

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

**In the Matter of:**

**ELECTRONIC APPLICATION OF EAST )  
KENTUCKY POWER COOPERATIVE, INC. FOR )  
A (1) CERTIFICATE OF PUBLIC CONVIENCANCE )  
AND NECESSITY FOR THE CONSTRUCTION OF )  
TRANSMISSION FACILITIES IN MADISON )  
COUNTY, KENTUCKY; AND (2) DECLARTORY )  
ORDER CONFIRMING THAT A CERTIFICATE OF )  
PUBLIC CONVIENCANCE AND NECESSITY IS )  
NOT REQUIRED FOR CERTAIN FACILITIES )**

**CASE NO.  
2022-00314**

**RESPONSES TO COMMISSION STAFF'S FIRST INFORMATION REQUEST  
TO EAST KENTUCKY POWER COOPERATIVE, INC.**

**DATED 11/09/2022**

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF EAST )  
KENTUCKY POWER COOPERATIVE, INC. FOR )  
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ORDER CONFIRMING THAT A CERTIFICATE OF )  
PUBLIC CONVIENCANCE AND NECESSITY IS )  
NOT REQUIRED FOR CERTAIN FACILITIES )

CASE NO.  
2022-00314

CERTIFICATE

STATE OF KENTUCKY )  
 )  
COUNTY OF CLARK )

Darrin Adams, being duly sworn, states that she he supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff’s First Request for Information in the above-referenced case dated November 9, 2022, and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

Subscribed and sworn before me on this 16<sup>th</sup> day of November 2022.

GWYN M. WILLOUGHBY  
Notary Public  
Commonwealth of Kentucky  
Commission Number KYNP38003  
My Commission Expires Nov 30, 2025

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

**In the Matter of:**

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<b>AND NECESSITY FOR THE CONSTRUCTION OF</b>	)	<b>2022-00314</b>
<b>TRANSMISSION FACILITIES IN MADISON</b>	)	
<b>COUNTY, KENTUCKY; AND (2) DECLARTORY</b>	)	
<b>ORDER CONFIRMING THAT A CERTIFICATE OF</b>	)	
<b>PUBLIC CONVIENCANCE AND NECESSITY IS</b>	)	
<b>NOT REQUIRED FOR CERTAIN FACILITIES</b>	)	

**CERTIFICATE**

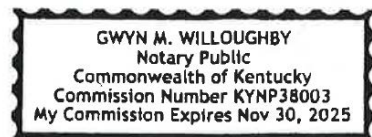
**STATE OF KENTUCKY**    )  
  )  
**COUNTY OF CLARK**    )

Michelle K. Carpenter, being duly sworn, states that she has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff's First Request for Information in the above-referenced case dated November 9, 2022, and that the matters and things set forth therein are true and accurate to the best of her knowledge, information and belief, formed after reasonable inquiry.

*Michelle K. Carpenter*

Subscribed and sworn before me on this 3 day of November 2022.

*Gwyn Willoughby*  
Notary Public



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

**In the Matter of:**

**ELECTRONIC APPLICATION OF EAST )  
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**CASE NO.  
 2022-00314**

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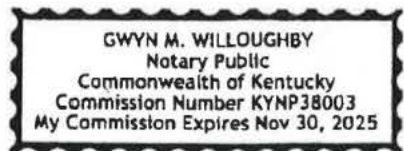
**STATE OF KENTUCKY )  
 )  
 COUNTY OF CLARK )**

Laura Lemaster, being duly sworn, states that she has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff's First Request for Information in the above-referenced case dated November 9, 2022, and that the matters and things set forth therein are true and accurate to the best of her knowledge, information and belief, formed after reasonable inquiry.

*Laura Lemaster*  
 \_\_\_\_\_

Subscribed and sworn before me on this 18 day of November 2022.

*Gwyn M. Willoughby*  
 \_\_\_\_\_  
 Notary Public



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

**In the Matter of:**

ELECTRONIC APPLICATION OF EAST )  
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**CASE NO.  
2022-00314**

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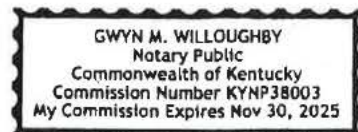
STATE OF KENTUCKY )  
 )  
 COUNTY OF CLARK )

Tom Stachnik, being duly sworn, states that she he supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff's First Request for Information in the above-referenced case dated November 9, 2022, and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

Tom Stachnik

Subscribed and sworn before me on this 18 day of November 2022.

Gwyn M. Willoughby  
Notary Public



**EAST KENTUCKY POWER COOPERATIVE, INC.  
CASE NO. 2022-00314  
FIRST REQUEST FOR INFORMATION RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 11/09/2022**

**REQUEST 1**

**RESPONSIBLE PARTY: Darrin Adams**

**Request 1.** Refer to the Application, Exhibit 3, page 1.

- a. Explain the source of the new 138 kV circuit energy.
- b. Explain whether the existing EKPC 138 kV circuit will interconnect with the proposed 138 kV circuit at its starting point or anywhere else.

**Response 1.**

- a. The area plan includes the East Kentucky Power Cooperative ("EKPC") Fawkes Substation Expansion ("Fawkes Expansion"). The Fawkes Expansion includes the addition of a single box structure and additional substation equipment and work. When the Fawkes Expansion is completed the Fawkes to Duncannon Lane 138 kV circuit would be terminated at the EKPC Fawkes Substation, which would provide the energy source. Please see attached map DR1-2 which shows the proposed location of the substations for reference.
- b. The new 138 kV circuit would be connected to EKPC's existing 138 kV transmission network through the bus conductors within the EKPC Fawkes Substation.

### Legend

KU 69kV Transmission

KU 138kV Transmission

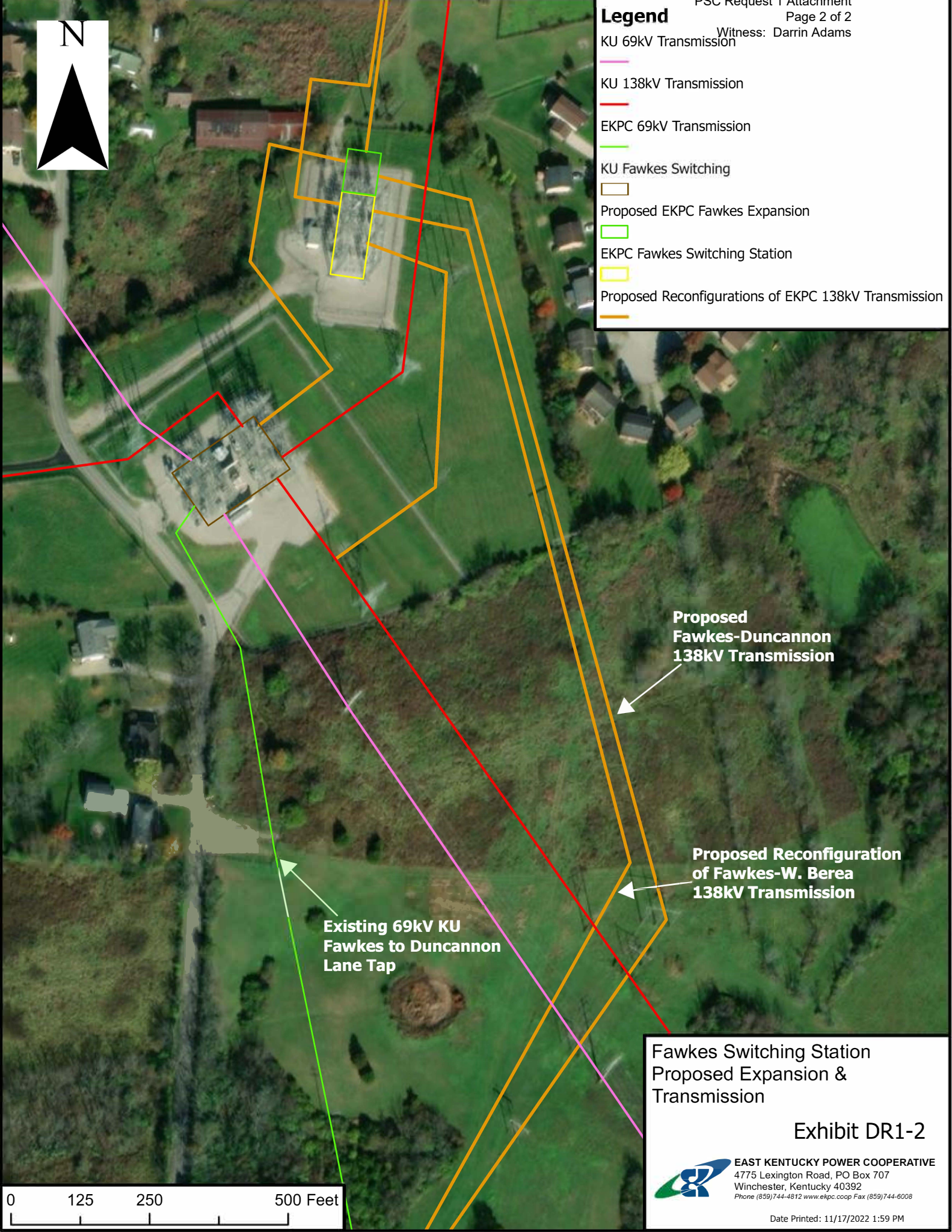
EKPC 69kV Transmission

KU Fawkes Switching

Proposed EKPC Fawkes Expansion

EKPC Fawkes Switching Station

Proposed Reconfigurations of EKPC 138kV Transmission



**Proposed Fawkes-Duncannon 138kV Transmission**

**Proposed Reconfiguration of Fawkes-W. Berea 138kV Transmission**

**Existing 69kV KU Fawkes to Duncannon Lane Tap**

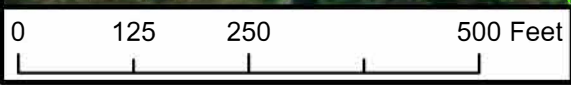
**Fawkes Switching Station Proposed Expansion & Transmission**

**Exhibit DR1-2**



**EAST KENTUCKY POWER COOPERATIVE**  
4775 Lexington Road, PO Box 707  
Winchester, Kentucky 40392  
Phone (859)744-4812 www.ekpc.coop Fax (859)744-6008

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**EAST KENTUCKY POWER COOPERATIVE, INC.  
CASE NO. 2022-00314  
FIRST REQUEST FOR INFORMATION RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 11/09/2022**

**REQUEST 2**

**RESPONSIBLE PARTY:            Laura LeMaster**

**Request 2.**            Refer to the Application, Exhibit 17 Direct Testimony of Laura Lemaster (Lemaster Testimony), page 5, lines 1-19. Refer also to the Application, Exhibit 3.

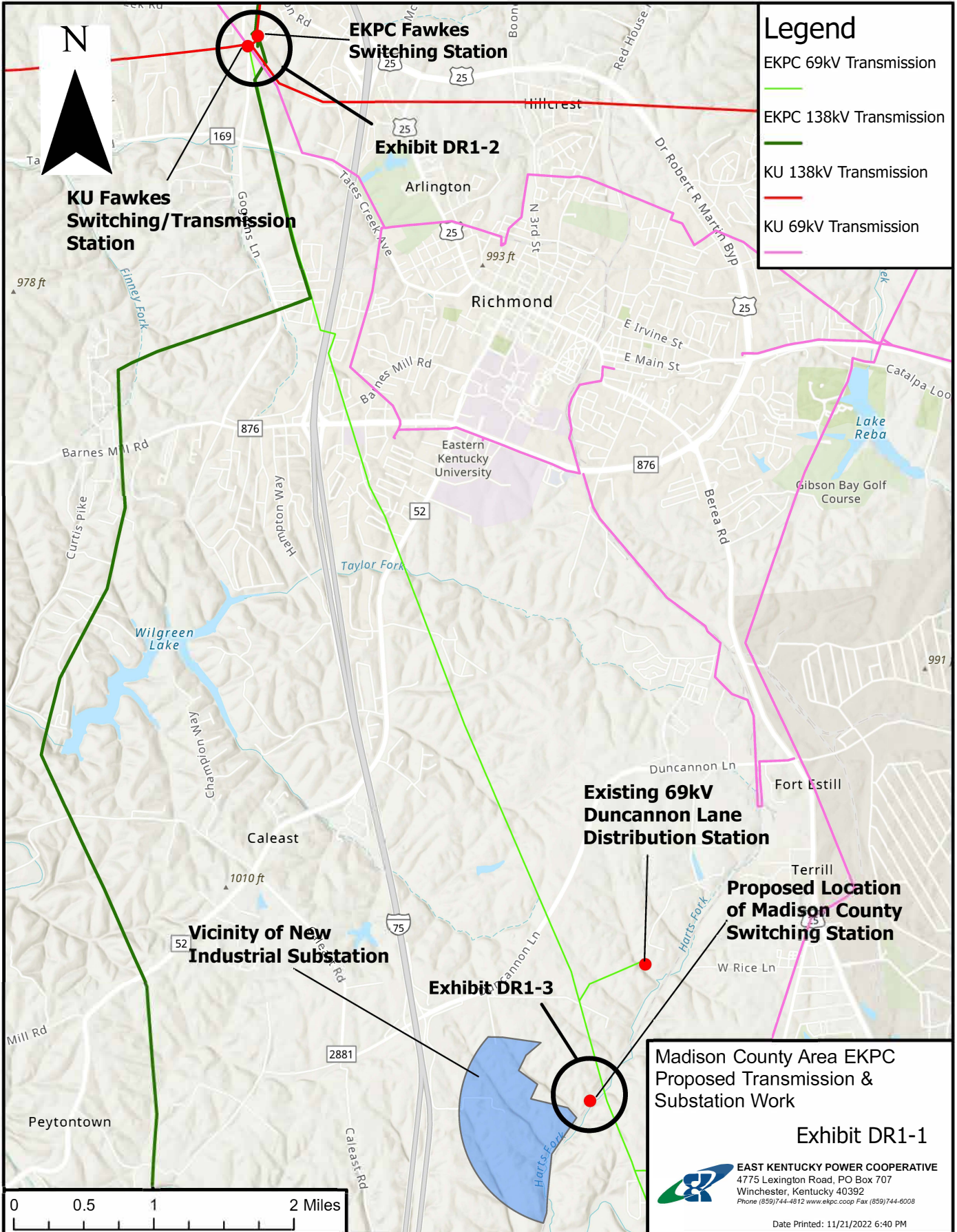
a. Provide a one-page map that identifies the location of the Kentucky Utilities Company (“KU”) Fawkes substation, the EKPC Fawkes Substation, the 69kV transmission lines, the 138 kV transmission lines, the proposed expansion of the substation, the planned Madison County Switching Station, the 138 kV-69 kV stepdown transformer, and the New Industrial Substation.

**Response 2.**

a. Please see attached map DR1-1 for the requested one page map. The EKPC and KU Fawkes Substation are both shown on the map provided. The EKPC Fawkes Substation Expansion is planned to extend to the north of the existing substation. The location of the Madison County Switching Station and the 138 kV to 69 kV (“138 – 69 kV”) step-down transformer is shown on the attached in EKPC’s preferred location based on transmission planning.



EKPC is still in the process of working with local property owners regarding property purchase for this substation site. EKPC has not purchased or secured an option on any property for the Madison County Switching Station at this time. The location of the New Industrial Substation site has not been determined, however, it is EKPC intent to locate in the industrial area south of Richmond along the I-75 Corridor, in the area shown on the attached map.



**EAST KENTUCKY POWER COOPERATIVE, INC.  
CASE NO. 2022-00314  
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**COMMISSION STAFF'S REQUEST DATED 11/09/2022**

**REQUEST 3**

**RESPONSIBLE PARTY:            Laura LeMaster**

**Request 3.**            Provide a map showing the proposed location for the Madison County Switching Station with the proposed four termination points for the line segments in the area. Refer to the Application, Exhibit 3, page 24 and the Lemaster Testimony, page 9.

a. Explain whether the area around the termination point has been zoned as an industrial site and, if not, explain and identify where the potential industrial site will be located in relation to the 138 kV termination point.

b. Explain whether EKPC is aware of any other necessary utilities locating facilities in order to serve potential industrial customers.

**Response 3.**




Please see attached map DR1-3 for the preferred location for the Madison County Switching Station. The Madison County Switching Station has a requested in service date of 2025. With construction of this switching station occurring in 2025, EKPC is still currently in the process of working with local property owners regarding property purchase for this substation site. EKPC has not purchased or secured an option on any property for the Madison County Switching Station at

this time. The location is subject to change as EKPC works through the property acquisition process.

- a. Based on the City of Richmond's interactive zoning maps and Madison County Property Valuation Administration, the area to the south of Richmond along the I-75 corridor is zoned as business and agriculture. It is our understanding that there is currently no zoning change in process, and that the rezoning process is typically 120-day process in Richmond.
- b. Currently there is water, sewer and a transmission gas line within the area to serve potential industrial customers. EKPC has been involved in numerous economic development meetings regarding this site, which have included representation from all necessary utilities to serve a potential industrial customer.

**Legend**

Witness: Laura LeMaster  
EKPC 69kV Transmission

-  EKPC 69kV Transmission
-  Madison Co. Preferred Switching Station Location
-  Proposed 69kV Terminations



69/138 kV Double  
Circuit Back to Fawkes  
& Single 69kV Circuit  
to Duncannon Lane Substation

69kV Transmission  
to Crooksville

69kV Double Circuit  
to Crooksville &  
Hickory Plains

69kV Transmission  
to Hickory Plains

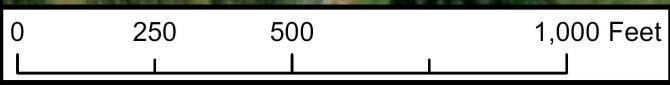
Madison County  
Switching Station w/  
Proposed 69kV Terminations

Exhibit DR1-3



**EAST KENTUCKY POWER COOPERATIVE**  
4775 Lexington Road, PO Box 707  
Winchester, Kentucky 40392  
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**EAST KENTUCKY POWER COOPERATIVE, INC.**  
**CASE NO. 2022-00314**  
**FIRST REQUEST FOR INFORMATION RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 11/09/2022**

**REQUEST 4**

**RESPONSIBLE PARTY: Laura LeMaster and Michelle Carpenter**

**Request 4.** Refer to the Lemaster Testimony, pages 10–11.

- a. Provide an estimate of the annual operating expense for the 69 kV Madison County Switching Station, the 138-69 kV step-down transformer, the Fawkes Expansion, and the New Industrial Substation.
- b. Provide an itemized breakdown of the estimated capital costs for the 69 kV Madison County Switching Station, the 138-69 kV step-down transformer, the Fawkes Expansion, and the New Industrial Substation.
- c. Provide a breakdown of the estimated capital costs for the 69 kV Madison County Switching Station, the 138-69 kV step-down transformer, the Fawkes Expansion, and the New Industrial Substation by plant account with the current depreciation rates for each plant account.

**Response 4.**

- a. The requested estimated annual operations and maintenance costs are:
  - i. Madison County 69 kV switching station -- \$262,500
  - ii. Madison County 138-69 kV step-down transformer -- \$315,000

- iii. Fawkes Expansion -- \$402,500
  - iv. New Industrial Substation -- \$163,800 to 239,400 (based on estimated capital cost range of \$13 million to \$19 million)
- b. EKPC developed planning level estimates for the 69 kV Madison County Switching Station, the 138 – 69 kV step-down transformer, the Fawkes Substation Expansion. EKPC also developed a range of cost for the New Industrial Substation, based on assumptions as outlined in LeMaster Testimony, Page 11, lines 7 – 11. The itemized breakdowns of the planning level estimates are being filed under seal pursuant to a Motion for Confidential Treatment .
- c. Provided below is a summary of the planning-level cost estimates by RUS plant account and associated current depreciation rate for the Fawkes Expansion, the 69 kV Madison County Switching Station, the 138-69 kV step-down transformer, and the New Industrial Substation. It should be noted that while the planning-level estimate for the New Industrial Substation was provided as a range of [REDACTED] to [REDACTED], the higher amount was used for this presentation.

East Kentucky Power Cooperative, Inc						
Estimated Capital Costs by Plant Account and Applicable Depreciation Rates						
Project Description	RUS Account Number					Total Cost
	350	353	355	356	360	
	Transmission Land and Land Rights	Transmission Station Equipment	Transmission Poles and Fxtures	Transmission Overhead Conductors	Distribution Land and Land Rights	Distribution Station Equipment
Fawkes Expansion 69 kV Madison County Switching 138 - 69 kV Step-Down Transformer New Industrial Distribution Substation*	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Depreciation Rate	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
* [REDACTED]						

EAST KENTUCKY POWER COOPERATIVE, INC.  
CASE NO. 2022-00314  
FIRST REQUEST FOR INFORMATION RESPONSE

COMMISSION STAFF'S REQUEST DATED 11/09/2022

REQUEST 5

RESPONSIBLE PARTY: Tom Stachnik

**Request 5.** Refer to the Lemaster Testimony, pages 10-11. a. Explain how the future projects will be financed. b. Explain how the additional cost will affect the financial condition of EKPC.

**Response 5.**

a. EKPC plans to initially finance the Project with internally available general funds and later refinance the Project and other investments through long-term debt issued by the Rural Utilities Service or other lenders.

b. The projects will not materially affect the financial condition of EKPC. At the depreciation rates given in Response 4c, depreciation expense will increase approximately \$1.1 million per year (less than 1% of EKPC's 2021 depreciation expense). The total value of the project (\$47 million) represents less than 2% of the December 31, 2021 net book value of EKPC's electric plant (\$3.0 billion).



EAST KENTUCKY POWER COOPERATIVE, INC.  
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REQUEST 6

RESPONSIBLE PARTY: Darrin Adams

**Request 6.** Explain, in detail, the need for each project:

- a. The 69 kV Madison County Switching Station.
- b. The 138-69 kV step-down transformer.
- c. The Fawkes Expansion.
- d. The New Industrial Substation.

**Response 6.**

- a. The Madison County 69 kV Switching Station will provide immediate reliability and transmission-system protection benefits for service to existing consumers in the area. The KU Fawkes-West Berea 69 kV line is 26.5 miles in length (including radial transmission tap lines) and currently serves seven distribution substations with total 2022/23 winter forecasted peak load of nearly 107 MW (50/50 probability forecast). This line serves a substantial amount of industrial load. In fact, the line was one of the five highest circuits on EKPC's system in 2020 in terms of total megawatt-hours delivered to consumers. EKPC has continued to see significant additional industrial load growth on the circuit since

2020, so this circuit will continue to be one of EKPC's highest in terms of energy delivered. From a reliability standpoint, this circuit currently has a substantial level of exposure to outages for consumers due to the length of the line and the number of substations served from the line. Currently, a fault on the line will result in unplanned outages for all seven substations, resulting in loss of service to more than 5,700 consumers and up to 107 MW of demand.

Construction of the Madison County Switching Station will convert the KU Fawkes-West Berea 69 kV circuit into four circuits with no more than four distribution substations served from any one of these new circuits, and with no more than 9.6 miles of line exposure on any one circuit. This will greatly reduce the risk of outages for consumers served from this line. Furthermore, with the recent addition of the Speedwell Road substation at the end of a long radial tap connected to this line, the system protection scheme is a concern. Currently the relays and circuit breakers that are protecting the KU Fawkes-West Berea 69 kV line, including the radial tap to Speedwell Road, are located at the KU Fawkes and EKPC West Berea substations. Due to the distance between these substations, plus the radial taps and associated distribution substations that must be included in the system-protection coordination, electric faults on the radial tap line to Speedwell Road can be slow to clear, and may lead to more widespread tripping that will impact consumers beyond the KU Fawkes and EKPC West Berea substations. Adding the Madison County 69 kV Switching Station eliminates this risk by reducing the distance between circuit breakers, and adding a dedicated circuit breaker for the radial tap line serving the Crooksville and Speedwell Road distribution substations. The 69 kV portion

of the Madison County Switching Station must be built for local system support with or without the addition of the 138 kV EKPC Fawkes – Duncannon Lane Tap circuit.

In addition to these immediate benefits that would improve service to existing consumers, this substation location provides a key opportunity for future system support. This substation can be expanded in the future to add a 138-to-69 kV transformer that would allow EKPC to connect the existing 69 kV system in the area to EKPC's 138 kV system for needed support when the demand in the area exceeds the current capacity of the system. Furthermore, this substation would allow EKPC to connect potential additional distribution substations that may be needed in the area to support new industrial facilities. This substation is in an optimal location to address both existing EKPC reliability and system-protection issues and future load-serving requirements at or near the New Industrial Site.

- b. The future 138-69 kV step-down transformer at the Madison County Switching Station would connect the existing KU Fawkes-West Berea 69 kV circuit to the new 138 kV line to be built from the EKPC Fawkes substation to provide support to the 69 kV system in the area when the customer demand in the area exceeds the current capacity of the system. EKPC planning studies currently indicate that only 3 MW of additional load can be served from the existing 69 kV system without creating unacceptable system voltages. Installation of a 138-69 kV step-down transformer at the Madison County Switching Station will eliminate the low-voltage issues if more than 3 MW of incremental demand is added to the 69 kV system in the area.

- c. The planned addition of the 138 kV circuit as part of the KU Fawkes-Duncannon Lane Tap 69 kV line rebuild will establish a new 138 kV circuit between those two locations. In order to terminate that 138 kV circuit, and thereby connect it into the EKPC transmission system, EKPC will need to expand its own Fawkes 138 kV substation to establish a new circuit-breaker position, as none are currently available at the EKPC Fawkes substation. As part of the expansion at the Fawkes substation, EKPC plans to split the 138 kV bus into two separate busses with a connecting bus-tie breaker between them to improve the reliability of the 138 kV system in the area and to reduce the likelihood of widespread outages for a substation bus fault or failure of a circuit breaker at the substation. Also, EKPC will re-route some of the existing 138 kV lines terminating at the EKPC Fawkes substation to connect to the new portion of the substation in order to split these lines between the two busses to provide maximum reliability for the area.
  
- d. The New Industrial Substation will be utilized to meet the needs of large industrial and commercial customers that locate in that area of Madison County. This new distribution substation will connect to the Madison County Switching Station, with necessary distribution transformers to meet the needs of the customer facilities in the area. The specific scope of the substation design (e.g., voltage level, number of transformers, nameplate rating of transformers, etc.) will be developed based on the needs of customers as they commit to locate in this area.

**EAST KENTUCKY POWER COOPERATIVE, INC.**  
**CASE NO. 2022-00314**  
**FIRST REQUEST FOR INFORMATION RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 11/09/2022**

**REQUEST 7**

**RESPONSIBLE PARTY:            Laura LeMaster**

**Request 7.**            Provide an approximate date for the start and end of construction for the 138 kV transmission line.

**Response 7.**

Based on the current project schedule, construction would commence in August 2023 with right of way clearing, with transmission line completion in September 2024 to accommodate operational restrictions and outage planning.

**EAST KENTUCKY POWER COOPERATIVE, INC.**  
**CASE NO. 2022-00314**  
**FIRST REQUEST FOR INFORMATION RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 11/09/2022**

**REQUEST 8**

**RESPONSIBLE PARTY: Laura LeMaster**

**Request 8.** Provide an approximate start and end date for the construction of the 69 kV Madison County Switching Station, 138-69 kV step-down transformer, the Fawkes Expansion, and the New Industrial Substation.

**Response 8.**

The Madison County Switching Station has a requested in service date at the end of 2025. The construction would likely all occur in 2025. The exact construction dates will be determined at a later date based on outage and crew scheduling.

The Madison County 138-69 kV step-down transformer, the Fawkes Substation Expansion and the New Industrial Substation construction timeline will be based on future system need. EKPC will budget and execute the construction of these substations following EKPC's normal capital project process.

**EAST KENTUCKY POWER COOPERATIVE, INC.**  
**CASE NO. 2022-00314**  
**FIRST REQUEST FOR INFORMATION RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 11/09/2022**

**REQUEST 9**

**RESPONSIBLE PARTY: Darrin Adams**

**Request 9.** Refer to the Application, Exhibit 16 Direct Testimony of Darrin Adams (Adams Testimony), page 9, lines 1–8. Further explain the mitigation actions that will be taken if there is an operational load issue in the 2022/2023 winter.

**Response 9.**

EKPC will first consider opening the 69 kV circuit breaker at the West Berea substation that terminates the 69 kV circuit between the West Berea and Three Links Junction substations to reduce the flow, but this will only be effective if the direction of power flow is from West Berea towards Three Links Junction. If that is not the case, EKPC will consider re-configuring switches in the area to shift some load from the KU Fawkes-West Berea 69 kV circuit onto the West Berea-Three Links Junction 69 kV circuit in order to make opening the West Berea-Three Links Junction 69 kV circuit breaker at West Berea effective (i.e., essentially forcing some of the area load to be served from the south via the Three Links Junction substation). Another potential mitigation action to reduce the power flows on the KU Fawkes-Duncannon Lane Tap 69 kV line section is to initiate reduction of those loads on interruptible contracts that are served from the Fawkes-West Berea 69

kV circuit. The final mitigating action that would be taken is to interrupt firm (i.e., non-interruptible) load served from this circuit.



EAST KENTUCKY POWER COOPERATIVE, INC.  
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FIRST REQUEST FOR INFORMATION RESPONSE

COMMISSION STAFF'S REQUEST DATED 11/09/2022

REQUEST 10

RESPONSIBLE PARTY: Darrin Adams

**Request 10.** Refer to the Application, Exhibit DA-1, Transmission Planning Study, Section 2.3, pages 4–5.

- a. Explain, in detail, each of the four alternatives to the Fawkes-Duncannon Lane Tap 69 KV line section overload.
- b. Explain, in detail, why Alternative B was chosen.

**Response 10.**

- a. Alternative A increases the maximum operating temperature of the existing 556.5 MCM ACSR conductor in the Fawkes-Duncannon Lane Tap 69 kV line section from 212 degrees Fahrenheit to 302 degrees Fahrenheit. This is accomplished by increasing the distances between the phase conductors and objects under the line (typically the ground) such that the conductors have more clearance for increased sag as more current is transmitted through them. This can be accomplished in a variety of ways, but most commonly involves modifications to or replacement of the structures to increase vertical height of the conductors. The increased clearances to operate the conductors at 302 degrees Fahrenheit

would provide an additional 23 MVA of capacity for the winter emergency rating of this line section.

Alternative B replaces the existing 556.5 MCM ACSR phase conductors with 795 MCM ACSR conductors. Due to the increased weight of the larger replacement conductors, the structures in this line section would need to be replaced, resulting in the assumption of a complete rebuild of the line section to accommodate the new conductors. The new conductors would have higher current-carrying capability, thereby increasing the winter emergency rating of the line section by 40 MVA.

Alternative C establishes a new normally-open interconnection with an LG&E/KU 69 kV transmission line that crosses EKPC's Fawkes-West Berea 69 kV line just south of the existing Crooksville Junction tap point. This would allow EKPC to request to shift some load from the Fawkes-West Berea circuit to the LG&E/KU transmission line during periods of potential overloads of the Fawkes-Duncannon Lane Tap line section. Removing load from the circuit on a temporary basis would mitigate the overload by reducing the flow on the line section.

Alternative D establishes a new 138-69 kV substation near the Crooksville Junction 69 kV tap point in order to provide a new source into the area from the 138 kV system. A new 138 kV line from EKPC's Fawkes substation to this Crooksville Junction tap point would be required to provide the source for the 138-69 kV transformer. The new 138 kV line would provide a higher-voltage parallel path into the load pocket, which would reduce the flow on the lower-voltage Fawkes-Duncannon Lane Tap 69 kV line section, thereby eliminating the overload of the 69 kV line section.

- b. While all of the four alternatives considered would eliminate the thermal overload of the KU Fawkes-Duncannon Lane Tap 69 kV line section – either by increasing the thermal capacity of the line section (Alternatives A and B) or by providing a new source into the area to reduce the flows on the line section (Alternatives C and D), only Alternative B, which rebuilds the Fawkes-Duncannon Lane Tap 69 kV line section, also fully addresses the aging condition and mechanical-loading concerns identified on this line section. Therefore, even if EKPC were to select one of the other alternatives to address the electrical loading concerns, a substantial rebuild of the line section would likely still be necessary to address the other condition-based concerns.