material, wire, installation, access roads and clearing." No cost figures are provided in Table 4.

a. How was cost calculated as a parameter?

b. Provide cost figures for each of the segments in Table 2 and each of the routes in Table 4.

RESPONSE

a. Relative costs for each of the 5 alternative routes were based upon estimated costs per mile of line length for line construction (including materials), access road costs, right-of-way clearing and acquisition costs.

b. Relative costs were not prepared at the segment level. Instead, relative costs were prepared for the 5 complete alternative routes. Based upon the September 2011, revised phase 2 total cost estimates for the line and right-of-way, and applying this same cost per mile of line length to each alternative for line construction (including materials), access road costs, right-of-way clearing and acquisition costs, the following estimates were made for each alternative:

Alternative	Estimated Cost for line and ROW
1	$56.6M
2	$54.7M
3	**$49.5M (Preferred Route)**
4	$51.8M
5	$51.3M

WITNESS: George T. Reese

Kentucky Power Company

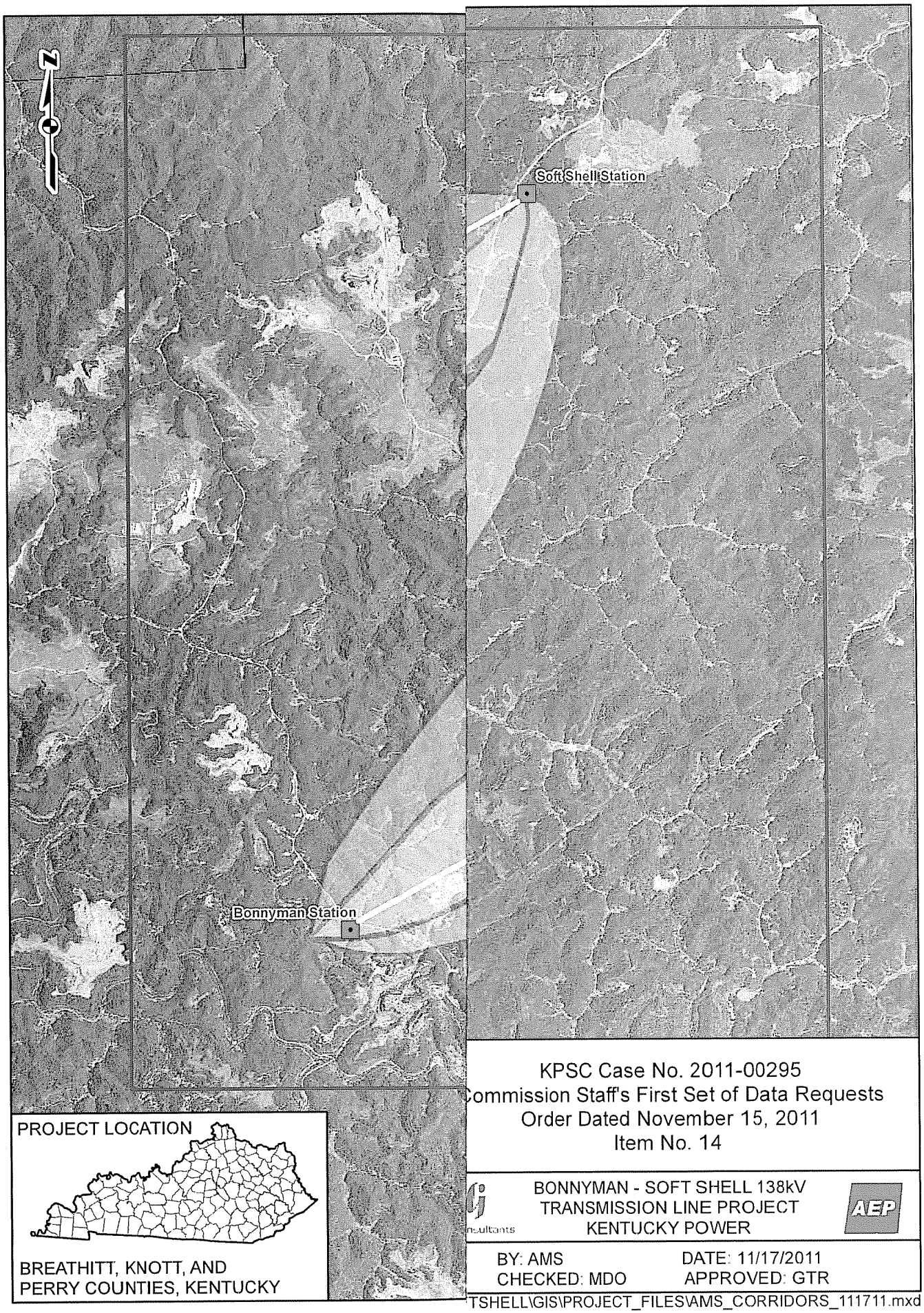
REQUEST

Refer to Exhibit 13, page 10, of the application. Provide a map showing the three general potential corridors that were initially identified along with a straight line between the Bonnyman Station and the Soft Shell Station.

RESPONSE

Please see the attached map showing the general location of the three corridors.

WITNESS: George T. Reese



KPSC Case No. 2011-00295
Commission Staff's First Set of Data Requests
Order Dated November 15, 2011
Item No. 14

BONNYMAN - SOFT SHELL 138kV
TRANSMISSION LINE PROJECT
KENTUCKY POWER

BY: AMS DATE: 11/17/2011
CHECKED: MDO APPROVED: GTR

TSHELL\GIS\PROJECT_FILES\AMS_CORRIDORS_111711.mxd

Kentucky Power Company

REQUEST

Refer to Exhibit 13, Figure 2, of the application. Explain why there was no route through the area defined by Segments O, G1, H1, J1, K1, S, and Q?

RESPONSE

The area bounded by the identified segments contains a large subdivision on reclaimed mine land along Route 80 (see map attached as Response to Request 8(b)), and extensive linear residential development along State Routes 2102, 550, 1102, and other local roads. Because routing the line through or near these residential developments might affect the developments, or produce siting opposition, the identified segments were located to avoid areas of residential development.

WITNESS: George T. Reese

Kentucky Power Company

REQUEST

Kentucky Power's preferred route crosses Route 80 five times. At other times it parallels the ridge top along Route 80.

a. Provide a map which shows where the transmission line is visible along Route 80. Include the TransAmerica Bike Trail on this map.

b. Has Kentucky Power considered the potential for landslides along Route 80 as a result of construction or maintenance of the right-of-way along the preferred route?

c. Did Kentucky Power consult with the Kentucky Department of Transportation regarding the preferred route?

RESPONSE

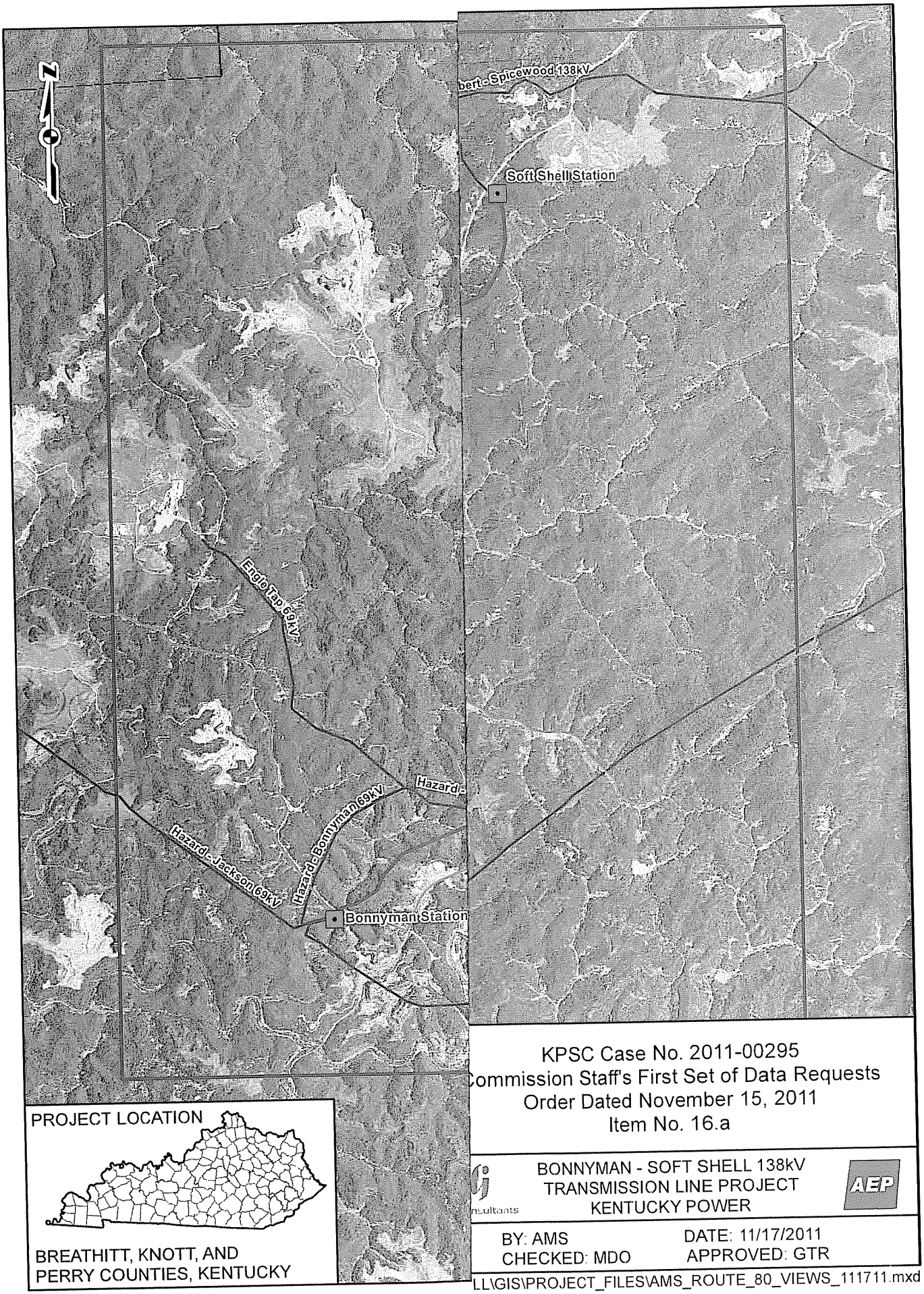
a. Please see the map attached to this response that shows the locations where the preferred alternative crosses Route 80 and is generally visible from the roadway and TransAmerica Bike Trail. Sight lines and viewsheds are in general extremely limited within the Route 80 corridor. Route 80 is located within narrow stream valleys or cuts for much of its route through the project area, thus limiting viewsheds. The transmission line crossings of Route 80 would occur at elevations of 100 feet or more above the roadway and are not expected to create a substantial visual impact.

   The TransAmerica Bike Trail is only crossed by the proposed line at areas where it is co-located with Route 80. The trail has no formal regulatory designation and has no markings or other facilities on the route within the study area. Furthermore, because Route 80 is a 4-lane highway with a posted speed of 55 mph, bicycle travel is likely to be limited.

b. Yes. Kentucky Power has conducted ground and helicopter reconnaissance and airborne laser survey in an effort to avoid unstable slopes or landslide potential for the preferred route. Additionally, Kentucky Power is seeking approval to shift the centerline within a 500 foot wide corridor to address engineering and construction issues, such as these.

c. No. Preliminary designs for the proposed alternative do not require the placement of structures within the Kentucky Department of Transportation right-of-way. Kentucky Power will coordinate with the Kentucky Department of Transportation during final design to verify that no structures will encroach on roadway rights-of-way and to identify permit requirements for roadway crossings.

WITNESS: George T. Reese



KPSC Case No. 2011-00295
Commission Staff's First Set of Data Requests
Order Dated November 15, 2011
Item No. 16.a

BONNYMAN - SOFT SHELL 138kV
TRANSMISSION LINE PROJECT
KENTUCKY POWER

AEP

BY: AMS DATE: 11/17/2011
CHECKED: MDO APPROVED: GTR

LL\GIS\PROJECT_FILES\AMS_ROUTE_80_VIEWS_111711.mxd

Kentucky Power Company

REQUEST

Refer to Exhibit 13, Table 1, of the application. At Table 1, trails are classified as a parameter for "Recreation and Aesthetic Resources."

a. How is a trail defined?
b. Are there any trails that a truck could traverse?
c. Can any of the trails in this study be used as access to a right-of-way?

RESPONSE

a. Trails are defined as foot, bicycle, horseback, or ATV routes designated for recreational purposes.

b. The only documented trail crossed by project alternatives is the TransAmerica Bicycle Trail. It is co-located with paved roadways in the study area.

c. Existing trails of any type will be considered as possible access routes during final design. These would include logging roads, mine roads, gas well access roads, and additional non-designated off-road vehicle routes.

WITNESS: George T. Reese

Kentucky Power Company

REQUEST

Refer to Exhibits 7 and 8 of the application. The brown building in the photograph at page 1 of Exhibit 7 appears to be close to the proposed expansion of the Bonnyman Substation.

a. Who is the owner of that building?

b. How is the building being used currently?

RESPONSE

a. Genevieve Stewart. KPCo recently acquired the required easement from the owner.

b. The downstairs of the building was previously used as a bowling alley and has been vacant for several years. The upstairs is divided into apartments with the owner's son, Billy Stewart, living in one of them.

WITNESS: Michael G Lasslo

Kentucky Power Company

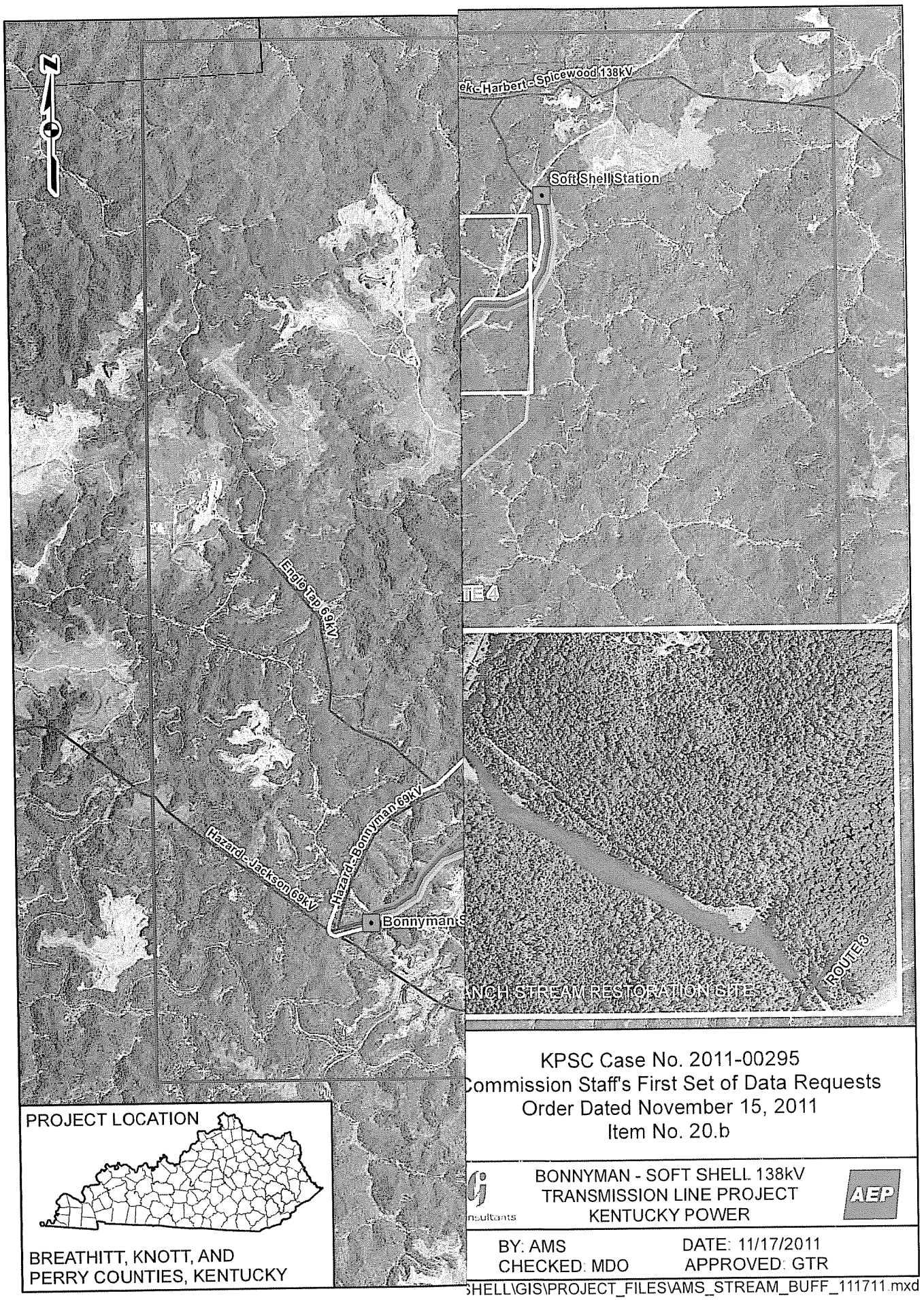
REQUEST

Refer to Exhibit 8 of the application. Provide a map at 1:2,000 that shows the parcels with their identification numbers, background imagery, proposed expansion features, and the preferred route of the new transmission line with towers/poles. Include proposed right-of-way and tagged vector contours. Include all parcels adjacent to the existing and proposed substation, and proposed transmission line, up to and including the intersection with Kentucky-267 (Harveyton Road).

RESPONSE

Please see attached map.

WITNESS: Michael G Lasslo



KPSC Case No. 2011-00295
Commission Staff's First Set of Data Requests
Order Dated November 15, 2011
Item No. 20.b

BONNYMAN - SOFT SHELL 138kV
TRANSMISSION LINE PROJECT
KENTUCKY POWER

AEP

BY: AMS DATE: 11/17/2011
CHECKED: MDO APPROVED: GTR

SHELL\GIS\PROJECT_FILES\AMS_STREAM_BUFF_111711.mxd

Kentucky Power Company

REQUEST

Refer to page 7 of the Reese Testimony. There is reference to a "stream buffer conservation easement."

a. What is a stream buffer conservation easement?

b. Where is it located in the study area?

RESPONSE

a. The Kentucky Department of Fish and Wildlife Resources (KDFWR) holds a conservation easement along Balls Fork on the property of the University of Kentucky. This conservation easement is administered under the KDFWR Wetland and Stream Mitigation Program. In July 2000, the Kentucky General Assembly established the Kentucky Wetland and Stream Mitigation Fund. The KDFWR Stream and Wetland Restoration Program manages this fund to provide a consistent and successful approach to fulfill compensatory mitigation requirements associated with Sections 404 and 401 of the Clean Water Act as adminstered by the US Army Corps of Engineers and the Kentucky Division of Water. The easement on the University of Kentucky property is intended to maintain stream habitat in perpetuity. A copy of the Deed of Conservation Easement is attached to this response.

b. The Balls Fork Easement is located in the northern portion of the study area as shown on the map attached to this response.

WITNESS: George T. Reeese

DEED OF CONSERVATION EASEMENT

THIS DEED OF CONSERVATION EASEMENT is entered into by and between Rudolph Noble (hereinafter "Grantor") and the Department of Fish and Wildlife Resources, for and on behalf of the Commonwealth of Kentucky (hereinafter "Grantee").

WITNESS THAT:

WHEREAS, Grantor is the owner of certain real property (hereinafter "Property") located in Knott County, Kentucky, and more particularly described in the deed (hereinafter "Deed") attached hereto and incorporated herein as Exhibit A; and

WHEREAS, the Property is currently improved with creating better access to a floodplain, bank stabilization, and establishment of riparian vegetation; and

WHEREAS, the remainder of the Property remains in a substantially undisturbed, natural state and has significant value as stream habitat; and

WHEREAS, the Grantee is a governmental body empowered to hold an interest in real property under the laws of the Commonwealth of Kentucky and the United States and, therefore, qualifies as a holder pursuant to KRS 382.800; and

WHEREAS, both Grantor and Grantee desire to retain and protect the natural, scenic, and open-space values of the Property, and assure the Property's availability for agricultural, forest, recreational, and open-space use, protecting natural resources, maintaining or enhancing air or water quality, or preserving the historical, architectural, or cultural aspects of the Property; and

WHEREAS, KRS 382.800 through KRS 382.860 permits the creation of conservation easements for the purposes of, inter alia, retaining land or water areas predominantly in their natural, scenic, open or wooded condition or as suitable habitat for fish, plants, or wildlife and to insure that the areas will be available for agricultural, forest, recreational, educational, or open-space use; and

NOW, THEREFORE, in consideration of the mutual covenants contained herein; and further, pursuant to KRS 382.800 through 382.860, Grantor does hereby convey to Grantee a Conservation Easement (hereinafter "Easement") in perpetuity over the Property to be held for the benefit of the people of the Commonwealth of Kentucky and consisting of the following:

(1) The property shall be maintained in perpetuity for the following purpose:

stream habitat

(2) Grantee shall manage the Property in strict accordance with:

(a) KRS Chapter 150

(b) KRS 382.800 through 382.860, and

(c) the latest resource management plan pertaining to the Property which has been generated by the Grantee.

(3) The Grantee has the right of visual access to and view of the Property in its natural, scenic, open and undisturbed condition.

(4) The Grantee has the right to enter the Property, in a reasonable manner and at reasonable times, for the purposes of inspecting same to determine compliance with this Easement.

(5) There shall be no removal, destruction, cutting, trimming, mowing, alteration, or spraying with biocides of any vegetation, nor any disturbance or change in the natural habitat in any manner unless addressed in the final RMP or specifically authorized by the Grantee.

(6) There shall be no planting or introduction of any specie of vegetation unless addressed in the final RMP or specifically authorized by the Grantee.

(7) There shall be no harvesting of timber unless addressed in the final RMP or specifically authorized by the Grantee.

(8) There shall be no commercial or industrial activity undertaken or allowed on the Property, nor shall any right of passage across or upon the Property be allowed or granted if that right of passage is used in conjunction with commercial or industrial activity. (KRS 382.800(1) clearly references agricultural usage.)

(9) Grantor shall be allowed to remove trash and debris from project area.

(10) There shall be no filling, excavation, or dredging, unless necessary to preserve the Property.

(11) There shall be no mining or drilling on the Property.

(12) There shall be no removal of topsoil, sand, gravel, rock, minerals or other materials.

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(13) There shall be no dumping of ashes, trash, garbage, or any other material.

(14) There shall be no changing of the topography of the Property in any manner.

(15) There shall be no construction or placing of temporary or permanent buildings, mobile homes, advertising signs, billboards, or other advertising material, or other structures.

(16) Except with the written consent of the Grantee, there shall be no building of roads, trails, or other rights of way. Existing trails may be maintained by reasonable means consistent with the purposes of this Easement.

(17) There shall be no introduction of nonindigenous wildlife to the Property without the written consent of the Grantee. (Plants are covered in paragraph 6.)

(18) There shall be no damming, dredging or construction in any free-flowing water body, nor construction of any weirs, groins, or dikes in any wetlands, or any manipulation or alteration of natural water courses, fresh water lake or pond shores, marshes, wetlands, or other water bodies nor any activities or uses detrimental to water purity.

(19) There shall be no operation of mechanical or motorized vehicles.

(20) Any use of the Property or any activity thereon which, in the opinion of the Grantee, is or may become inconsistent with the purpose of this Easement, which is the preservation of the Property in its natural and undisturbed condition for the purposes set out in KRS 382.800(1) and the management and protection of its environmental systems, is prohibited.

(21) In the event of a violation of any term, condition, or restriction contained in this Easement, the Grantee may immediately enforce any of the remedies including but not limited to those set forth in KRS 382.990. Any failure by the Grantee to avail itself of these remedies shall not be deemed to be a waiver or forfeiture of the right to enforce any term, condition, covenant of purpose of this Easement.

(22) This Easement shall be a burden upon and shall run with the Property in perpetuity and shall bind the Grantor, its successors and assigns forever.

(23) The rights herein granted shall be in addition to, and not in limitation of, any other rights and remedies available to the Grantee for protection of the Property.

TO HAVE AND TO HOLD this Conservation Easement together with all the appurtenances and privileges belonging or in any way pertaining thereto, either in law or in equity, for the proper use and benefit of the Grantee, its successors and assigns, forever.

IN WITNESS WHEREOF, Rudolph Noble, Grantor, has executed this Deed of Conservation Easement this 2 day of 12, 2002

Rudolph Noble
Authorized Representative of Grantor

STATE OF KENTUCKY

COUNTY OF Knott

I, the undersigned, a notary public duly authorized in the county and state aforesaid, do hereby certify that on this day Rudolph Noble personally appeared before me and executed the foregoing instrument as _____ of _____, and acknowledged before me that he executed the same as such officer in the name of and for and on behalf of the said entity.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal, this 2nd day of December, 2002

Pamela S. Hunter
NOTARY PUBLIC

My Commission Expires: 6-3-2006

THIS INSTRUMENT PREPARED BY:

_____

22

IN WITNESS WHEREOF, the Ky Dept of Fish + Wildlife, Grantee, accepts this deed of conservation easement this 14th day of February, 2003.

Authorized Representative of Grantee

STATE OF KENTUCKY

COUNTY OF Franklin

I, the undersigned, a notary public duly authorized in the county and state aforesaid, do hereby certify that on this day Jon Bennett personally appeared before me and executed the foregoing instrument as Deed of Conservation Easement of Rudolph Noble, and acknowledged before me that he executed the same as such officer in the name of and for and on behalf of the said entity.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal, this 14th day of February, 2003

NOTARY PUBLIC

My Commission Expires: August 5, 2003

THIS INSTRUMENT PREPARED BY:

November 30, 2002

To whom it May Concern:

I Certify that Rudolph Noble and I, Alice Faye Noble as heirs of Miss Hewett Noble are the legal owners of the property mentioned in the deed of Conservation easement.

Permission is given to the Department of Fish + Wildlife Resource to complete the Project as agreed by Rudolph Noble and the Department of Fish + Wildlife.

Alice Faye Noble

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STATE OF KENTUCKY
COUNTY OF KNOTT /SCT.

I John Sturgill clerk of the county court for the county and state aforesaid, certify that the foregoing deed was on the 16,day of June 1947 lodged in my office for record,whereupon the same with the foregoing and this ceftificate have been duly recorded in my office.

Given under my hand this 16,day of June 1947.

John Sturgill Clerk

$1.50 Rev.Stamp Attached.

THIS DEED, between Lucinda Hicks party of the first, and William Denzil Hicks party of the second part, witnesseth: That said party of the first part for and in consideration of the love and affection for her son, the grantee herein and the further consideration of one dollar, cash in hand paid the receipt of which is being acknowledged, does hereby sell, grant and convey to the party of the second part his heirs and assigns, the following described property, towit: A tract or parcel of land, lying and being on Troublesome Creek in Knott County, Kentucky, and about one mile west of the town of Hindman, Kentucky and more particularly described and bounded as follows, to wit: Beginning at a point in the center of Troublesome Creek on the line of J. W. Michael and Lot No. 1 of the E. Hicks farm division; thence across the bottom S 31 42 E passing through a marked 14 inch sycamore tree standing on the south bank of Troublesome Creek 268.0 feet with the line of Lot No. 1; thence S 30 45 E 125.1 feet; thence S 25 08 E 147.0 feet; thence S 25 55 E 147.7 feet to a stake near the north east corner of a stone water reservoir; thence S 14 25 E 9.8 feet to a stake near the south east corner of said reservoir; thence S 10 30 W 540 feet to a stake where lot No. 1 intersects with the line of Joe Tignor; thence with Joe Tignor line S 25 33 E 98.9 feet; thence S 40 22 E 266.0 feet; thence S 64 38 E 116.5 feet;thence leaving said Tignor's line and running with the West line of Lot No. 2 N 2 01 W 941.6 feet to a stake near the East corner of the cemetery fence; thence N 2 20 W 144.5 feet; thence N 17 47 W 228.3 feet; thence N 29 27 W 485 feet crossing the creek to a point in the south line of the State Highway right of way; thence down the creek with the line of said Highway right of way to a point in the line of said Highway and J. W. Michael; thence with J. W. Michael's line to the center of Troublesome Creek; thence down the center of Troublesome and with the meanders of same to the point of beginning, containing 9.42 acres by acutal survey and known as lot No. 2 of the E. Hicks farm division as shown on map or plat, made by H. Hl Smith Jr. dnder date of April 24, 1946, and filed and on record in deed book No. ** page ___ records of the Knott County Court Clerk's Office.

All oil, gas and minerals and mineral rights, and all black walnut timber is expressly reserved and excepted from this conveyance.

The cemetery now located upon this tract and bounded by a fence and a ten foot pass way on the north side of the fence from the east corner to the west corner is expressly reserved and excepted from this conveyance, for cemetery and right of way for same. There is further reserbed and excepted for right of way purposes for cemetery a five foot strip of land lying on the west side of the courses referred to in the descritpion of lot No. 2 as N 2 20 W 144.5 feet and N 17 47 W 228.3 feet.

All bottom land herein conveyed and included in this tract and lying and

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I, John Sturgill, Clerk of the County Court, for the County and State aforesaid, certify that the foregoing Deed was on the 16 day of June, 1947, lodged in my office for record, whereupon the same with the foregoing and this certificate have been duly recorded in my office.

Given under my hand this 16 day of June, 1947.

John Sturgill, Clerk

Deed BK 20 P. 169 81

This deed between Adam Patrick and Eva Patrick his wife parties of the first part and Mavis S.Noble of Vat, Kentucky County of Knott party of the second part

Witnesseth: That said parties of the first part for and in consideration of the sum of Fifteen Hundred dollars. Eight Hundred dollars cash in hand paid, remainder to be paid One hundred dollars $100.00 dollars each month Begining Oct.2,1947 until paid in full, A lien is hereby retained upon the land hereby conveyed to secure the unpaid purchase money, the receipt of which is being acknowledged, do hereby sell, grant and convey to the party of the second part her heirs and assigns the following described property to wit:

Lying on Balls fork of troublesome creek of the Kentucky river, Begining on a chestnut tree standing on the right hand side, thence up Balls fork creek and with a sycamore stump on the right hand side of the said creek, thence runing up main ball creek within five feet to a marked stone, thence up said creek as the main road runs to Martha Gayheartz line, thence with the said line up the hill to the top of the point, thence up the point with the same line to the top of the ridge to William Patricks line, thence with same line around the ridge and down the hill to the begining, so as to include Fifty acres, more or less. and being same land conveyed by W.M.Stewart to first parties on March 3,1919 to R.B.Stewart and recorded in deed book No 39 at page 537 and sold to grantors on the 26, day of Dec.1921 and recorded in deed book No 37 at page 596.

It is understood by both parties that all furnture and household equipment now on this tract of land go to the party of the second part.

Being the same land conveyed from Dial Patrick & Dosie Patrick to Adam Patrick and Eva Patrick by deed bearing date 4 day of January 1939 and of record in deed book No 58 at page 120 Knott County Clerks Office.

To have and to hold the same together with all the apurtenances thereunto belonging unto the party of the second part her heirs and assigns forever, with covenant of General Warranty.

In testimony whereof witness our signatures this 27 day of May 1947

Adam Patrick

Eva Patrick

STATE OF ~~XXXXXXXX~~ Ohio /SCT.
COUNTY of Greene.

I D.S.Lynn a Notary Public for the county and state aforesaid, do certify that the foregoing deed from Adam Patrick and Eva Patrick to Mavis S.Noble of Vest, Ky was on the 27 day of May 1947 produced to me in said county and acknowledged and delivered by Adam Patrick and Eva Patrick his wife parties grantors thereto to be their act and deed.

Given under my hand this 27 day of May 1947.

D.S.Lynn. Notary Public.
My Commission expires February 28,1949.

20 V

STATE OF KENTUCKY
COUNTY OF KNOTT

KENNITH GAYHEART, KNOTT COUNTY CLERK, IN AND FOR THE COUNTY AND STATE OF AFORESAID DO CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING WAS ON

THE 19 DAY OF Feb. 20 03
LODGED FOR RECORD, WHEREUPON THE SAME WAS RECORDED AND THIS CERTIFICATE HAS BEEN RECORDED IN MY OFFICE.

GIVEN UNDER MY HAND THIS 19 DAY OF
Feb. 03

KENNITH GAYHEART, CLERK
KNOTT COUNTY
BY Quida Hays D.C.

Deed Book
212
2:30 PM Page
13

Kentucky Power Company

REQUEST

Was the proposed 50 megawatt biomass-fired electric generating facility,[2] to be located in Perry County, Kentucky, a factor in Kentucky Power's expansion of its transmission facilities?

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[2] Certificate to Construct and Operate a Merchant Electric Generating Facility and a 69 kV Transmission Line in Perry County, Kentucky" (Ky. State Board on Electric Generation and Transmission Siting May 18, 2010).

RESPONSE

The biomass-fired electric generating facility referred to in the question was not a factor in Kentucky Power's plans to construct the transmission facilities in the Hazard area.

WITNESS: Ranie K Wohnhas

Kentucky Power Company

REQUEST

Refer to paragraph 8 of the application. Will the replacement of the 65-foot towers with 100-foot towers require any federal, state, or local regulatory approval? If yes, has that approval been granted?

RESPONSE

No specific federal, state, or local regulatory approvals are required to replace an existing transmission line structure with a replacement structure. As part of the overall project, Kentucky Power will obtain any required NPDES permits for general construction. Kentucky Power will also obtain any state or federal permits that may be required for access road crossings of streams or wetlands.

WITNESS: George T. Reese

Kentucky Power Company

REQUEST

Refer to paragraphs 10 and 12 of the application and Exhibit 12, pages 14-17, of the application.

a. Provide a detailed explanation as to why the total project cost increased from $38.5 million in the original April 2009 estimate to the $62.5 million estimate in September 2011.

b. Explain why the 2011 transmission line and right-of-way costs increased so dramatically from the 2009-2010 estimates to the 2011 estimates.

c. Provide a comparison of the total estimated current cost for each of the four alternative routes that were not chosen as the preferred route.

d. Provide a schedule comparing the cost estimate for each parcel on the right-of-way in the original 2009-2010 estimates to the 2011 estimates, including the percentage of change for each parcel for each of the five alternatives.

e. Provide a schedule comparing the operating costs and annual ad valorem taxes for each of the five alternatives.

RESPONSE

a. The two estimates differ because of their differing intended uses, and hence the differing nature of the estimates and the specificity of the data used to make the estimates. The April 2009 estimate was a Phase 1 conceptual estimate, and was used to obtain initial approval of the project. In general, the April 2009 estimate was compiled using generalized per unit costs. The September 2011 estimate was a Phase 2 estimate and was used for the purpose of obtaining internal funds to complete the project. It is a more detailed estimate and its costs are more closely tied to the design of the project.

   The following provides more detail by project component of the reasons for the differences between the two estimates.

Line Component

The original line component (conceptual) estimate was $24 million, based upon a line route of approximately 24 miles. A recently completed, comparable project (the Hays Branch-Morgan Fork 138 kV Line in Floyd County, KY, completed in May 2008) was used to calculate generic line costs on a cost per mile basis. The line component cost of the Hays Branch-Morgan Fork Project was approximately $1 million per mile. Therefore, the initial conceptual estimate for this project was $24 million.

The September 2011 estimate was prepared with much more detailed information available.

- Line construction labor costs for steel pole H-frame 138 kV lines in mountainous terrain are currently ranging from $400,000/mile to $700,000/mile. The September 2011 estimate for line construction labor is $559,000/mile.

- In mountainous terrain, access road requirements can vary from 1-2 miles required for every line mile being built. The cost of access roads varies depending on whether we can utilize existing roads with minimal upgrades or completely new roads are required. We can't determine exact access road requirements until we have designed the line and know where the structures will be located. Kentucky Power considers property owner input to locate access roads in optimal locations for a line construction project. The variability in access road estimates in mountainous terrain is approximately $100,000/line mile to $450,000/line mile. The September 2011 estimate provided $432,000/line mile.

- Until the line design is complete it is difficult to estimate the amount of R/W clearing that will be required. This estimate can vary depending on property owner negotiations (cut and let lay vs. cut and remove). The September 2011 estimate provided $59,000/mile.

- Material costs are increasing with recent projects. The September 2011 estimate provided approximately $5.5 million in material costs.

- Overhead and AFUDC costs are estimated to be $11.0 million with all other costs estimated to be $1.5 million.

The more detailed September 2011 estimate by various cost components as summarized above was for $39 million compared to the conceptual estimate of $24 million.

Station Components

The April, 2009 estimates for the Soft Shell and Haddix Stations were conceptual estimates made without site visits. Because of the scope of work contemplated at the Bonnyman Station, the April, 2009 estimate for the Bonnyman Station was a full-scope estimate that included a site visit.

Soft Shell Station. Costs increased because of the addition of telecommunications equipment, Protection & Control (P&C) equipment and Coupling Capacitor Voltage Transformer (CCVT). The CCVT equipment was added because of changes in station standards.

Haddix Station. Additional costs resulted from a site expansion that included the extension of an existing 69 kV bay, installation of additional grounding and new fencing.

Beckham Station. Costs increased as a result of the addition of a control building and the installation of new control cables throughout the station.

Bonnyman Station. Because a full-scope estimate was made in connection with the April 2009 estimate, the only material change between the April 2009 estimate and the September 2011 estimate was the addition of the purchase of adjoining property.

Right-Of-Way Acquisition Costs

The estimate increased from $3,800,000 in 2009 to $10,424,700 in 2011 as a result of increasing environmental restrictions on land use in the intervening two years. In particular, restrictions on valley fills and modifications of surface mining regulation have significantly decreased the amount of flat land available, with a consequent increase in cost.

b. Please see response in a. above.

c. Listed below is a comparison of the estimated cost for the line and right-of-way components for all five alternative routes. The station component of $13M is not in this comparison as it remains constant for all five alternatives.

Alternative	Est. Cost for line and R/W
1	$56.6M
2	$54.7M
3	$49.5M (Preferred Route - for comparison)
4	$51.8M
5	$51.3M

d. A comparison cannot be provided because a conceptual estimate was utilized in 2009-2010, which was not parcel specific, and the 2011 estimate is based upon route specific data gathered from credible sources of information including, but not limited to, reported comparable sales for similarly situated real estate.

e. There would be no significant difference in the annual operating costs (estimated to be $50,000) or the annual ad valorem taxes (estimated to be $780,000) for any of the five alternative line routes.

WITNESS: Ranie K Wohnhas

Kentucky Power Company

REQUEST

Refer to paragraph 12 of the application. Provide an update regarding the acquisition of the necessary rights-of-way for the preferred alternative.

RESPONSE

Beginning on October 10, 2011, and as of November 18, 2011, there have been ten (10) easements acquired from private property owners. Please see pages 2 through 8 of this response for additional detail.

WITNESS: Ranie K. Wohnhas

Easement Acquisition Status

Bonnyman - Soft Shell 138 kV Project

As of November 18, 2011

Tax Map No.	Parcel Ref for Map	Name & Address	Phone No.	County	Survey Permission Signed	Easement Status
074-30-02011.00 074-30-02011.1001	1	Ronnie Couch 117 Typo Road Bonnyman KY 41719	606-216-4673	Perry	Under Contract	Under Contract to Purchase
074-30-02-010.00	2	Genevieve Stewart Coal Bowling, Inc. 68 Wabacco Circle Hazard, KY 41701	606-233-9452	Perry	Signed	Signed
Ky. Hwy. Route 15	3	Ky. Hwy. Route 15				
074-00-00-083.00	4	ACIN, LLC P.O. Box 1267 Hazard, KY 41702	606-436-3231 Paul Sebastian	Perry	Verbal	
Jimmy Darrell Way	5	Jimmy Darrell Way				
KY. Hwy. Route 276	6	Ky. Hwy. Route 276				
074-00-00-081.00	7	Hershell and Margaret Dixon P.O. Box 91 Bonnyman, KY 41719	606-439-4250	Perry	Verbal	
074-00-00-091.00	8	Linda Buckner and Vickie Buckner P.O. Box 127 Bonnyman, KY 41719	606-436-2629	Perry	Signed	Signed
not on tax map	9	Kentucky Prince Coal Corporation P.O. Box 450 Dwarf, Ky 41739	606-434-5115 Leroy Lackey	Perry	Signed	
074-00-00-093.00	10	Edith Campbell & Balis Campbell 52 Hunter Church Rd. Hazard, KY 41701	606-436-4626	Perry	Signed	
074-00-00-096.00	11	Michael Dean Fugate, etal 162 Crawford Vally Dr. P.O. Box 499 Bonnyman, KY 41719	606-487-9117	Perry	Signed	
074-00-00-090.00	12	Kentucky River Properties, LLC 250 West Main Suite 1823 Lexington, KY 40507	606-487-9117	Perry	Signed	
unknown	13	Timberlands, LLC P.O. Box 269 Hazard, KY 41702	606-439-4518	Perry	Signed	
073-00-00-097.00	14	Kentucky River Properties, LLC 250 West Main Suite 1823 Lexington, KY 40507	606-439-4518	Perry	Signed	
unknown	15	Timberlands, LLC P.O. Box 269 Hazard, KY 41702		Perry	Signed	
073-00-00-097.00	16	Kentucky River Properties, LLC 250 West Main Suite 1823 Lexington, KY 40507	606-439-4518	Perry	Signed	

Easement Acquisition Status						
Bonnyman - Soft Shell 138 kV Project						
As of November 18, 2011						
099-00-00-001.00	17	Begley Properties, LLC and B&W Resources P.O. Box 2800 London, KY 40743	Curtis Asher <casher@begleylumber.com, Mike Deaton mdeaton@begleylumber.com	Perry	Verbal	Existing Easement
099-00-00-002.00	18	Wilma Jean Miller Singleton and Steve Miller 1065 Ky Hwy 28 Hazard, KY 41701	606-439-3238	Perry	Signed	Existing Easement
Darfork Hollow	19	Darfork Hollow				
099-00-00-004.08	20	Community Trust Bank Escrow Scottie & Rebecca Stacy (foreclosure) Dept. P.O. Box 2947 Pikeville, KY 41502	606-487-2101 Will D. Fugate	Perry	Signed	Existing Easement
099-00-00-002.00	21	Wilma Jean Miller Singleton 1065 Ky Hwy 28 Hazard, KY 41701	606-439-3238	Perry	Signed	Existing Easement
099-00-00-006.00	22	Mark and Tammy D. Stacy 133 Wabaco Circle Hazard, KY 41701	606-439-1371	Perry	Signed	Existing Easement
not on tax map	23	Susan L. Stacy 181 Pine Cone Rd. Hazard, KY 41701	606-436-1996	Perry	Signed	Existing Easement
099-00-00-006.02	24	Ishmal Stacy and Marie Stacy, etal 125 Wabaco Circle Hazard, KY 41701	606-436-4918	Perry	Signed	Existing Easement
100-00-00-071.00	25	Kentucky River Properties, LLC 250 West Main Suite 1823 Lexington, KY 40507	606-439-4518	Perry	Signed	
KY. HWY. Route 1146	26	KY. HWY. Route 1146				
100-00-00-071.00	27	Kentucky River Properties, LLC 250 West Main Suite 1823 Lexington, KY 40507	606-439-4518	Perry	Signed	
115-00-00-024.01 & 115-00-00-024.02	28	Edgar Caines and Mable Caines 55 Edgar Lane Bulan, KY 41722	606-436-3767	Perry	Signed	
KY. HWY. Route 80	29	KY. HWY. Route 80				
115-00-00-017.00	30	Kentucky River Properties, LLC 250 West Main Suite 1823 Lexington, KY 40507	606-439-4518	Perry	Signed	
115-00-00-025.00	31	Timberlands, LLC P.O. Box 269 Hazard, KY 41702	606-439-4518	Perry	Signed	
115-00-00-049.00	32	Woodson Hoskins and Dorothy Hoskins 186 Lovins Lane Bulan, KY 41722	606-435-1676	Perry	Signed	

Easement Acquisition Status						
Bonnyman - Soft Shell 138 kV Project						
As of November 18, 2011						
115-00-00-050.00	33	Clyde Miller & Janice Miller 1860 Carol Dr. Piqua, OH 45356	937-778-9048	Perry	Signed	
115-00-00-044.00	34	David Lovins and Johnnie Lovins P.O. Box 4 Dwarf, KY 41739	606-378-8041	Perry	Signed	
115-00-00-034.02	35	Robin & Karen Stacy P.O. Box 121 Dwarf, Ky 41739	606-378-3271	Perry	Signed	Signed
115-00-00-036.00	36	Bobby Ray Walker, etal P.O. Box 89 Dwarf, KY 41739	606-378-8911	Perry	Signed	
115-00-00-035.00	37	Betty Childers 9475 Synder Rd, Mason, OH 45040	513-398-3656	Perry	Verbal	
115-00-00-033.00	38	James Jones and Mable Jones 2823 N. Woodard Chicago, IL 60618	773-772-9657	Perry	Signed	
134-00-00-001.00	39	James Horn and Brenda Horn P.O. Box 443 Dwarf, KY 41739	606-378-5449	Perry	Signed	Signed
134-00-00-009.00	40	Vernia Brewer Heirs P.O. Box 296 Dwarf, KY 41739	606-378-3401	Perry	Signed	
134-00-00-015.00	41	Bryan Messer and Mary Messer P.O. Box 3 Dwarf, KY 41739	606-378-8851	Perry	Signed	
133-00-00-075.00	42	Appalachian Enterprises LLC P.O. Box 685 Hazard, KY 41702	606-438-4608	Perry	Signed	
133-00-00-071.00	43	Leona Embry Combs 106 Memory Mt. Ln. Hazard, KY 41701	606-378-5138	Perry	Signed	
133-00-00-071.08	44	Tami Jett and Dwight Jett 64 Jett Lane Hazard, KY 41701	606-378-5176	Perry	Signed	
133-00-00-037.02	45	Campbell Investments, LLC. 201 Mt. Shadows Dr. Hazard, KY 41701	606-436-2371 Steve Campbell	Perry	Signed	
133-00-00-015.00	46	Nancy Napier 19971 Ky Hwy 476 Hazard, KY 41701	606-436-4784	Perry	Signed	Signed
133-00-00-032.00	47	Estill & Fern Fugate 10310 Ky Hwy 476 Hazard, KY 41701	606-378-2242	Perry	Signed	Signed
KY HWY Route 476	48	KY HWY Route 476				
133-00-00-032.02	49	Phenoix Development Company P.O. Box 450 Dwarf, KY 41739	606-434-5115	Perry	Signed	Signed
KY HWY Route 80	50	KY HWY Route 80				

Easement Acquisition Status						
Bonnyman - Soft Shell 138 kV Project						
As of November 18, 2011						
133-00-00-027.00	51	Carlos Huff and Chandler Gayheart c/o Square Deal Motors P.O. Box 146 Hindman, KY 41822	606-785-5805	Perry	Signed	
133-00-00-004.00	52	Kentucky River Properties, LLC 250 West Main Suite 1823 Lexington, KY 40507	606-439-4518	Perry	Signed	
133-00-00-028.00 133-00-00-029.01	53	Timberlands, LLC P.O. Box 269 Hazard, KY 41702	606-439-4518	Perry	Signed	
006-00-00-033.00	54	Kentucky River Properties, LLC 250 West Main Suite 1823 Lexington, KY 40507	606-439-4518	Knott	Signed	
KY HWY Route 80	55	KY HWY Route 80				
006-00-00-17.00 016-00-00-001.00	56	Kentucky River Properties, LLC 250 West Main Suite 1823 Lexington, KY 40507	606-439-4518	Knott	Signed	
Beech Creek Rd.	57	Beech Creek Rd.				
016-00-00-001.00	58	Kentucky River Properties, LLC 250 West Main Suite 1823 Lexington, KY 40507	606-439-4518	Knott	Signed	
016-00-00-003.00	59	Sam Godsey and Pat Godsey P.O. Box 1377 Hindman, KY 41822	606-276-5899	Knott	Signed	
KY HWY Route 80	60	KY HWY Route 80				
015-00-00-048.03	61	Larry Keck and Nellie Keck 90 Dans Branch Emmalena, KY 41740	260-894-2012	Knott	Signed	Signed
015-00-00-048.04	62	Burton and Ellie May Patrick, etal 54 Bluegrass Way Emmalena, KY 41740	606-785-4240	Knott	Signed	
015-00-00-050.05	63	Jon Amburgey 224 Bearville Road Emmalena, KY 41740	606-785-5140	Knott	Signed	
015-00-00-048.00	64	Samantha Anthony & Doris Shepherd P.O. Box 245 Fisty, KY 41743	606-216-1613	Knott	Signed	
015-00-00-048.01	65	Samantha Anthony and Tommy Dewayne Estep P.O. Box 245 Fisty, KY 41743	606-216-1613	Knott	Signed	
015-00-00-050.08	66	Ralph Creech 424 Log Branch Road Emmalena, KY 41740	606-785-4819	Knott	Signed	
015-00-00-050.07	67	Sammie Creech 3096 Evelyn St. Portage, IN 46368	219-762-6550	Knott	Signed	

Easement Acquisition Status

Bonnyman - Soft Shell 138 kV Project

As of November 18, 2011

025-00-00-005.05	68	Mountain Properties, Inc. 122 Roy Campbell Drive Hazard, KY 41701	606-487-8830	Knott	Signed	
025-00-00-039.00	69	Lloyd Richie Estate c/o Roger Richie 690 Easter Drive Carisle, OH 45005	937-746-4229	Knott	Signed	
025-00-00-40.00 025-00-00-041.00 025-00-00-071.02	70	Mountain Properties, Inc. 122 Roy Campbell Drive Hazard, KY 41701	606-487-8830	Knott	Signed	
071-00-00-001.00	70A	Daniel Gayheart P.O. Box 619 Hindman, KY 41822	606-785-5155	Knott	Signed	
025-00-00-038.01	71	Thomas C. Combs Estate c/o Doris Donseman, etal P.O. Box 21 Cave City, KY 42127	859-936-8610	Knott	Signed	
Laurel Fork Rd.	72	Laurel Fork Rd.				
025-00-00-038.01	73	Thomas C. Combs Estate c/o Doris Donseman, etal P.O. Box 21 Cave City, KY 42127	859-936-8610	Knott	Signed	
037-00-00-081.00	74	Daniel Gayheart P.O. Box 619 Hindman, KY 41822	606-785-5155	Knott	Signed	
037-00-00-080.00	75	Sally Rose Estate 1531 Sylvester Br. P.O. Box 44 Emmalena, KY 41740	606-785-3724	Knott	Signed	
036-00-00-043.00	76	Woodrow Bailey - Estate c/o Vivian Jo Bailey P.O. Box 358 Leburn, KY 41831	606-785-3520	Knott	Signed	
KY HWY Route 160	77	KY HWY Route 160				
036-00-00-043.00	78	Woodrow Bailey - Estate c/o Vivian Jo Bailey P.O. Box 358 Leburn, KY 41831	606-785-3520	Knott	Signed	
036-00-00-044.00	79	Lloyd & Carolyn Woods 1629 Ogden Vest Road Vest, KY 41772	606-785-3893 606-854-2037	Knott	Signed	Signed
036-00-00-047.00	80	James Clemons & Patricia Clemons P.O. Box 73 Vest, KY 41772	606-785-5947	Knott	Signed	
Pond Branch Rd.	81	Pond Branch Rd.				
036-00-00-048.00	82	Sally Owsley Heirs c/o Catherine Walters 22719 Blank Pike Rd. Wapakoneta, OH 45895	419-568-2415	Knott	Signed	

Easement Acquisition Status						
Bonnyman - Soft Shell 138 kV Project						
As of November 18, 2011						
036-00-00-028.00	83	Ida Patrick - Heirs 41 Patrick Ln. Leburn, KY 41831	606-785-5828 (Easter Banks)	Knott	Signed	
047-00-00-029.00	84	Albert Calhoun Estate Sharlene Calhoun, etal 75 Softshell Lane Leburn, KY 41831	606-785-5513	Knott	Signed	
047-00-00-010.00	85	University Of Kentucky c/o Frank A. Butler 107 Main Bldg, Lexington, KY 40506	859-257-1841	Knott	Signed	
Terry Branch Rd.	86	Terry Branch Rd.				
047-00-00-010.00	87	University Of Kentucky c/o Frank A. Butler 107 Main Bldg, Lexington, KY 40506	859-257-1841	Knott	Signed	
KY. HWY. Route 80	88	KY. HWY. Route 80				
047-00-00-011.00	89	Consol of Kentucky Inc. Kentucky Fuels Corporation P.O. Box 130 Mousie, KY 41839	606-946-3100	Knott	Signed	
047-00-00-003.01	90	Kinzer Business Realty LTD. P.O. Box 460 Allen, KY 41601	606-874-8041	Knott	Signed	
047-00-00-002.00	91	George T. Combs P.O. Box 35 Mousie, KY 41839	606-946-2344	Knott	Signed	
047-00-00-003.06	92	Curtis Smith and Karla Marie Smith 4525 Possom Trot Rd. P.O. Box 631 Hindman, KY 41822	606-785-0321	Knott	Signed	
046-00-00-022.00	93	Orville Smith 173 Ky. Hwy. 1087E P.O. Box 145 Leburn, KY 41831	606-785-3346	Knott	Signed	
KY HWY Route 1087	94	KY HWY Route 1087				
046-00-00-022.00	95	Orville Smith 173 Ky. Hwy. 1087E P.O. Box 145 Leburn, KY 41831	606-785-3346	Knott	Signed	
046-00-00-027.00	96	Darrell Handshoe 202 Saint Barts Hazard, KY 41701	606-497-5418	Knott	Signed	
046-00-00-029.03	97	Brandon Bentley P.O. Box 182 Mousie, KY 41839	606-785- 4403Lula Hoffman	Knott	Signed	
046-00-00-017.10	98	Norman Thomas 4454 Ky Hwy 80E Leburn, KY 41831	606-785-4149	Knott	Signed	

Easement Acquisition Status						
Bonnyman - Soft Shell 138 kV Project						
As of November 18, 2011						
046-00-00-005.06	99	David Smith 3291 Possom Trot Rd. Leburn, KY 41831	615-852-0973 606-785-9284 606-436-2321	Knott	Signed	Signed
046-00-00-005.03	100	Jimmy Campbell and Donna Campbell 178 Raymond Smith Dr. P.O. Box 15 Hindman, KY 41822	606-785-9027	Knott	Signed	

Kentucky Power Company

REQUEST

Refer to paragraph 18 of the application. Provide the 2009 and current cost of the other alternatives considered with an explanation as to why each alternative was rejected.

RESPONSE

KPCo investigated three alternatives to the proposed plan.

Alternative #1: Establish a second 161 kV interconnection with Kentucky Utilities Company (KU) at Hyden Station via the Wooten Station. The key elements of the plan involved construction of approximately 1.2 miles of new 161 kV line from Hyden (KU) to Wooten; installing 161/138 kV, 300 MVA transformer at Wooten; installing 138 kV line from Wooten to Bonnyman; installing 138/69 kV transformer at Bonnyman; and miscellaneous additions.

The plan would have solved both thermal and voltage problems associated with the bulk electric system (BES) and the 69 kV system. However, the plan was not selected because of the potential upgrades on the KU System and the associated costs of implementing the plan, uncertainty of timely completion of the plan, and overall operational concerns resulting from reliance on the 161 kV infrastructure, which is not a standard transmission voltage utilized on the AEP System.

No detailed cost estimates or economic evaluations were performed because coordinated planning studies with KU were not performed.

Alternative #2: Rebuilding the Hazard 69 kV loop (approximately 17 miles in length) and replacing the Hazard #1 138/69 kV, 50 MVA transformer in addition to miscellaneous additions.

The economic evaluation of this plan was not pursued because it did not address the PJM BES violation on the 138 kV system under contingency condition.

Alternative #3: An interconnection with TVA at Pineville Station. Although conceptually viable, it was not pursued because of the cost of a longer line and more importantly, it failed to address thermal and voltage issues within the Hazard 69kV loop.

The current cost of this alternative was not evaluated because it did not solve reliability concerns.

WITNESS: Michael G Lasslo

Kentucky Power Company

REQUEST

Provide the construction timeline for the proposed project.

RESPONSE

The current projections for work on the project are:

ROW acquisition (Access roads and line)
October 2010 - June 2012: 90% to 99% of all ROW will be purchased.
Jan 2013: 100%

Line Construction
June 2012 - May 2013: Access road construction and ROW clearing.
April 2013 - Dec 2014: Line construction.

Station (Haddix and Beckham)
July 2012 - Dec 2012: Begin and complete construction.

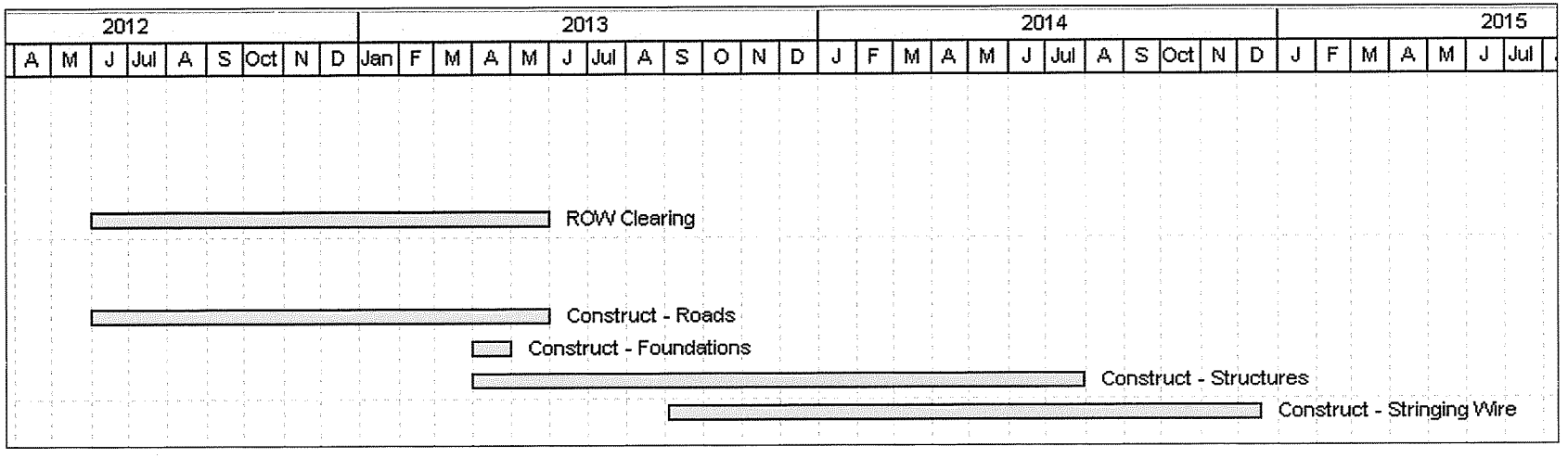
Station (Bonnyman)
Mar 2013 - Oct 2014: Begin and complete construction.

Station (Soft Shell)
Sept 2013 - Oct 2014: Begin and complete construction.

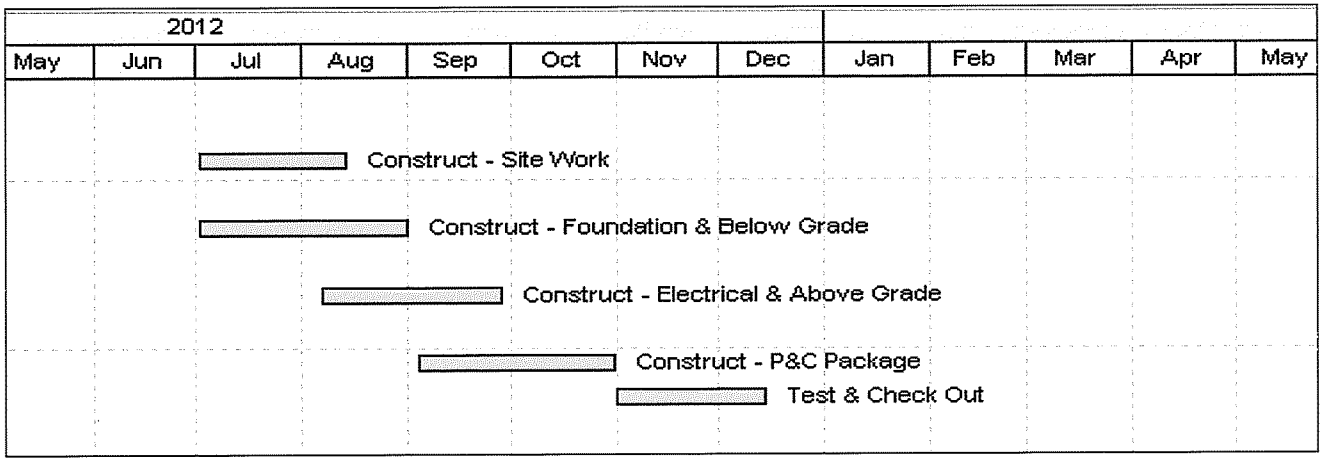
A more detailed estimated timeline is provided on pages 2-4 of this response.

WITNESS: Ranie K. Wohnhas

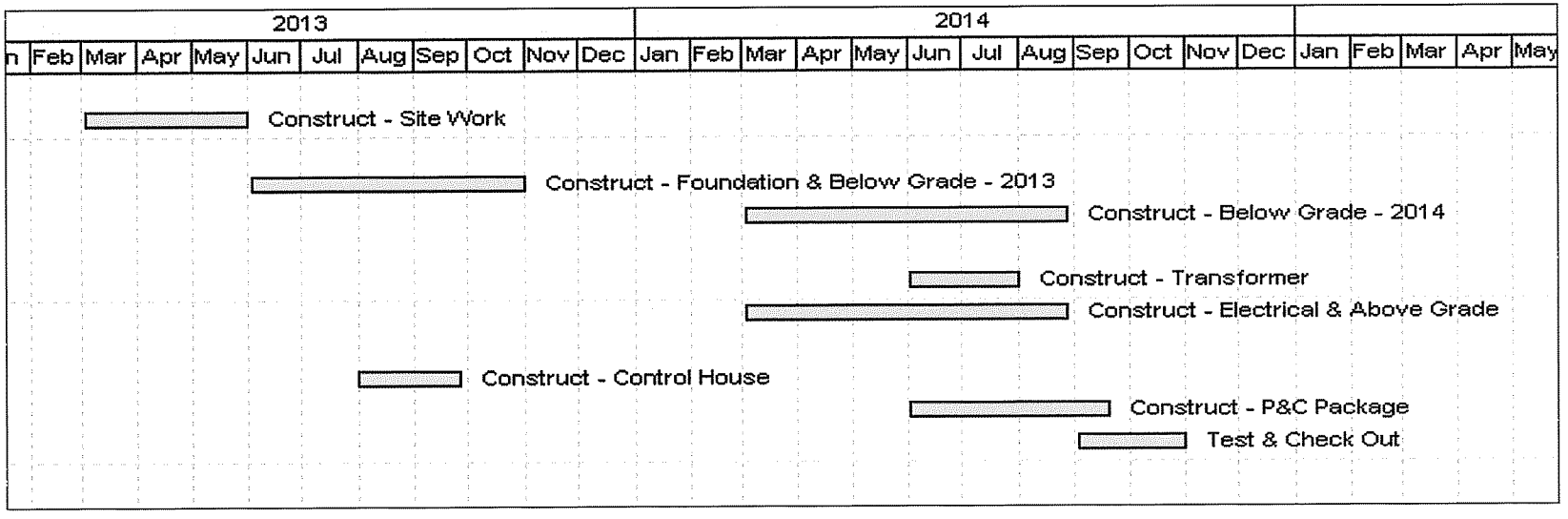
35002 - Bonnyman-Softshell 138kv line: Line Construction - 20 miles



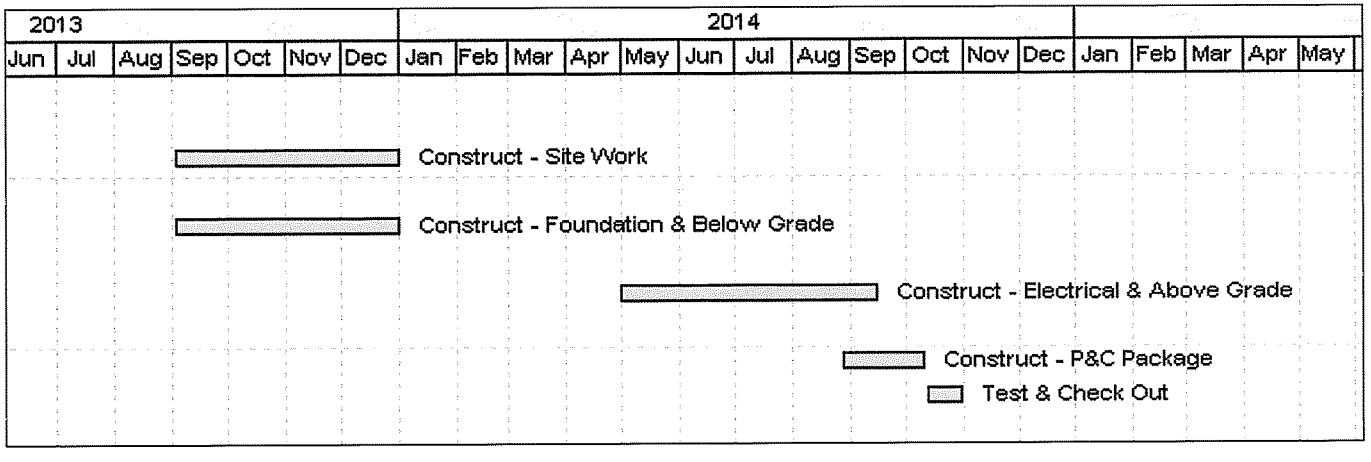
35001 - Haddix 69kv Sta: Sta. Expansion, Cap Bank, with assoc equip.



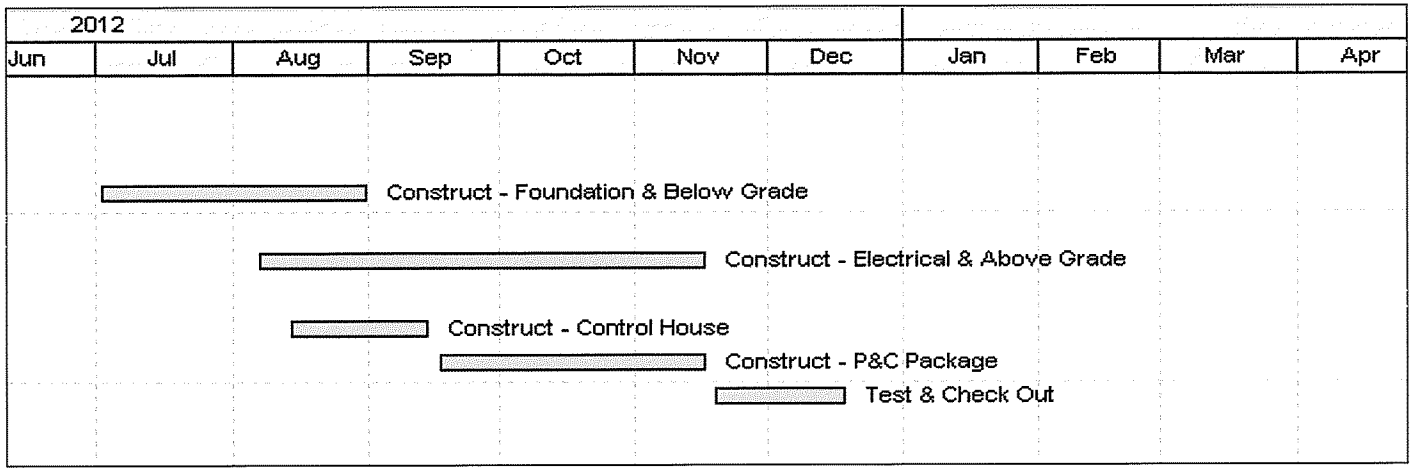
32273 - Bonnyman 138kv Sta: Sta. Expansion, Inst. 138/69 Trf. and assoc. equip.



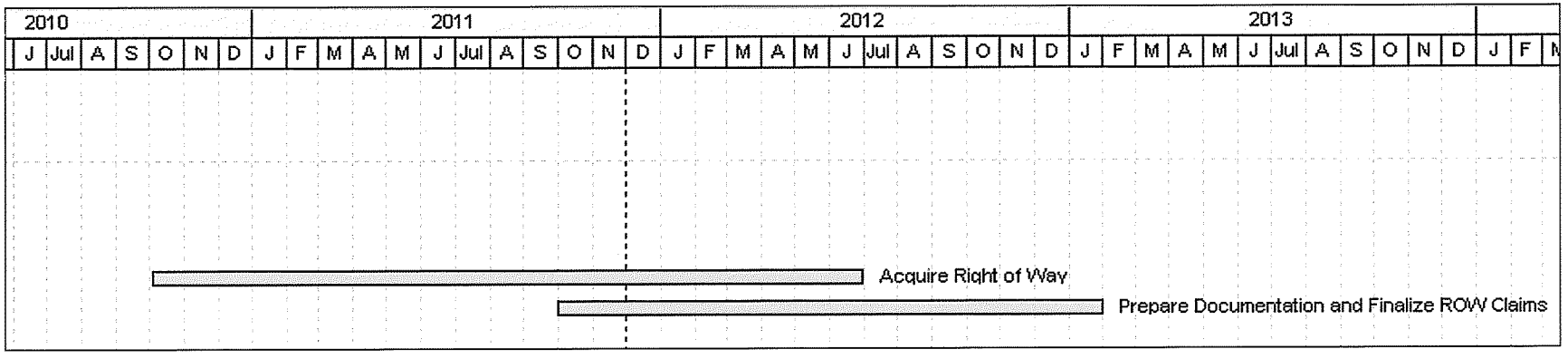
35448 - Soft Shell 138kv Sta: 138kv expansion to include breaker installations.



32220 - Beckham 138kv Sta: Install Cap Bank, Control House, and assoc. equip.



35003 - Bonnyman-Soft Shell 138kv Line: R-O-W acquisition



Kentucky Power Company

REQUEST

Refer to Exhibit 12 of the application. Further, refer to page 3 under Hazard Area Improvement Plan and page 4, Transmission System Performance before Improvements. Provide the load-flow result for winter load conditions for years 2011-2018 using the most recent base case and showing various single- or double contingency outages as indicated in the application and that would cause problems such as overloads and low voltage affecting the Hazard (approximately 300 MW) area load. Provide a color-coded flow plot diagram showing the overloads and low voltage problems.

RESPONSE

Please see the attached response.

WITNESS: Michael G Lasslo

Item No. 27

Hazard Area System

The performance of the Hazard Area System included as Exhibit 12 in the filing was studied using the most up to date base cases available at the time. Several single and double contingencies resulted in unacceptable voltages and thermal overloads. Some of the additional critical outages and issues were also discussed during the face to face meeting on October 12 with the KPSC staff members and the Consultant. Since the filing, a number of fixes to help alleviate thermal and voltage concerns reported as part of Exhibit 12 have been placed in service as an interim measure. This will allow for the timely implementation of the proposed improvement plan to address the overall reliability concerns and maintain the integrity of the Hazard Area. Summary of the interim fixes is also provided as part of the response.

Assessment of the Hazard Area Using 2012 and 2016 Winter Projected Conditions

The 2012 and 2016 winter base cases were used to assess the performance with and without the proposed Hazard Area project. All the interim improvements are respectively modeled in the base cases. The 2016 winter base case can serve as a reflection of 2018 winter system conditions since no major transmission projects or significant load growth is expected in that timeframe for the Hazard Area.

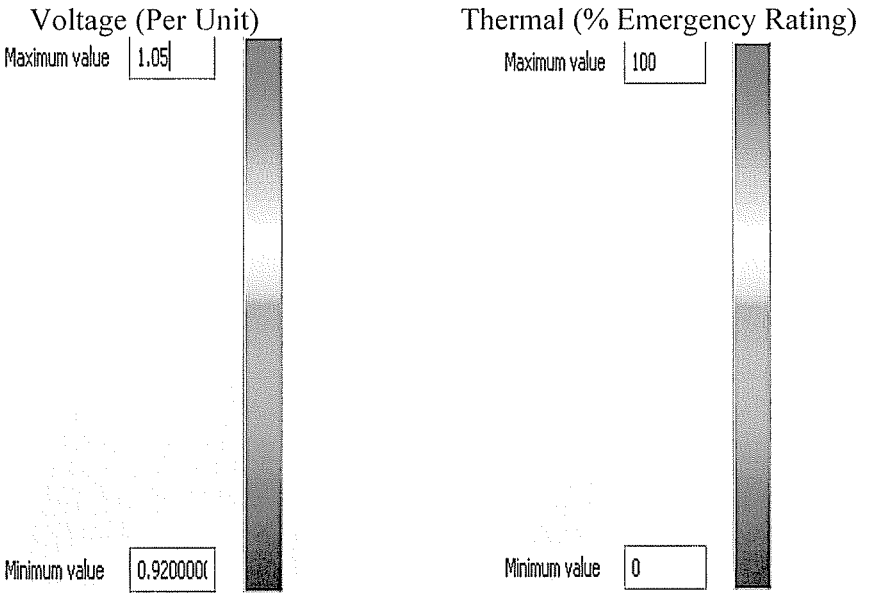
Critical Contingency Analysis

- Breaker Failure at Hazard Station
- Transformer Outages at Hazard Station
- Bus Outages at Hazard Station
- N-1-1 Contingency Analysis (Double Contingency as identified by PJM)

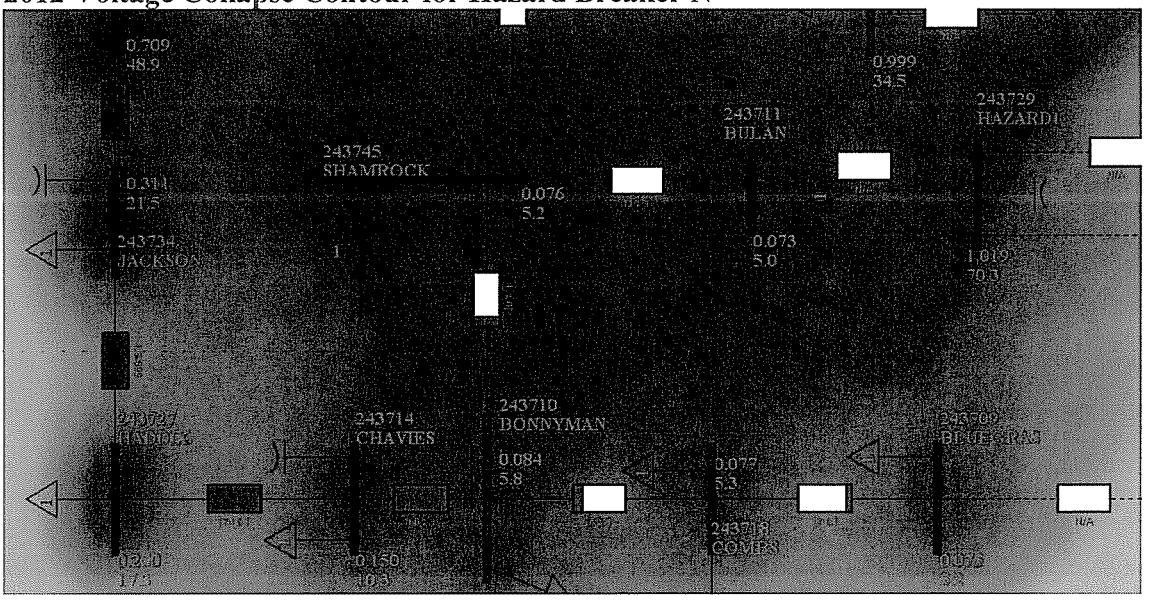
Breaker Failure Analysis

Breaker failure of the 138 kV Circuit Breaker "N" at Hazard Station results in the voltage collapse in the Hazard Area, under both 2012 and 2016 Winter conditions.

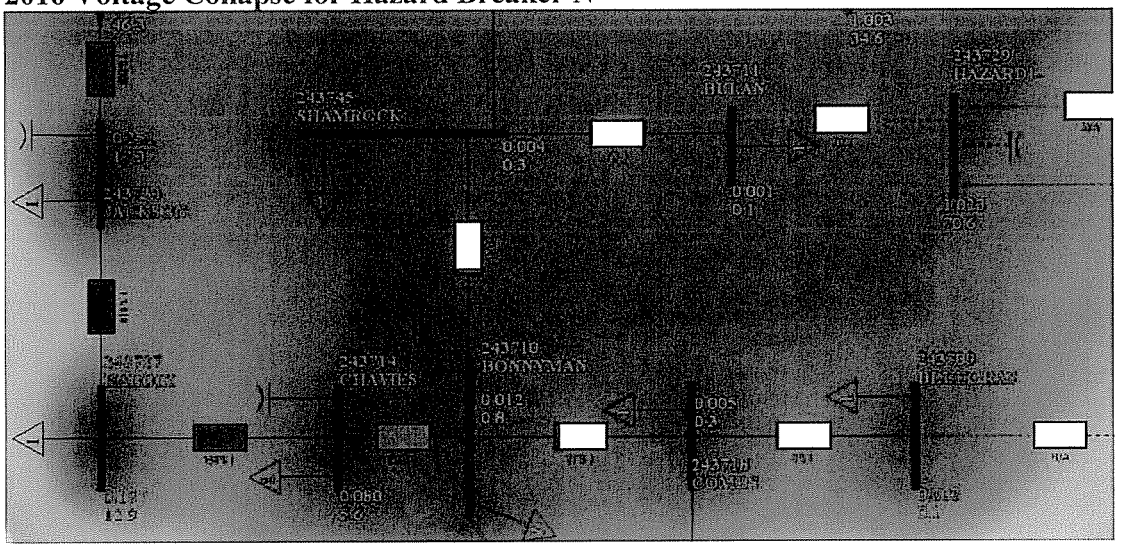
Legend: Voltage/Thermal Contours Diagrams



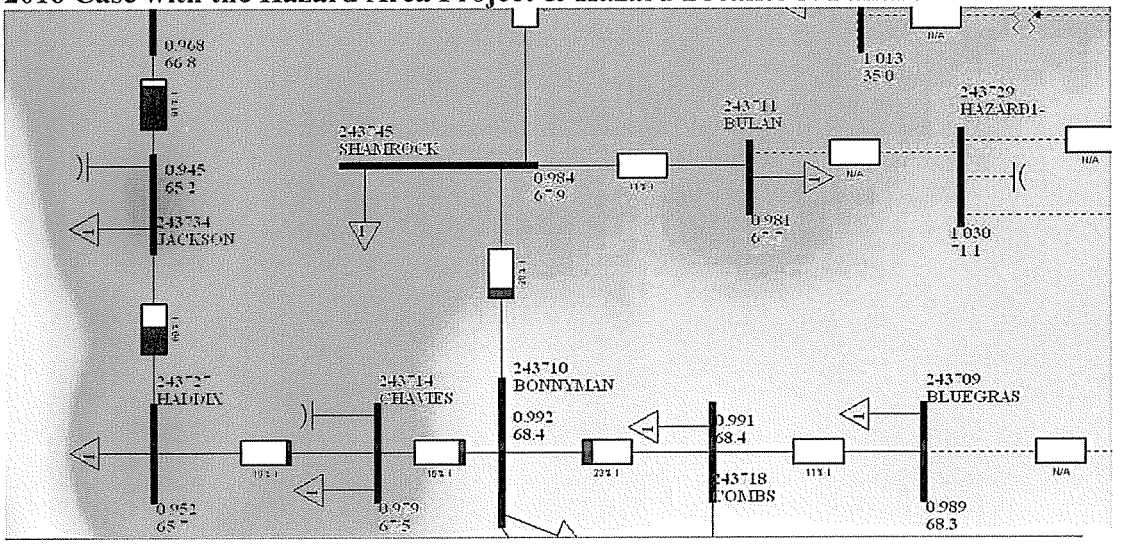
2012 Voltage Collapse Contour for Hazard Breaker N



2016 Voltage Collapse for Hazard Breaker N



2016 Case with the Hazard Area Project & Hazard Breaker N Failure



Analysis

As evidenced in the diagrams above, the proposed Hazard Area project provides enough support to withstand a single event contingency that currently would result in a voltage collapse. The Hazard Area project eliminates the non-convergent scenario and produces no thermal or voltage violations as a result of breaker failure at Hazard Station.

Transformer Outage Analysis

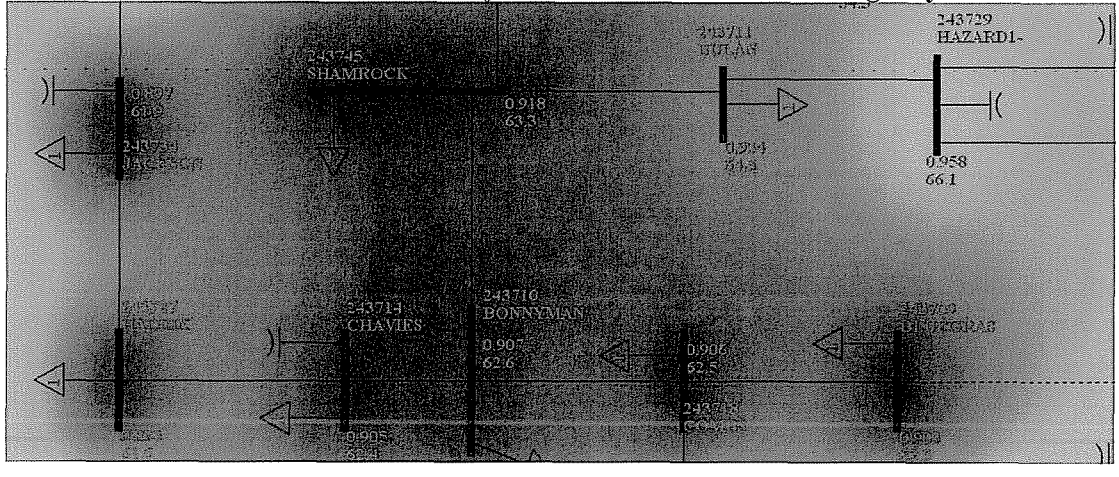
2012 Case without Hazard Area Project

Major Voltage Violations Summary			
		Contingency	
Bus	Voltage	Hazard #2 TRF	Hazard#4 TRF
Blue Grass	69kV	0.903	0.903
Bonnyman	69kV	0.907	0.907
Bulan	69kV	0.934	0.934
Chavies	69kV	0.905	0.905
Combs	69kV	0.906	0.906
Engle	69kV	0.914	0.914
Haddix	69kV	0.893	0.893
Jackson	69kV	0.897	0.897
Shamrock	69kV	0.918	0.918

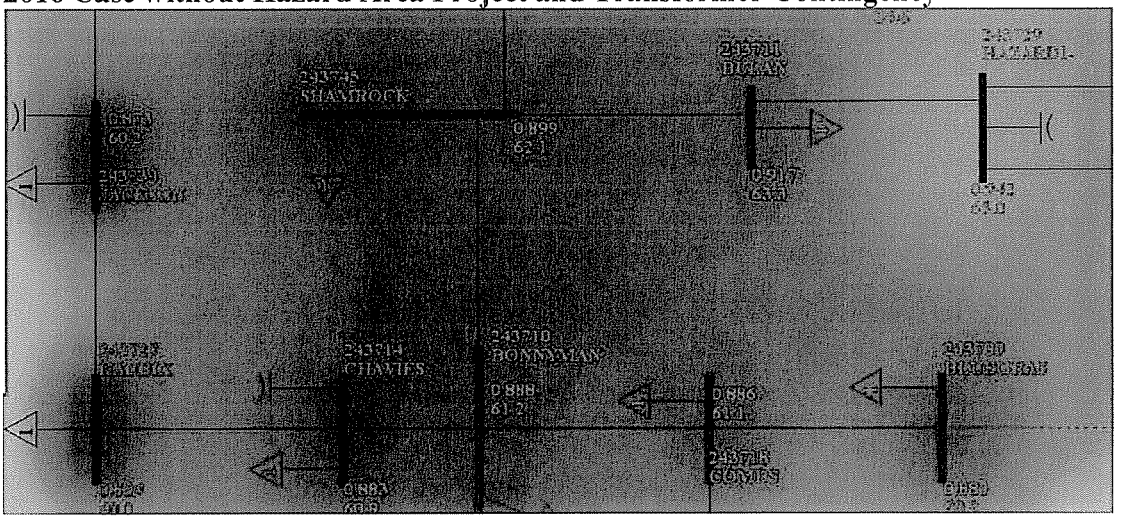
2016 Case without Hazard Area Project

Major Voltage Violations Summary			
		Contingency	
Bus	Voltage	Hazard #2 TRF	Hazard#4 TRF
Blue Grass	69kV	0.883	0.883
Bonnyman	69kV	0.888	0.888
Bulan	69kV	0.917	0.917
Chavies	69kV	0.883	0.883
Combs	69kV	0.886	0.886
Engle	69kV	0.895	0.895
Haddix	69kV	0.869	0.869
Jackson	69kV	0.873	0.873
Shamrock	69kV	0.899	0.899

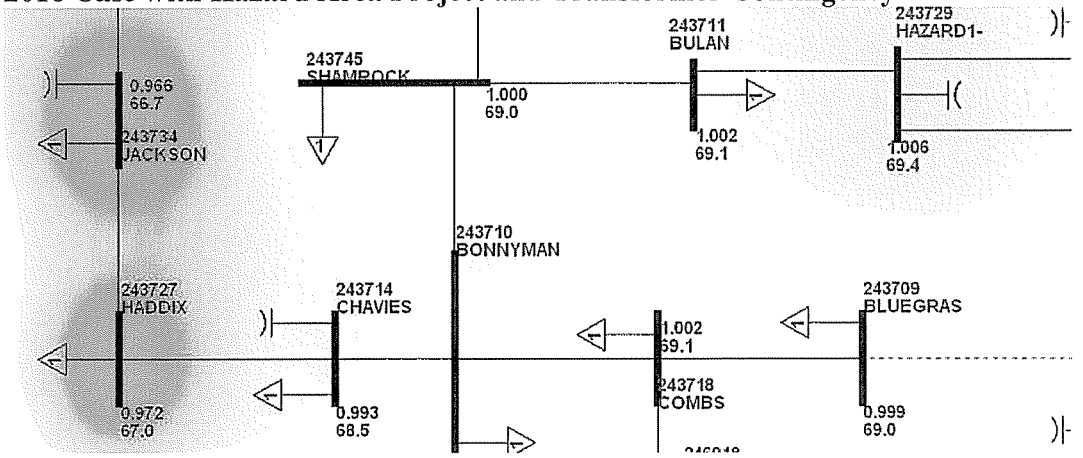
2012 Case without Hazard Area Project and Transformer Contingency



2016 Case without Hazard Area Project and Transformer Contingency



2016 Case with Hazard Area Project and Transformer Contingency



Analysis

With the addition of the proposed Hazard Area Project, all previous low voltage violations for a single contingency outage of Hazard #2 or Hazard #4 transformers will be alleviated. Adding an additional source into the Hazard Area 69kV loop will help maintain voltages within planning criteria for the loss of either critical transformer. Interim improvements including the closing of the Lee City tie and the additional capacitance at EKPC's Helechewa Station help reduce the magnitude of these low voltage concerns, but do not provide enough support to maintain voltage profiles within planning criteria under contingency conditions.

Bus Outage Analysis

Analysis was performed for the single event contingency of a bus outage.

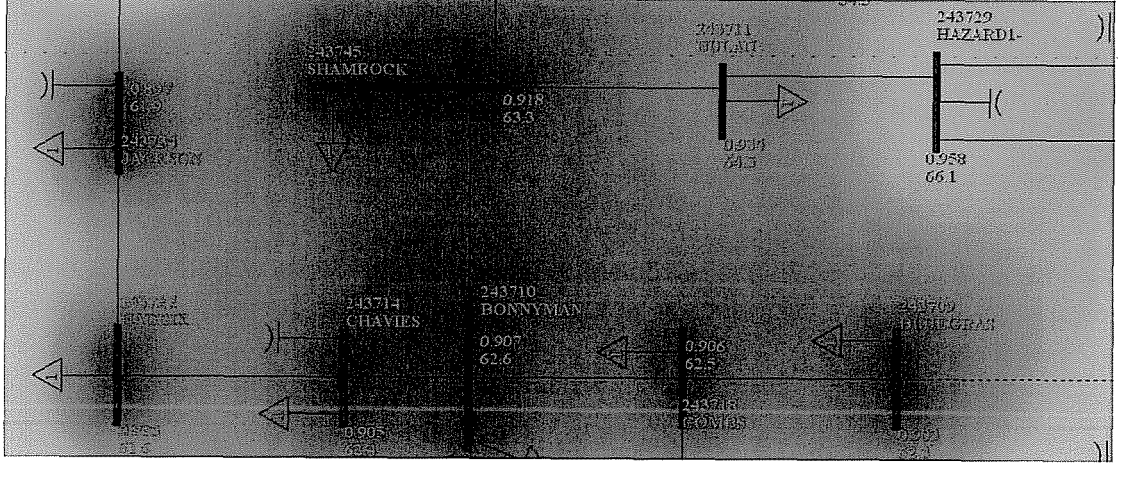
2012 Case without Hazard Area Project

Major Voltage Violations Summary		
		Contingency
Bus	Voltage	Hazard#2 Bus
Blue Grass	69kV	0.903
Bonnyman	69kV	0.907
Bulan	69kV	0.934
Chavies	69kV	0.905
Combs	69kV	0.906
Engle	69kV	0.914
Haddix	69kV	0.893
Jackson	69kV	0.897
Shamrock	69kV	0.918

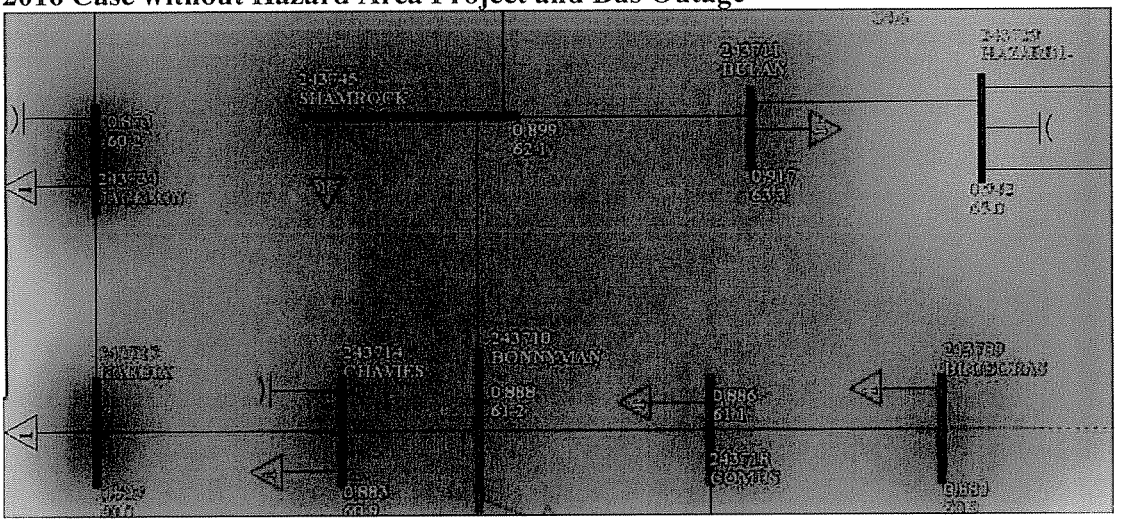
2016 Case without Hazard Area Project

Major Voltage Violations Summary		
		Contingency
Bus	Voltage	Hazard#2 Bus
Blue Grass	69kV	0.883
Bonnyman	69kV	0.888
Bulan	69kV	0.917
Chavies	69kV	0.883
Combs	69kV	0.886
Engle	69kV	0.895
Haddix	69kV	0.869
Jackson	69kV	0.873
Shamrock	69kV	0.899

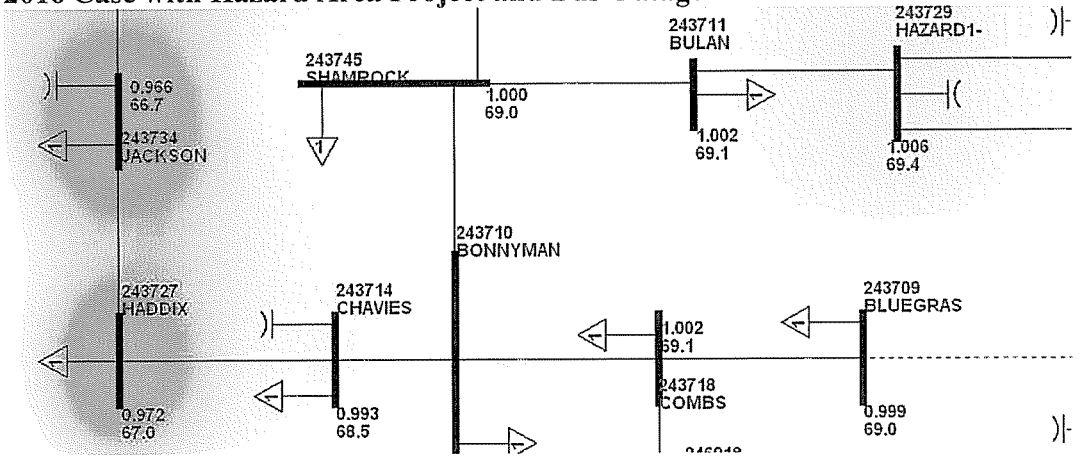
2012 Case without Hazard Area Project



2016 Case without Hazard Area Project and Bus Outage



2016 Case with Hazard Area Project and Bus Outage



Analysis

Numerous low voltages occur for a bus outage on the Hazard #2 138kV bus. With the addition of the Hazard Area project these low voltage concerns can be mitigated as evidenced in the diagram above. Interim fixes to help alleviate these concerns were taken by closing Lee City tie and the additional capacitance at EKPC Helechewa Station.

N-1-1 Thermal Analysis

For the loss of the Hyden (KU)-Wooten 161kV and Stinnett-Pineville (TVA) 161kV lines the Beaver Creek-Topmost 138kV line overloads in an effort to compensate for the lose of the two main sources into the Hazard area.

2012 Before Hazard Area Project

Facility Monitored	Thermal Loading (%)
Beaver Creek-Topmost 138kV	104
Topmost-Beckham 138kV	103

2016 Before Hazard Area Project

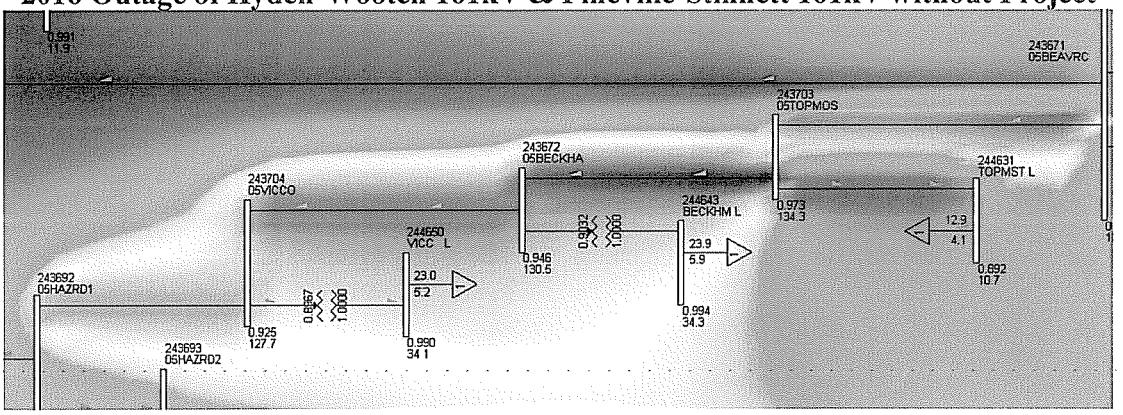
Facility Monitored	Thermal Loading (%)
Beaver Creek-Topmost 138kV	106
Topmost-Beckham 138kV	105

2016 After Hazard Area Project

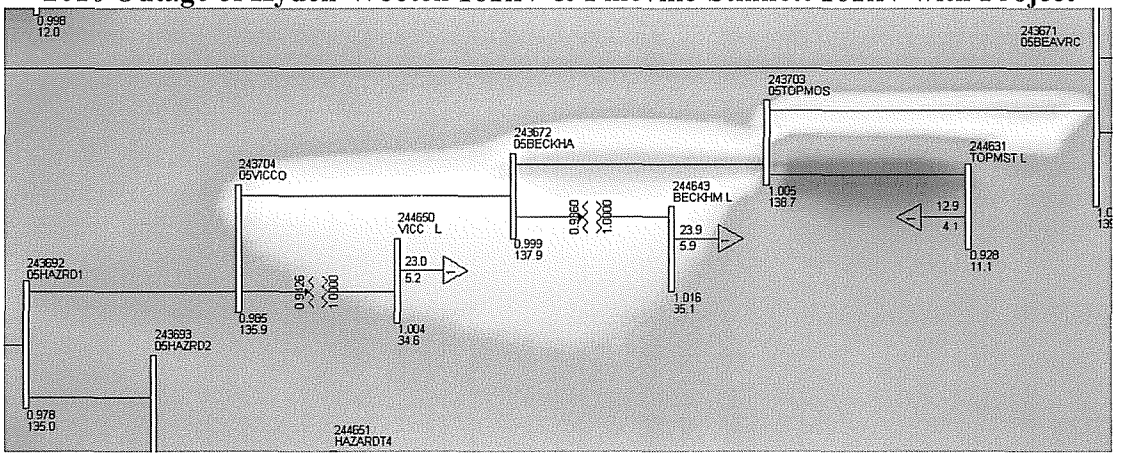
Facility Monitored	Thermal Loading (%)
Beaver Creek-Topmost 138kV	77
Topmost-Beckham 138kV	76

2016 Thermal Line Contour
Outage of Hyden-Wooten 161kV & Pineville-Stinnett 161kV

2016 Outage of Hyden-Wooten 161kV & Pineville-Stinnett 161kV without Project



2016 Outage of Hyden-Wooten 161kV & Pineville-Stinnett 161kV with Project



Analysis

The interim fix of closing the Lee City tie and other improvements have helped reduce the overloads on the 138kV lines shown above, however the overloads will not be solved until a more robust solution is in place. The proposed Hazard Area project will introduce another source in the area and significantly reduce the loading on the overloads noted in the above tables to maintain integrity of the Hazard Area.

2008/2009 Identified Contingencies

Background

The specific contingencies referenced in Figures 2 and 3 in the application and added below will have changed as a result of interim improvements that have been made since the last study was performed in 2008/2009. These interim changes include removal of the Leslie series reactor, closed normally open interconnection with EKPC at Lee City Station, additional capacitance added at EKPC Helechewa Station, capacitor bank installation at Leslie Station, and closed normally open line at Index Station. These solutions have helped alleviate some voltage and thermal concerns shown in Figures 2 and 3, but do not address the more robust solution needed to solve voltage collapse, transformer outages, and bus fault single event contingencies previously outlined.

Summary of Interim Fixes

- Close Normally Open Lee City Tie (54MVA Limit)
- Close Normally Open 69kV Line at Index Station
- Removal of Leslie Series Reactor
- Addition of 14.4MVAr Capacitor Bank at Leslie Station
- Increased Capacitor Bank Size from 10MVAr to 20MVAr at EKPC Helechewa Station.

As shown in the Exhibit #12 of the Application

Figure 2: Sample Thermal Profiles for Single Contingency Outages: Existing Hazard System 2008/09 Winter Base Case

Line Outage->	Haz1 - Bulan Thermal Loading	Bulan - Sham Thermal Loading	Sham - Bonny Thermal Loading	Bonny - Combs Thermal Loading	Combs - BG Thermal Loading	BG - Haz2 Thermal Loading
LineMonitored						
Hazard 1-Bulan	NA	13%	35%	86%	98%	116%
Bulan-Shamrock	15%	NA	23%	72%	83%	101%
Shamrock-Bonnyman	38%	23%	NA	48%	58%	76%
Bonnyman-Combs	83%	70%	47%	NA	17%	31%
Combs-Bluegrass	93%	78%	55%	16%	NA	16%
BG-Haz2	107%	92%	68%	26%	13%	NA
Haz TRF #1	24%	31%	47%	35%	101%	117%

RED = Planning Criteria Thermal Violation (>100% of system normal)
BLUE = Potential Area of Concern (>90% Thermal Line Loading)
Haz1 = Hazard #1 Transformer
Haz2 = Hazard #2 Transformer
Sham = Shamrock 69kV Station
Bonny = Bonnyman 69kV Station
BG = Bluegrass 69kV Station
NA = Not Applicable

Figure 3: Sample Voltage Profiles for Single Contingency Outages: Existing Hazard System 2008/09 Winter Base Case

Line Outage->	Haz 1-Bulan Voltage Per Unit	Bulan - Sham Voltage Per Unit	Sham - Bonny Voltage Per Unit	Bonny - Combs Voltage Per Unit	Combs - BG Voltage Per Unit	BG – Haz 2 Voltage Per Unit
Station Monitored						
Jackson	0.86	0.88	0.92	0.81	0.81	0.77
Haddix	0.86	0.89	0.90	0.82	0.82	0.78
Chavies	0.89	0.91	0.89	0.84	0.84	0.80

BLUE = Planning Criteria Voltage Violation (<92% of system normal)
Haz 1 = Hazard #1 Transformer
Haz 2 = Hazard #2 Transformer
Sham = Shamrock 69kV Station
Bonny = Bonnyman 69kV Station
BG = Bluegrass 69kV Station
NA = Not Applicable

Revised Figure 2: Sample Thermal Profiles for Single Contingency Outages: With Hazard Area System Improvements 2016 Winter Base Case

Line Outage->	Haz 1-Bulan Thermal Loading	Bulan - Sham Thermal Loading	Sham - Bonny Thermal Loading	Bonny - Combs Thermal Loading	Combs - BG Thermal Loading	BG – Haz 2 Thermal Loading
Line Monitored						
Haz1-Bulan	NA	10	27	39	44	49
Bulan-Sham	10	NA	17	30	35	40
Sham-Bonny	27	17	NA	15	22	26
Bonny-Combs	38	31	21	NA	15	23
Combs-BG	47	41	31	15	NA	11
BG-Haz2	57	51	41	22	11	NA
Haz TRF#1	9	11	23	36	42	46

RED = Planning Criteria Thermal Violation (>100% of system normal)
BLUE = Potential Area of Concern (>90% Thermal Line Loading)
NA = Not Applicable
Haz1 = Hazard #1 Transformer
Haz2 = Hazard #2 Transformer
Sham = Shamrock 69kV Station
Bonny = Bonnyman 69kV Station
BG = Bluegrass 69kV Station
NA = Not Applicable

Revised Figure 3: Sample Voltage Profiles for Single Contingency Outages: With Hazard Area System Improvements 2016 Winter Base Case

Line Outage->	Haz 1-Bulan Voltage Per Unit	Bulan - Sham Voltage Per Unit	Sham - Bonny Voltage Per Unit	Bonny - Combs Voltage Per Unit	Combs - BG Voltage Per Unit	BG – Haz 2 Voltage Per Unit
Station Monitored						
Jackson	0.977	0.982	0.988	0.98	0.983	0.977
Haddix	0.982	0.987	0.993	0.984	0.989	0.982
Chavies	1.002	1.007	1.014	1.004	1.01	1.003

BLUE = Planning Criteria Voltage Violation (<92% of system normal)
Haz 1 = Hazard #1 Transformer
Haz 2 = Hazard #2 Transformer
Sham = Shamrock 69kV Station
Bonny = Bonnyman 69kV Station
BG = Bluegrass 69kV Station
NA = Not Applicable

Analysis

The proposed Hazard Area Project will adequately solve all single contingency voltage and thermal violations shown above. Interim fixes have helped relieve voltage and thermal concerns for single contingency line outages, but are not sufficient when it comes to solving transformer, bus, breaker, and N-1-1 outage scenarios. The Hazard Area Project will solve all the critical contingency concerns highlighted in this analysis along with the single contingency concerns that were previously documented in Exhibit 12.

Kentucky Power Company

REQUEST

Provide a load-flow analysis plot showing results of how the proposed second shell station to Bonnyman Station 138 kV line and the 130 MVA 138/69 kV transformer at the Bonnyman Station source addition for the Hazard region would alleviate thermal overload and low voltage issues for the 138 kV and 69 kV systems in this area during the study period of 2011 to 2018.

RESPONSE

Please refer to the response to Request No. 27.

WITNESS: Michael G Lasslo

Kentucky Power Company

REQUEST

Provide a table showing all 161 kV, 138 kV, and 69 kV transmission line thermal ratings for the normal and emergency loading conditions, and indicating all transmission facilities, components, and equipment in the substation that would be a limiting factor during contingency outage conditions in the Hazard area.

RESPONSE

Please see the attached document.

WITNESS: Michael G Lasslo

		Ratings (MVA)			
Limiting Component	MLSE*	SN	SE	WN	WE
Beaver Creek-Topmost 138kV Line	Riser/Conductor	159 (R)	167 (C)	200 (R)	210 (C)
Topmost-Beckham 138kV Line	Switch/Conductor	148 (S)	151 (C)	199 (C)	199 (C)
Hazard 1-Bulan 69kV Line	Conductor	76 (C)	76 (C)	96 (C)	96 (C)
Bulan-Shamrock 69kV Line	Conductor	76 (C)	76 (C)	96 (C)	96 (C)
Blue Grass- Hazard 2 69kV Line	Conductor	76 (C)	76 (C)	96 (C)	96 (C)

		Ratings (MVA)			
Limiting Component		SN	SE	WN	WE
Hazard Transformer #1		69	75	69	75

*Most Limiting Series Element

Kentucky Power Company

REQUEST

Does any generation unit exist in the Perry County study area? If yes, does Kentucky Power perform transient stability studies to insure that generators remain synchronized to the system during faulted conditions in Hazard area?

RESPONSE

There are no generating facilities in the Perry County study area.

WITNESS: Michael G Lasslo