

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER	)	
COOPERATIVE, INC. FOR A CERTIFICATE OF	)	
PUBLIC CONVENIENCE AND NECESSITY TO	)	CASE NO.
CONSTRUCT CERTAIN ELECTRIC TRANSMISSION	)	10368
AND DISTRIBUTION FACILITIES IN JOHNSON,	)	
FLOYD AND MAGOFFIN COUNTIES IN KENTUCKY	)	

O R D E R

BACKGROUND

On September 2, 1988, East Kentucky Power Cooperative, Inc. ("EKPC") filed an application for a certificate of convenience and necessity to construct three new substations, approximately 30.75 miles of 69 KV transmission lines and miscellaneous system improvements at a total estimated cost of \$5,759,400. EKPC has previously sought Commission approval to construct these proposed facilities. In Case No. 10062,<sup>1</sup> after conducting a lengthy investigation which included a public hearing, the Commission denied without prejudice EKPC's application.

No hearing was sought or held in this case. The Commission's decision is based solely upon EKPC's application, which

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<sup>1</sup> Case No. 10062, The Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity to Construct Certain Electric Transmission and Distribution Facilities in Johnson, Floyd and Magoffin Counties in Kentucky.

incorporates by reference the complete record of Case No. 10062, and the responses of EKPC and Kentucky Power Company ("KPC") to Commission informational requests. Although not a party to this case, KPC possessed information necessary for the adjudication of this case. At the Commission's request, KPC provided that information.

#### DISCUSSION

EKPC's proposed construction is designed to provide direct service to its Middle Creek, Jenny Wiley, and proposed Watergap Substations. It calls for approximately 30.75 miles of 69 KV transmission lines to be strung between its Thelma and Sublett Substations. The transmission line would be routed through the Middle Creek, Jenny Wiley and proposed Watergap Substations. Both the Jenny Wiley and Middle Creek Substations would be converted to 69 KV operations. Additionally, breaker stations would be constructed at the Thelma and Sublett Substations to permit the closed operation of the line. Also included in the plan is the construction of the Watergap Substation. EKPC estimates the total cost of this construction to be \$5,759,400. The annual costs of operation, maintenance and fixed charges of the proposed facilities is expected to be \$841,576.<sup>2</sup> The proposed construction will increase EKPC's annual cost of service by \$483,000.<sup>3</sup> EKPC

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<sup>2</sup> Application of EKPC, September 2, 1988, page 2.

<sup>3</sup> Case No. 10062, Transcript of Evidence, January 26, 1988, page 43.

proposes to use its general funds to provide interim financing for the proposed facilities, pending approval of permanent financing by the Rural Electrification Administration.

EKPC currently provides electric power to its Jenny Wiley and Middle Creek Substations through KPC's transmission system. Electric power is provided at a concurrent exchange rate of 1.5 mills/KWH under the terms of a 1963 interconnection agreement.

In February 1985, EKPC formally requested that KPC provide concurrent exchange service to its proposed Watergap Station. The Watergap Station was intended to alleviate existing load conditions on EKPC's Jenny Wiley and Middle Creek Substations. During the 2 years which followed EKPC's request for service, negotiations between EKPC and KPC apparently stalled over the concurrent exchange rate. KPC made concurrent exchange service to the proposed Watergap Station contingent upon EKPC's acceptance of a 3.75 mills/KWH exchange rate for all power wheeled between the two utilities.

Unwilling to accept a 3.75 mills/KWH exchange rate, EKPC applied to the Commission in August 1987 for approval to construct the facilities needed to provide direct service to the three substations to support its application for a certificate of convenience and necessity for the proposed facilities, EKPC relied heavily on a study prepared by its System Planning Department.<sup>4</sup>

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<sup>4</sup> "Study of Future Service to Middle Creek/Jenny Wiley Area," EKPC System Planning Department, April 1987. Exhibit III of EKPC Response to Commission Order of November 23, 1987, Case No. 10062.

The study considered two scenarios: 1) continued service through KPC at a 3.75 mills/KWH concurrent exchange rate; and 2) direct service through EKPC transmission lines. The study found that direct service to the Middle Creek, Jenny Wiley and proposed Watergap Substations was more advantageous than continued service through KPC facilities at the proposed 3.75 mills/KWH exchange rate. Noting that outages to the Jenny Wiley and Middle Creek Substations had been "relatively high in number and excessive in duration,"<sup>5</sup> the study concluded that the most significant benefit of direct service would be more reliable service to those served by these substations. The study also found that direct service to these substations would cost approximately \$1 million less in 1987 present worth dollars than continued service from KPC at the higher concurrent exchange rate.

This Commission was not persuaded by the EKPC study and denied EKPC's application. Our review of the outage records of the Middle Creek and Jenny Wiley substations failed to reveal any serious reliability problems. To the contrary, these records indicated that these substations were as reliable as other EKPC system substations.

Several of the assumptions made in the study's present worth analysis, furthermore, lacked adequate support and led the Commission to seriously question the reliability of the analysis' results. The study assumed an increase in the concurrent

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<sup>5</sup> Id. at page 2.

exchange rate from 1.5 mills/KWH to 3.75 mills/KWH. EKPC, however, was unable to produce any evidence to show that the Federal Energy Regulatory Commission ("FERC") had approved this increase or that KPC had applied for FERC approval of such a rate increase. The study assumed a 6 percent inflation rate to estimate cost increases within each alternative. Current price indexes, however, showed a significantly lower rate of inflation. The study also assumed a constant 6.3 percent annual growth rate for 30 years -- an event which seems very unlikely to occur. Finally, the study applied a 6.3 growth rate to the total exchange charge annually on a compound basis. By failing to apply the increases on a more realistic and historical step-wise basis, the results of the exchange charges' present worth calculations were biased upwards.

In renewing its application for a certificate of convenience and necessity, EKPC has, at the Commission's request, submitted a revised present worth analysis which addresses the concerns raised in the earlier case. The revised study continues to assume a 3.75 mills/KWH concurrent exchange rate but now uses a 4 percent inflation rate, a 3.2 percent growth rate and a 2 percent escalation in exchange costs occurring every 5 years. Based upon these assumptions, the revised study concludes that EKPC will spend approximately \$293,000 less in 1987 present worth dollars if it provides service directly to the three substations in question rather than through KPC facilities.<sup>6</sup>

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<sup>6</sup> EKPC's Response to Commission Order of October 21, 1988, page 8.

Due to the load conditions at EKPC's Middle Creek Substation, the Commission now accepts a concurrent exchange rate of 3.75 mills/KWH as reasonable for use in the present worth analysis. The three single-phase transformers at the Middle Creek Substation have a total self-cooled rating of 11,200 KVA. Fans were added to the transformers to increase their rating to 14,560 KVA. EKPC reports that these transformers reached an actual load of 15,456 KVA.<sup>7</sup> To temporarily relieve the overloading problem, an add-on oil cooler was installed to increase the transformer capacity to a maximum of 18,000 KVA. EKPC describes the installation of the oil cooler as "an emergency, extreme measure to prevent transformer damage."<sup>8</sup> It estimates that should any of the transformers be damaged from overloading, service to the substation would be affected for a minimum of 2 hours.

EKPC contends that the load conditions at the Middle Creek Substation places it in an untenable position. To alleviate these conditions, EKPC intends to construct the proposed Watergap Substation. Without authority to construct its own transmission lines to the proposed substation and given the urgency of the situation, EKPC would, it contends, be forced to accept KPC's demand for an increase in the concurrent exchange rate to 3.75 mills/KWH in return for service to the proposed station.

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<sup>7</sup> Prepared Testimony of David C. Hopper, page 3.

<sup>8</sup> Id., at page 4.

EKPC presently possesses little, if any, leverage to extract concessions from KPC in any negotiations. KPC, as confirmed in its response to a Commission informational request,<sup>9</sup> has conditioned service to the proposed Watergap Substation on EKPC's acceptance of a concurrent exchange rate of 3.75 mills/KWH. If the Middle Creek Substation's load continues to grow at its current annual rate of 8.5 percent, the Middle Creek Substation will soon be unable to meet its load demand. Time, therefore, is on KPC's side. As the conditions worsen, EKPC is left with no alternative but to accept KPC's offer.

When viewed in this context, the assumptions made in the revised present worth analysis appear to be reasonable and make its findings more reliable than those of other studies previously submitted by EKPC to the Commission.

#### Findings and Orders

This Commission, after consideration of the evidence of record and being sufficiently advised, is of the opinion and finds:

1. Construction of the proposed Watergap Substation is required to alleviate existing overload condition on EKPC's Middle Creek Substation.

2. Provision of direct service to the Middle Creek, Jenny Wiley, and the proposed Watergap Substations by EKPC will produce a savings of approximately \$293,000 in 1987 present worth dollars.

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<sup>9</sup> KPC Response to Commission Order of December 22, 1988, Item 2.

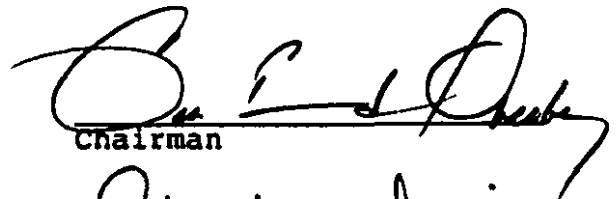
3. The proposed construction will not be a wasteful duplication of facilities.

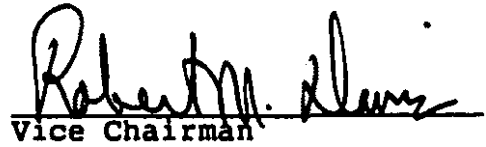
4. The public convenience and necessity require the construction set out in EKPC's application.

IT IS THEREFORE ORDERED that EKPC be and it hereby is granted a certificate of public convenience and necessity to proceed with the construction set forth in its application.

Done at Frankfort, Kentucky, this 13th day of March, 1989.

PUBLIC SERVICE COMMISSION

  
Chairman

  
Vice Chairman

  
Commissioner

ATTEST:

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Executive Director