

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF EAST KENTUCKY POWER)	
COOPERATIVE, INC. FOR A CERTIFICATE)	
OF PUBLIC CONVENIENCE AND NECESSITY,)	
AND A SITE COMPATIBILITY CERTIFICATE,)	CASE NO.
FOR THE CONSTRUCTION OF A 278 MW)	2005-00053
(NOMINAL) CIRCULATING FLUIDIZED BED)	
COAL FIRED UNIT AND FIVE 90 MW)	
(NOMINAL) COMBUSTION TURBINES IN)	
CLARK COUNTY, KENTUCKY)	

O R D E R

East Kentucky Power Cooperative, Inc. ("EKPC") filed an application on January 31, 2005 for a Certificate of Public Convenience and Necessity ("CPCN") under KRS 278.020(1), and a Certificate of Site Compatibility under KRS 278.216, to construct electric generating facilities at its J. K. Smith power station located in Clark County, Kentucky. The proposed facilities include a 278 MW circulating fluidized bed coal-fired unit ("Smith CFB") and five 90 MW combustion turbines ("Smith CTs 8-12"). The estimated installed costs are \$533 million for the Smith CFB and \$259.2 million for the Smith CTs 8-12. EKPC intends to finance the facilities through long-term indebtedness which will be subject to the supervision and control of the Rural Utilities Service ("RUS"), an agency of the federal government. This financing will be exempt from review by the Commission under KRS 278.300(10).

The Attorney General's Office ("AG") and Gallatin Steel Company, the largest retail customer of electricity supplied by EKPC, requested and were granted

intervention. Motions to intervene were also filed by EnviroPower, LLC, developer of a merchant power plant in Knott County, Kentucky, and by Siemens-Westinghouse Power Corporation, a manufacturer of combustion turbines. EnviroPower, LLC and Siemens-Westinghouse Power Corporation had submitted bids to supply EKPC's power supply needs, but neither bid was accepted by EKPC. Both requests to intervene were denied on the grounds that the movants did not consume power supplied by EKPC, had no interest in either the rates or service supplied by EKPC, and their only interests were as unsuccessful bidders in a private power supply solicitation. EKPC filed numerous responses to requests for information and a public hearing was held on November 29, 2005.

BACKGROUND

EKPC is a generating and transmission cooperative which is organized under KRS Chapter 279 and currently provides service to 16 electric distribution cooperatives in Kentucky. The proposed Smith CFB unit will provide base load capacity needed to meet the growing demand of EKPC's 16-member cooperatives. The proposed CTs will provide peaking capacity and will partially replace a purchase power contract, which expired in 2005, for peaking capacity of 150 MW in the winter and 75 MW in the summer. Two of the proposed CTs will provide the future peaking requirements, including reserves, for EKPC's newest distribution cooperative member, Warren Rural Electric Cooperative Corporation ("Warren RECC"). Although Warren RECC has historically received its power supply from the Tennessee Valley Authority, Warren RECC has terminated that supply agreement effective April 2008 and has entered into a membership agreement with EKPC.

NEED FOR ADDITIONAL GENERATION

EKPC had previously filed in April 2003 an Integrated Resource Plan (“IRP”) containing 20-year forecasts of electric loads and capacity needs.¹ That IRP was based on a strategy of having firm resources to meet its summer peak while maintaining a long-term reserve margin of 12 percent. To meet its systems’ winter peak, EKPC limits power purchases to the level it considers can be reliably imported, which is 300 MW to 400 MW. After reflecting the addition of the 268 MW at F.B. Gilbert Unit in April 2005, EKPC’s 2003 IRP projected a need for additional base load generation of approximately 270 MW by 2011 and additional peaking generation of approximately 500 MW in the 2004 through 2009 time period.

EKPC filed an IRP Update Report which reflects recent and significant changes to both its load and resources.² As a result of the addition of Warren RECC as a member, EKPC’s projected peak load in 2008 is approximately 433 MW higher in the winter and 400 MW higher in the summer. Allowing for a 15 percent reserve margin, EKPC determined that it needed an additional 270 MW of base load capacity and 200 MW of peaking capacity to serve Warren RECC. Revisions to the load forecast of EKPC’s current 16 members show a reduction of 100 MW in the summer peak, with a slight increase in the winter peak.

EKPC’s resources have also increased by the addition of two combustion turbines totaling 160 MW of peaking capacity at the Smith Station (“Smith CTs 6 and 7”)

¹ Case No. 2003-00051, The 2003 Integrated Resource Plan of East Kentucky Power Cooperative, Inc.

² Application Exhibit No. 3.

and the addition of the 278 MW circulating fluidized bed coal-fired unit at its Spurlock Generating Station in Maysville, Kentucky ("Spurlock 4"). The Spurlock 4 unit, which is projected to be online in late 2008, was added specifically to meet the base load power requirements of Warren RECC, which has agreed to pay the incremental costs of the generation and transmission needed to serve its load. After reflecting these capacity additions, which have been previously approved by the Commission, EKPC's load forecast shows a base load capacity deficiency of approximately 270 MW by 2011 and a peaking capacity deficiency of approximately 440 MW by 2007 through 2008. Further analysis by EKPC shows that as a result of recent record-high natural gas prices, advancing the online date of the needed base load capacity from 2011 to 2009 will reduce the net present value cost of that unit by over \$53 million.³ Based on a review of EKPC's IRP Update Report, the Commission finds that these load projections are reasonable and they demonstrate a need for approximately 270 MW of base load generation and 440 MW of peaking generation.

PROPOSED GENERATION PROJECT

EKPC issued RFP 2004-01 on April 2, 2004 to request proposals for base load and peaking capacity to meet the needs of current member systems and Warren RECC. EKPC hired EnerVision, Inc., an energy services consultant, to assist in the evaluation of proposals for base load and peaking capacity and to rank the proposals based on their economics. The RFP stated that the purpose of its issuance was to evaluate alternatives to EKPC's self-construct options. Over 30 power supply proposals were received and evaluated by EnerVision and EKPC. Fourteen bids for base load power

³ Application Exhibit 3 at 2-3.

and five bids for peaking power were analyzed in detail, including EKPC's self-construct bids. The remaining bids were eliminated because they did not comply with the RFP or they were too highly priced.

EKPC's self-construct bids included the Smith CFB and a similar coal-fired unit known as Spurlock 5 at EKPC's H. L. Spurlock Station in Maysville, Kentucky. EnerVision's analysis shows that the Smith CFB and Spurlock 5 base load generating units were the least cost options based on a 32-year net present value analysis. The difference in economics between these two alternatives is less than one percent. The Smith CFB was selected based on the need for, and cost of, transmission facilities at the two generating stations. Constructing Spurlock 5 will necessitate an additional \$41.4 million of transmission additions at the Spurlock Station, while constructing the Smith CFB will not necessitate any transmission additions other than those already underway to accommodate the additional CTs proposed in this case.

In response to EKPC's need for peaking capacity, EnerVision recommended the Siemens V84.3A gas turbines based on the results of EnerVision's economic analysis. However, EKPC did not accept that recommendation due to concerns regarding the past performance of the Siemens V84.3A turbines. Based on discussions with other utilities that currently own and operate these gas turbines, EKPC concluded that some utilities had experienced operational reliability problems. Consequently, EKPC selected the next lowest cost alternative, the GE LMS100s. EKPC indicated that the GE LMS100 units offer additional value to the EKPC system by virtue of their design, which makes them capable of running at higher capacity factors than traditional peaking gas turbines.

All parties to this case agree on EKPC's need for additional generating capacity. The AG and Gallatin Steel Company have not questioned EnerVision's results or analysis. EKPC and EnerVision developed evaluation criteria which were used to evaluate each bid that was in compliance with the RFP. The criteria were finalized prior to EnerVision's receipt of any of the bids. Summaries were developed to characterize each bid. After the initial review, EnerVision began its detailed economic analysis of the remaining bids at its office in Atlanta, and EKPC performed its analysis at its office in Winchester, Kentucky. The results of the analyses were not shared between EKPC and EnerVision until the end of the evaluation process.

At the November 29, 2005 hearing, EKPC indicated that construction of the transmission facilities needed to provide export capacity for the proposed CTs will not be completed until 2009. Therefore, EKPC will not be able to operate all the proposed CTs, which are scheduled for completion in 2008, simultaneously with the existing seven Smith CTs. EKPC's analysis filed after the hearing shows that delaying commercial operation of the proposed CTs until completion of the needed transmission facilities will result in approximately \$22.8 million in increased costs, consisting of \$11.9 million in higher power production and/or power purchase costs and \$10.9 million in additional costs due to construction schedule delay charges. EKPC indicates that, at a price of \$10 per MCF for natural gas (a price which has been experienced in recent months), operating the proposed CTs with their high efficiency levels will save about \$30 per MWh compared to the cost of operating EKPC's existing CTs, which are less efficient.

SITE ASSESSMENT REPORT

KRS 278.216 provides that no utility may begin the construction of a generating unit greater than 10 MW without first obtaining a Site Compatibility Certificate from the Commission. To obtain a Site Compatibility Certificate, a utility can prepare and submit a site assessment report, as prescribed in KRS 278.708(3) and (4), which describes in detail surrounding land uses, the location of existing facilities and infrastructure, anticipated noise levels, compatibility with scenic surroundings, potential changes in property values, and the impact on road and rail traffic. In lieu of submitting a site assessment report, KRS 278.216(2) provides that a utility may file, and the Commission may accept, documentation of compliance with the National Environmental Policy Act ("NEPA").

EKPC's application included copies of environmental assessment reports prepared for the Smith Site for submission to RUS to demonstrate compliance with NEPA. Those reports were filed here to support EKPC's request for a Certificate of Site Compatibility based on NEPA compliance in lieu of filing a site assessment report as described in KRS 278.216(2). The application stated that RUS approval under NEPA was anticipated.

EKPC subsequently indicated in response to a data request that, as of March 27, 2006, the NEPA review process was still ongoing and no definitive dates for completion of that process was given. The Commission then issued an Order on April 18, 2006 holding this case in abeyance until such time as EKPC would file documentation of compliance with NEPA or, alternatively, a site assessment report pursuant to KRS 278.216(2). EKPC then filed, on May 8, 2006, a site assessment report prepared

by its own employees. On June 26, 2006, EKPC notified the Commission that EKPC had commenced taking bids on major components of the equipment needed to construct the proposed generating facilities, that a number of those bids were about to expire, and that EKPC would incur significant and escalating cost increases if a CPCN was not issued by July 1, 2006. The Commission then held an informal conference on July 5, 2006 to discuss EKPC's site assessment report and its equipment bids.

EKPC agreed at the informal conference to submit a revised site assessment report prepared by an independent consultant, and that report was filed on July 25, 2006. EKPC subsequently filed on July 28, 2006 supplemental information relating to mitigation of increased traffic flows in the vicinity of the Smith site.

The Commission finds that the revised site assessment report satisfies the requirements of KRS 278.216(2) and is reasonable. The report shows that there will be no significant impact to the land surrounding the Smith site and that the proposed generating facilities will have no adverse impact on the area surrounding the site. To mitigate noise impacts from the proposed generating facilities, EKPC will install mufflers and silencers on the units. In addition, the work schedules for construction workers will be staggered to mitigate traffic congestion at the intersection of KY 89 and the site access road. The Commission concludes that the proposed facilities will have no adverse impact on the area surrounding the site.

SUMMARY OF FINDINGS

Based on the evidence of record and being otherwise sufficiently advised, the Commission finds:

1. EKPC needs additional base load and peaking generating capacity to meet the projected demands of its 16 existing distribution cooperative members and to serve the power requirements of Warren RECC beginning April 2008.

2. EKPC's analyses, which show that the proposed Smith CFB and the Smith CTs 8-12 are the best, least-cost options to meet its system's projected demands, are reasonable.

3. EKPC's revised site assessment report prepared by an independent consultant is reasonable and the mitigation measures discussed therein should be adopted by EKPC.

IT IS THEREFORE ORDERED that:

1. EKPC is granted a CPCN to construct the 278 MW Smith CFB generating unit and the five 90 MW Smith CTs 8-12 in Clark County, Kentucky.

2. EKPC is granted a Certificate of Site Compatibility to construct the 278 MW Smith CFB generating unit and the five 90 MW Smith CTs 8-12 in Clark County, Kentucky.

Done at Frankfort, Kentucky, this 29th day of August, 2006.

By the Commission

ATTEST:


Executive Director