

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF EAST)	
KENTUCKY POWER COOPERATIVE, INC. FOR)	
CERTIFICATES OF PUBLIC CONVENIENCE AND)	CASE NO.
NECESSITY FOR CONSTRUCTION PROJECTS)	2024-00108
IN MARION COUNTY, KENTUCKY AND OTHER)	
GENERAL RELIEF)	

ORDER

On May 22, 2024, East Kentucky Power Cooperative, Inc. (EKPC) filed an application,¹ pursuant to KRS 278.020(2) and 807 KAR 5:001, Section 15, for two Certificates of Public Convenience and Necessity (CPCNs) authorizing the construction of three proposed projects in a Marion County, Kentucky: a new 161-25 kV substation (Metts Drive Substation), approximately one mile of 161-kV transmission line (Metts Drive Tap) from the South Marion Industrial Line to the Metts Drive Substation, and approximately 2.2 miles of 161 kV transmission line (Marion County Industrial Tap) loop-in to the Marion County-Green County line.

By Order issued June 7, 2024, the Commission established a procedural schedule for the orderly processing of this matter and extended the deadline for issuing a decision to 120 days after filing pursuant to KRS 278.020(9), up to and including September 19, 2024.² No intervenors joined the case. EKPC responded to two requests for information

¹ The application was deemed filed on the date it was tendered by EKPC.

² Order at 1, (Ky. PSC June 7, 2024).

from Commission Staff.³ On August 9, 2024, EKPC requested that the matter be submitted for decision based upon the existing evidentiary record.

LEGAL STANDARD

No utility may construct or acquire any facility to be used in providing utility service to the public until it has obtained a CPCN from this Commission.⁴ To obtain a CPCN, the utility must demonstrate a need for such facilities and an absence of wasteful duplication.⁵

“Need” requires:

[A] showing of a substantial inadequacy of existing service, involving a consumer market sufficiently large to make it economically feasible for the new system or facility to be constructed or operated.

[T]he inadequacy must be due either to a substantial deficiency of service facilities, beyond what could be supplied by normal improvements in the ordinary course of business; or to indifference, poor management or disregard of the rights of consumers, persisting over such a period of time as to establish an inability or unwillingness to render adequate service.⁶

“Wasteful duplication” is defined as “an excess of capacity over need” and “an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of physical properties.”⁷ To demonstrate that a proposed facility does not result in wasteful duplication, the Commission has held that the applicant must

³ EKPC’s Response to Commission Staff’s First Request for Information (Staff’s First Request) (filed July 8, 2024); EKPC’s Response to Commission Staff’s Second Request for Information (Staff’s Second Request) (filed Aug. 5, 2024).

⁴ KRS 278.020(1). Although the statute exempts certain types of projects from the requirement to obtain a CPCN, the exemptions are not applicable.

⁵ *Kentucky Utilities Co. v. Pub. Serv. Comm’n*, 252 S.W.2d 885 (Ky. 1952).

⁶ *Kentucky Utilities Co.*, 252 S.W.2d at 890.

⁷ *Kentucky Utilities Co.*, 252 S.W.2d at 890.

demonstrate that a thorough review of all reasonable alternatives has been performed.⁸ The fundamental principle of reasonable, least-cost alternative is embedded in such an analysis. Although cost is a factor, selection of a proposal that ultimately costs more than an alternative does not necessarily result in wasteful duplication.⁹ All relevant factors must be balanced.¹⁰

BACKGROUND

EKPC's application stated that its member cooperative Inter-County Energy Cooperative Corporation (Inter-County Energy) identified a potential thermal overload on one of its feeders connected to the Lebanon Substation during peak-load conditions.¹¹ Inter-County Energy shifted residential customers to the Marion County Industrial Substation to prevent overload at the Lebanon Substation.¹² This switch subjected residential customers to power-quality issues which were caused by the non-linear nature of typical industrial electrical equipment. EKPC asserted that this could result in exceeding the peak MW demand capacity for transmission lines to two other substations.¹³

⁸ Case No. 2005-00142, *Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for a Certificate of Public Convenience and Necessity for the Construction of Transmission Facilities in Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky* (Ky. PSC Sept. 8, 2005), Order at 11.

⁹ See *Kentucky Utilities Co. v. Pub. Serv. Comm'n*, 390 S.W.2d 168, 175 (Ky. 1965). See also Case No. 2005-00089, *Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity for the Construction of a 138 kV Electric Transmission Line in Rowan County, Kentucky* (Ky. PSC Aug. 19, 2005), final Order.

¹⁰ Case No. 2005-00089, *East Kentucky Power Cooperative, Inc.* (Ky. PSC Aug. 19, 2005), final Order at 6.

¹¹ Application, Exhibit 23, Direct Testimony of Darrin Adams (Adams Direct Testimony) at 4.

¹² Adams Direct Testimony at 4–5.

¹³ Adams Direct Testimony at 5.

To prevent exceeding transmission capacity and potential outages, EKPC identified six potential combinations of transmission projects that it believed would alleviate these problems.¹⁴ EKPC selected the proposed projects, which were the most cost-effective in terms of 30-year Net Present Value (NPV) total cost.¹⁵

The selected proposal included retiring the Lebanon Substation, which was built in 1955 and has surpassed its expected useful life.¹⁶ EKPC also argued that the Lebanon Substation bus does not meet EKPC's current standard for distribution substations, is of a design that has experienced numerous failures on the EKPC system, has experienced seven sustained outages since 2016,¹⁷ and has elevated dissolved gas, which is indicative of partial internal discharge and results in a significant risk of a transformer failure.¹⁸ EKPC currently pays Louisville Gas & Electric Company/Kentucky Utilities (LG&E/KU) a variable annual fee of approximately \$340,000 for service to the Lebanon Substation.¹⁹ Retirement of the Lebanon Substation would eliminate this fee and allow EKPC to sell the real property where the substation is located for an estimated \$253,997.75.²⁰ EKPC would also release its right-of-way (ROW) to the substation, eliminating the cost of ROW maintenance.²¹

¹⁴ Application, Exhibit 23, Attachment DA-1 at 18–19.

¹⁵ Application, Exhibit 23, Attachment DA-1 at 18–19.

¹⁶ EKPC's Response to Staff's Second Request, Item 12.

¹⁷ EKPC's Response to Staff's First Request , Item 12.

¹⁸ EKPC's Response to Staff's Second Request, Item 12.

¹⁹ Adams Direct Testimony at 6. The fee is based on load and \$340,000 is EKPC's estimate for 2024.

²⁰ EKPC's Response to Staff's Second Request, Item 1(a).

²¹ EKPC's Response to Staff's Second Request, Item 1(b).

EKPC claimed the proposed construction of the Metts Drive Substation will establish a new delivery point for Inter-County Energy to increase reliability and replace the aging, less reliable Lebanon Substation.²² EKPC argued that the Metts Drive Substation “is vital for addressing anticipated distribution-substation and distribution-feeder loading challenges linked to the Lebanon Substation.”²³ The Metts Drive Tap would be necessary to connect the Metts Drive Substation to the Marion County Industrial Substation and hence the Inter-County Energy system.²⁴

However, EKPC noted that “the introduction of the Metts Drive Substation would increase the MW-mile exposure on the existing Marion Industrial Tap without other transmission modifications in the area. This underscores the necessity of implementing the Marion County Industrial 161kV Tap Line Loop-In Project.”²⁵ EKPC described the MW-exposure issue as follows:

EKPC uses a megawatt-mile (“MW-mile”) index to quantify relative reliability of radial service to loads. This value is calculated as the product of the peak MW demand of a substation and the length in miles of the radial transmission line serving the substation. EKPC generally considers transmission radial service to distribution substations acceptable if the total MW-mile index for the radial line does not exceed 100 MW-miles. The MW-mile index of the existing radial supply for the Marion County Industrial and South Marion County Industrial substations is 85.6 MW-miles. Therefore, the radial configuration is currently acceptable, but will become an issue in the future as demand continues to grow for these substations. Also, additional load shifted to this radial feed (through either a new substation or shifting load

²² Adams Direct Testimony at 4.

²³ Application, Exhibit 2, Direct Testimony of Lucas Spencer (Spencer Direct Testimony) at 11.

²⁴ Spencer Direct Testimony at 3–5.

²⁵ Spencer Direct Testimony at 11.

from one substation to another via the distribution system) could result in the 100 MW-mile threshold being exceeded.²⁶

EKPC asserted that its solution-plan provides the best reliability improvement for the existing Marion County Industrial and South Marion County Industrial Substations in terms of the MW-mile exposure index. The solution-plan reduced the total MW-mile load exposure for the substations on the Marion County Industrial tap line from approximately 85.6 to 27.3 MW-miles (a 68 percent reduction).²⁷

For both transmission lines, EKPC provided siting reports.²⁸ These reports assigned scores to conditions that would negatively impact the surrounding areas if transmission lines were built nearby and included the following weighted categories: Built (impact of people, places, and cultural resources), Natural (environmental impact), Engineering (terrain restraints and construction variables), and Simple (average of each category treated equally).²⁹

The Metts Drive Tap study evaluated six possible routes.³⁰

²⁶ Adams Direct Testimony at 5–6.

²⁷ Adams Direct Testimony at 5 and 8.

²⁸ Application, Exhibits 19–20. The Commission notes that Exhibit 19 is labelled Siting Report Marion County Industrial 161 kV Tap Line Loop-In but is actually the Metts Drive Tap report and Exhibit 20 is labeled Siting Report Metts Drive 161 kV Tap but is actually the Marion County Industrial Tap report.

²⁹ Application, Exhibit 19 at 3; Application, Exhibit 20 at 3.

³⁰ Application, Exhibit 19 at 61.

DATA FOR ALL ROUTES	Numbers Normalized					
	1	2	3	4	5	6
Build						
Feature	Unit	Unit	Unit	Unit	Unit	Unit
Relocated Residences (within 100' Corridor)	0.00	0.00	0.00	0.00	0.00	0.00
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00	0.00
Proximity to Residences (300')	0.00	1.00	0.00	0.00	0.00	0.00
<i>Normalized</i>	0.00	1.00	0.00	0.00	0.00	0.00
Proposed Developments	0.00	0.00	0.00	0.00	0.00	0.00
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00	0.00
Proximity to Commercial Buildings (300')	5.00	9.00	2.00	4.00	3.00	4.00
<i>Normalized</i>	0.43	1.00	0.00	0.29	0.14	0.29
Proximity to Industrial Buildings (300')	5.00	3.00	2.00	4.00	4.00	3.00
<i>Normalized</i>	1.00	0.33	0.00	0.67	0.67	0.33
School, Day-Care, Church, Cemetery, Park/Parcels (#)	0.00	0.00	0.00	0.00	0.00	0.00
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00	0.00
NRHP Listed/Eligible Streets/Districts (1/500' from edge of BWH)	0.00	0.00	0.00	0.00	0.00	0.00
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00	0.00
Natural						
Natural Forests (Acres)	1.52	0.60	1.39	1.48	0.28	1.33
<i>Normalized</i>	1.00	0.26	0.90	0.97	0.00	0.85
Stream/River Crossings	1.00	1.00	0.00	0.00	1.00	1.00
<i>Normalized</i>	1.00	1.00	0.00	0.00	1.00	1.00
Wetland Areas (Acres)	0.00	0.00	0.00	0.00	0.00	0.00
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00	0.00
Floodplain Areas (Acres)	0.00	0.00	0.00	0.00	0.00	0.00
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00	0.00
Engineering						
Length (Miles)	0.85	0.80	1.42	1.16	1.06	0.83
<i>Normalized</i>	0.08	0.00	1.00	0.58	0.42	0.05
% Rebuild with Existing Utility*	0%	0%	0%	0%	0%	0%
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>Inverted</i>	0.00	0.00	0.00	0.00	0.00	0.00
% Co-location w/ Existing TTL or other major utilities*	0.00	0.00	0.00	0.00	0.00	0.00
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>Inverted</i>	0.00	0.00	0.00	0.00	0.00	0.00
Miles of Co-location with Roads*	0.68	0.40	0.00	0.31	0.96	0.50
<i>Normalized</i>	0.69	0.42	0.00	0.32	1.00	0.52
<i>Inverted</i>	0.00	0.00	1.00	0.68	0.00	0.48
Number of Parcels	5.00	6.00	4.00	6.00	5.00	6.00
<i>Normalized</i>	0.50	1.00	0.00	1.00	0.50	1.00
Total Project Costs	\$1,360,000	\$1,184,600	\$1,975,440	\$1,802,520	\$1,469,320	\$1,404,360
<i>Normalized</i>	0.22	0.00	1.00	0.78	0.36	0.28
SUM of UNWeighted Totals	4.23	4.59	3.99	4.96	3.09	4.27
RANK	3	5	2	6	1	4

Table 15: Raw Statistics and Normalized Statistics

The study used the above data and applied weighting of the importance of the impact factors as set forth by the Electric Power Research Institute (EPRI):³¹

³¹ Application, Exhibit 19 at 4.

Co-location / Engineering		Natural Environment		Built Environment			
Linear Infrastructure	86.2%	Floodplain	4.6%	Proximity to Buildings	15.8%	Proximity to Eligible Historic and Archeological Sites	31.0%
Parallel Existing Transmission Lines	1	Background	1	Background	1	Background	1
Rebuild Existing Transmission Lines (good)	2.2	100 Year Floodplain	5	900-1200'	3.4	900-1200'	4.6
Background	4.4	Streams/Wetlands	29.2%	600-900'	5.7	800-900'	7.9
Parallel Interstates ROW	4.7	Background	1	300-600'	8	0-300'	8.6
Parallel Roads ROW	5.4	Streams < 5cfs+ Regulatory Buffer	6.2	0-300'	9	300-600'	9
Parallel Pipelines	5.6	Rivers/Streams > 5cfs+ Regulatory Buffer	7.1	Building Density	3.4%	AVOIDANCE AREAS	
Future DOT Plans	5.6	Wetlands + 30' Buffer	6.7	0 - 0.05 Buildings/Acre	1	Listed Archeology Sites & Dist.	
Parallel Railway ROW	6.1	Outstanding State Resource Waters	6	0.05 - 0.2 Buildings/Acre	3	Listed NHP Districts and Buildings	
Road ROW	7.2	Public Lands	17.7%	0.2 - 1 Buildings/Acre	5.6	City and County Parks	
Rebuild Existing Transmission Lines (bad)	8.6	Background	1	1 - 4 Buildings/Acre	8.5	Day Care Parcels	
Scenic Highways ROW	9	WMA - Not State Owned	5.1	> 4 Buildings/Acre	9	Cemetery Parcels	
Slope	13.6%	USFS (proclamation area)	5.2	Proposed Development	3.9%	School Parcels	
Slope 0-15%	1	Other Conservation Land	7.8	Background	1	Church Parcels	
Slope 15-30%	4	USFS (actually owned)	9	Proposed Development	9		
Slope 30-40%	6.7	State Owned Conservation Land	9	Spannable Lakes and Ponds	4.0%		
Slope >40%	9	Land Cover	19.8%	Background	1		
AVOIDANCE AREAS		Developed Land	1	Spannable Lakes and Ponds	9		
Non-Spannable Waterbodies		Agriculture	4.6	Land Use	36.9%		
Mines and Quarries (Active)		Forests	5	Commercial/Industrial	1		
Buildings		Wildlife Habitat	28.7%	Agriculture (crops)	3.5		
Airports		Background	1	Agriculture (other livestock)	4.6		
Military Facilities		Species of Concern Habitat	9	Silviculture	6		
Center Pivot Irrigation		AVOIDANCE AREAS		Other (forest)	6.7		
		EPA Superfund Sites		Equine Agri - Tourism	5		
		State and National Parks		Residential	9		
		USFS Wilderness Area					
		Wild/Scenic Rivers					
		Wildlife Refuge					
		State Nature Preserves					
		Designated Critical Habitat					

Table 1: KY EPRI Full Weighted Model

The weighted scores for each route were calculated with scores as follows:³²

Overall Scores & Ranks of Each Route

	Rte 1	Rte 2	Rte 3	Rte 4	Rte 5	Rte 6
Built	0.265	0.743	0.238	0.278	0.131	0.207
Engineering	0.318	0.192	0.818	0.680	0.300	0.332
Natural	0.769	0.436	0.643	0.665	0.218	0.682
Simple	0.450	0.457	0.566	0.541	0.216	0.406
	Rte 1	Rte 2	Rte 3	Rte 4	Rte 5	Rte 6
Built	4	6	3	5	1	2
Engineering	3	1	6	5	2	4
Natural	6	2	3	4	1	5
Simple	3	4	6	5	1	2

Table 20: Overall Scores and Ranks of Routes

Route 5 had the lowest total score, indicating the least impact on surrounding areas. The study methodology permitted the inclusion of qualitative factors in the route-selection

³² Application, Exhibit 19 at 66.

process in addition to the quantitative scores; however, none of the routes contained any medium- or high-impact conditions that factored into route selection.³³ Estimated costs for each route alternative were provided.³⁴ The cheapest route based on estimated project cost was Route 2 at \$1,184,600; Route 5 had an estimated cost of \$1,469,320—24 percent more expensive than Route 2. Route 5’s weighted quantitative impact score was more than twice as favorable than Route 2’s score. EKPC selected Route 5.³⁵

The Marion County Industrial Tap study evaluated five possible routes.³⁶

³³ Application, Exhibit 19 at 68.

³⁴ Application, Exhibit 19 at 61, (Table 15 above).

³⁵ Application, Exhibit 19 at 69.

³⁶ Application, Exhibit 20 at 63.

DATA	Numbers Normalized				
FOR ALL ROUTES	1	2	3	4	5
Quality					
Feature	Unit	Unit	Unit	Unit	Unit
Relocated Residences (within 100' Corridor)	0.00	0.00	0.00	0.00	0.00
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00
Proximity to Residences (300')	2.00	3.00	4.00	3.00	2.00
<i>Normalized</i>	0.00	0.50	1.00	0.50	0.00
Proposed Developments	1.00	0.00	1.00	0.00	0.00
<i>Normalized</i>	1.00	0.00	1.00	0.00	0.00
Proximity to Commercial Buildings (300')	0.00	2.00	3.00	0.00	2.00
<i>Normalized</i>	0.00	0.67	1.00	0.00	0.67
Proximity to Industrial Buildings (300')	5.00	0.00	5.00	1.00	0.00
<i>Normalized</i>	1.00	0.00	1.00	0.20	0.00
School, Day Care, Church, Cemetery, Park/Parcels (A)	0.00	0.00	0.00	0.00	0.00
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00
NHP Listed/Engineer's Grade Districts (1500' from edges of ROW)	0.00	0.00	0.00	0.00	0.00
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00
Natural					
Natural Forests (Acres)	6.08	3.11	0.92	3.11	3.11
<i>Normalized</i>	1.00	0.42	0.00	0.42	0.42
Stream/River Crossings	5.00	3.00	2.00	3.00	3.00
<i>Normalized</i>	1.00	0.33	0.00	0.33	0.33
Wetland Areas (Acres)	0.00	0.00	0.00	0.00	0.00
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00
Floodplain Areas (Acres)	7.44	9.15	9.94	9.15	9.15
<i>Normalized</i>	0.00	0.68	1.00	0.68	0.68
Engineering					
Length (Miles)	2.18	2.50	2.20	2.22	2.30
<i>Normalized</i>	0.00	1.00	0.08	0.13	0.37
% Parallel with Existing Utilities*	0%	0%	0%	0%	0%
<i>Normalized</i>	0.00	0.00	0.00	0.00	0.00
<i>Inverted</i>	0.00	0.00	0.00	0.00	0.00
% Co-location w/ Existing T/L or other major utilities*	0.56	0.00	2.28	1.70	2.12
<i>Normalized</i>	0.25	0.00	1.00	0.75	0.93
<i>Inverted</i>	0.75	1.00	0.00	0.25	0.07
Miles of Co-location with Roads*	0.47	0.00	0.67	0.53	0.98
<i>Normalized</i>	0.49	0.00	0.70	0.55	1.00
<i>Inverted</i>	0.51	1.00	0.30	0.45	0.00
Number of Parcels	13.00	10.00	9.00	11.00	10.00
<i>Normalized</i>	1.00	0.25	0.00	0.50	0.25
Total Project Costs	\$3,340,560	\$3,654,400	\$3,011,200	\$3,395,840	\$3,384,000
<i>Normalized</i>	0.51	1.00	0.00	0.60	0.58
SUM of UNWeighted Totals	6.78	6.86	5.36	4.67	3.36
RANK	4	5	3	2	1

Table 15: Raw Statistics and Normalized Statistics

The study used the above data and applied weighting of the importance of the impact factors as set forth by the EPRI:³⁷

³⁷ Application, Exhibit 20 at 4.

Co-location / Engineering		Natural Environment		Built Environment			
Linear Infrastructure	86.2%	Floodplain	4.6%	Proximity to Buildings	16.8%	Proximity to Eligible Historic and Archeological Sites	31.0%
Parallel Existing Transmission Lines	1	Background	1	Background	1	Background	1
Rebuild Existing Transmission Lines (good)	2.2	100 Year Floodplain	3	900-1200'	3.4	900-1200'	4.6
Background	4.4	Streams/Wetlands	29.2%	600-900'	5.7	600-900'	7.9
Parallel Interstates ROW	4.7	Background	1	300-600'	8	0-300'	8.6
Parallel Roads ROW	5.4	Streams < 5cfs+ Regulatory Buffer	6.2	0-300'	9	300-600'	9
Parallel Pipelines	5.6	Rivers/Streams > 5cfs+ Regulatory Buffer	7.1	Building Density	8.4%	AVOIDANCE AREAS	
Future DOT Plans	5.6	Wetlands + 30' Buffer	8.7	0 - 0.05 Buildings/Acre	1	Listed Archaeology Sites & Dist	
Parallel Railway ROW	6.1	Outstanding State Resource Waters	8	0.05 - 0.2 Buildings/Acre	3	Listed NRHP Districts and Buildings	
Road ROW	7.2	Public Lands	17.2%	0.2 - 1 Buildings/Acre	5.6	City and County Parks	
Rebuild Existing Transmission Lines (bad)	8.6	Background	1	1 - 4 Buildings/Acre	8.5	Day Care Parcels	
Scenic Highways ROW	9	WMA - Not State Owned	5.1	> 4 Buildings/Acre	9	Cemetery Parcels	
Slope	13.8%	USFS (proclamation area)	6.2	Proposed Development	3.9%	School Parcels	
Slope 0-15%	1	Other Conservation Land	7.8	Background	1	Church Parcels	
Slope 15-30%	4	USFS (actually owned)	3	Proposed Development	9		
Slope 30-40%	6.7	State Owned Conservation Land	5	Spannable Lakes and Ponds	4.0%		
Slope >40%	9	Land Cover	19.8%	Background	1		
AVOIDANCE AREAS		Developed Land	1	Spannable Lakes and Ponds	9		
Non-Spannable Waterbodies		Agriculture	4.6	Land Use	36.9%		
Mines and Quarries (Active)		Forests	3	Commercial/Industrial	1		
Buildings		Wildlife Habitat	28.7%	Agriculture (crops)	3.5		
Airports		Background	1	Agriculture (other livestock)	4.6		
Military Facilities		Species of Concern Habitat	3	Silviculture	6		
Center Pivot Irrigation		AVOIDANCE AREAS		Other (forest)	6.7		
		EPA Superfund Sites		Equine Agr - Tourism	8		
		State and National Parks		Residential	9		
		USFS Wilderness Area					
		Wild/Scenic Rivers					
		Wildlife Refuges					
		State Nature Preserves					
		Designated Critical Habitat					

Table 1: KY EPRI Full Weighted Model

The weighted scores for each route were calculated with scores as follows:³⁸

Overall Scores & Ranks of Each Route

	Rte 1	Rte 2	Rte 3	Rte 4	Rte 5
Built	0.391	0.492	0.728	0.354	0.136
Engineering	0.669	0.836	0.148	0.343	0.197
Natural	0.807	0.500	0.183	0.397	0.338
Simple	0.622	0.609	0.353	0.364	0.223
	Rte 1	Rte 2	Rte 3	Rte 4	Rte 5
Built	3	4	5	2	1
Engineering	4	5	1	3	2
Natural	5	4	1	3	2
Simple	5	4	2	3	1

Table 20: Overall Scores and Ranks of Routes

Route 5 had the lowest total score, indicating the least impact on surrounding areas. None of the routes contained any medium- or high-impact conditions that factored into

³⁸ Application, Exhibit 20 at 68.

route selection.³⁹ Estimated costs for each route alternative were provided.⁴⁰ The cheapest route based on estimated project cost was Route 3 at \$3,011,200; Route 5 had an estimated cost of \$3,384,000—12.4 percent more expensive than Route 3. Route 5's weighted quantitative impact score was 58 percent more favorable than Route 3's score. EKPC selected Route 5.⁴¹

The estimated cost to construct the Metts Drive Substation is \$3,782,240.⁴² The estimated cost to construct the Metts Drive Tap is \$2,543,493.⁴³ The estimated cost to construct the Marion County Industrial Tap is \$4,188,733.⁴⁴ Annual operations and maintenance (O&M) expense is estimated to be \$121,552 for the Metts Drive Tap and Substation and \$243,763 for the Marion County Industrial Tap.⁴⁵ EKPC plans to initially finance the projects with general funds and later refinance through long-term debt issued by the Rural Utilities Service (RUS) or other lenders.⁴⁶

DISCUSSION AND FINDINGS

In light of the potential thermal overload of the connection to the Lebanon Substation, and the substation's age and condition, the Commission finds that EKPC has established the need to retire the Lebanon substation and replace it to reliably serve Inter-

³⁹ Application, Exhibit 20 at 70.

⁴⁰ Application, Exhibit 20 at 63, (Table 15 above).

⁴¹ Application, Exhibit 20 at 71.

⁴² Spencer Direct Testimony at 5.

⁴³ Spencer Direct Testimony at 6.

⁴⁴ Spencer Direct Testimony at 6.

⁴⁵ Application at 5.

⁴⁶ Spencer Direct Testimony at 7.

County Energy customers in a manner that prevents the residential power-quality issues caused by these customers being served by an industrial-purposed substation. EKPC has demonstrated that the proposed Metts Drive Substation and proposed transmission lines meet that need. Additionally, the Metts Drive Tap would be needed to connect the new substation to Inter-County Energy's system and the proposed Marion County Industrial Tap would mitigate the MW-mile exposure on the existing Marion Industrial Tap and allow for greater capacity based on expected load growth.

Regarding lack of wasteful duplication, the Commission must evaluate two issues. First, EKPC must meet the burden to establish that the proposed projects are the least-cost, reasonable alternative for meeting the need caused by the Inter-County Energy load shift. EKPC provided a detailed accounting of six different combinations of substation construction, transmission line construction, and upgrading of the Lebanon Substation, including cost metrics.⁴⁷ EKPC selected the most cost-effective alternative, exclusive of the savings it expects to realize by ending Lebanon Station transmission service payments to LG&E/KU and O&M expense, which would only increase with the age of Lebanon Station. EKPC's analyses of the alternative methods of fixing the Inter-County Energy load shifting problems do not indicate any benefits to selecting a more expensive option. The Commission finds that EKPC has met its burden with regards to lack of wasteful duplication in selecting the type of changes and upgrades to the transmission system to meet its need.

Second, the Commission must evaluate the route selection process that EKPC utilized. While the concept of the least-cost reasonable alternative provides a baseline,

⁴⁷ Application, Exhibit 23, Attachment DA-1 at 18–19.

hypothetical, optimal outcome with all else being equal, cost and feasibility are not the only factors. The Commission must include all factors, which in a transmission line CPCN case, includes the various impacts on surrounding areas. The Commission recently determined that although a 25 percent cost differential between a selected route and the least-cost feasible alternative was reasonable in light of the difference in local impact factors,⁴⁸ a 72 percent differential was not reasonable.⁴⁹ The cost differential alone is the determinative factor.

The Commission notes that it must balance costs against the level of impact on nearby residents, businesses, and natural features. Therefore, the Commission finds that, although EKPC noted no medium- or high-impact conditions, selecting routes that were 24 percent more expensive compared to the least-cost feasible alternative for the Metts Drive Tap and 12.5 percent more expensive for the Marion County Industrial Tap were reasonable based on the difference in impact on nearby residents, businesses, and natural features between the routes.

Metts Drive Tap Route 5 had a much better impact score than any of the other evaluated routes. Route 5 had the least proximity to wooded areas and avoided proximity to buildings better than all alternatives except Route 3, which was 34.4 percent more expensive than Route 5.⁵⁰ Route 2, the cheapest option, had the most proximity to

⁴⁸ Case No. 2019-00361, *The Electronic Application of Duke Energy Kentucky, Inc. for a Certificate of Public Convenience and Necessity to Construct A 138-kV Transmission Line and Associated Facilities in Boone County (Woodspoint to Aero Transmission Project)* (Ky. PSC Feb. 27, 2020), Order at 15

⁴⁹ Case No. 2023-00239, *Electronic Application of Duke Energy Kentucky, Inc. for a Certificate of Public Convenience and Necessity to Construct a 138-kV Transmission Line and Associated Facilities in Boone County (Hebron to Oakbrook Transmission Line Project)* (Ky. PSC Jan. 11, 2024), Order at 12. The CPCN was denied because of the cost differential and because the applicant had not met its burden to establish the cost of alternatives and the feasibility of all evaluated routes.

⁵⁰ Application, Exhibit 19 at 61.

buildings, and was the only route within 300 feet of residences. The Commission finds that EKPC's selection of Route 5 meets the burden for establishing lack of wasteful duplication for the Metts Drive Tap, considering Route 5 was the least impactful on the surrounding area without adding an unacceptable level of cost.

Marion County Industrial Tap Route 5 had a much better impact score than any of the other evaluated routes. Although Route 5 had more proximity to woodlands than Route 3, the cheapest route, Route 5 had significantly less proximity to buildings than Route 3, which had the most proximity to buildings, including residences.⁵¹ The Commission finds that EKPC's selection of Route 5 meets the burden for establishing lack of wasteful duplication for the Metts Drive Tap, as Route 5 was the least impactful on the surrounding area without adding an unacceptable level of cost.

IT IS THEREFORE ORDERED that:

1. EKPC's request for a CPCN for each of the proposed projects described in its application is granted.
2. EKPC shall immediately notify the Commission upon knowledge of any material changes to the project, including, but not limited to, a material increase in costs and any significant delays in construction.
3. Any material deviation from the construction approved by this Order shall be undertaken only with the prior approval of the Commission.
4. EKPC shall file with the Commission documentation of the total costs of each of the projects, including the cost of construction and all other capitalized costs, (e.g. engineering, legal, administrative, etc.) within 60 days of the date that construction

⁵¹ Application, Exhibit 20 at 63.

authorized under each CPCN is substantially completed. Construction costs shall be classified into appropriate plant accounts in accordance with the Uniform System of Accounts for sewer utilities as prescribed by the Commission.

5. EKPC shall file a copy of the “as-built” drawings for each project, if any, and a certified statement that the construction has been satisfactorily completed in accordance with the plans and specifications within 60 days of the substantial completion of the construction certificated herein.

6. Any documents filed in the future pursuant to ordering paragraph 2 through 5 shall reference this case number and shall be retained in the post-case correspondence file for this proceeding.

7. The Executive Director is delegated authority to grant reasonable extensions of time for filing any documents required by this Order upon EKPC’s showing of good cause for such extension.

8. This case is closed and is removed from the Commission's docket.

PUBLIC SERVICE COMMISSION



Chairman

Vice Chairman



Commissioner



ATTEST:



Executive Director

Case No. 2024-00108

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