

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ASSESSMENT OF KENTUCKY'S ELECTRIC) ADMINISTRATIVE
GENERATION, TRANSMISSION, AND) CASE NO.
DISTRIBUTION NEEDS) 2005-00090

O R D E R

Following the August 14, 2003 blackout that affected more than 50 million people in the northeastern and midwestern United States, the Public Service Commission undertook an assessment of the vulnerability of Kentucky's electric transmission grid to similar disturbances. To this end, the Commission established a utility task force to advise and assist the Commission.¹ The task force and assessment were initiated under Administrative Case No. 387, which the Commission had previously established to review and study issues relating to the need for new electric generation in the Commonwealth.

To perform the vulnerability assessment, the Commission contracted with an independent consultant, Commonwealth Associates, Inc. Using industry accepted methodology and in cooperation with the utility task force, the consultant analyzed the vulnerability of the Kentucky transmission system to a cascading event originating in or near Kentucky, which would result in a widespread electric power grid failure. The

¹ The members of the utility task force were the major owners and operators of transmission in Kentucky: Kentucky Power Company (AEP), Big Rivers Electric Corporation, The Union Light, Heat and Power Company (Cinergy), East Kentucky Power Cooperative, Louisville Gas and Electric Company, Kentucky Utilities Company, and the Tennessee Valley Authority.

analysis utilized mathematical models of the transmission system in and around Kentucky, which were subjected to multiple, hypothetical contingencies.²

On February 1, 2005, the consultant presented a final report to the Commission entitled “Assessment of Kentucky’s Transmission System Vulnerability to Electrical Disturbances,” (hereinafter “Vulnerability Assessment”).³ The central conclusion of the Vulnerability Assessment is that, under certain conditions, “the potential for widespread electric power grid failure from events originating in or near Kentucky cannot reasonably be precluded.”⁴ The authors temper this conclusion, however, by stating that further detailed analysis by the utilities or others may show that the possibility for widespread outages can be precluded.⁵

On February 7, 2005, Governor Ernie Fletcher issued Executive Order No. 2005-121 directing the Public Service Commission, in conjunction with the Commerce Cabinet and the Environmental and Public Protection Cabinet, to develop a Strategic Blueprint for Kentucky’s continued use and development of reliable electric energy and to protect Kentucky’s competitive, low-cost electric advantage. To carry out the Governor’s Order, on March 10, 2005, the Commission established the present case.

² For purposes of the study, the term “transmission system” included transmission lines with voltages above 35 kilovolts (kV) and facilities (lines, transformers, substations, and buses) with voltages of more than 100 kV. Models were based on system conditions as they were in the summer of 2004. A contingency in this study is an unplanned event occurring on the transmission system that causes the loss of a facility or facilities.

³ Miller, S.S.; Currie, F.M.; Conley, R.M.; Smith, R.S.; Wilkie, D.C., “Assessment of Kentucky’s Transmission System Vulnerability to Electrical Disturbances,” January 24, 2005.

⁴ Id. at 3.

⁵ Id.

The Governor's Executive Order instructed that the Strategic Blueprint, among other things, "analyze the projected needs for new electricity generation, transmission, and distribution in Kentucky going forward." The Vulnerability Assessment addresses matters directly related to the projected need for new electricity generation, transmission, and distribution in Kentucky. Therefore, the Commission finds that the Vulnerability Assessment should be incorporated into the record of this case. A copy of the Vulnerability Assessment may be viewed electronically on the Commission's Web site in the case file for this case. A paper copy of the report is available for public viewing at the Commission upon request.

Moreover, by this Order, the utilities that participated in the Vulnerability Assessment are directed to certify to the Commission that they have reviewed the final report and its findings and to maintain for Commission inspection all records of actions the utility has taken to address vulnerabilities identified in the course of performing the assessment.

IT IS THEREFORE ORDERED that:

1. The report entitled "An Assessment of Kentucky's Transmission System Vulnerability to Electrical Disturbances" is introduced into the record of this case.

2. The utilities that participated in the Vulnerability Assessment shall certify in writing that they have reviewed the aforementioned report and have taken appropriate action to address the vulnerabilities identified in the course of conducting the assessment.

3. The utilities that participated in the Vulnerability Assessment shall maintain at their offices for Commission inspection all records of actions taken to address vulnerabilities identified in the course of conducting the assessment.

Done at Frankfort, Kentucky, this 28th day of April, 2005.

By the Commission

ATTEST:



Executive Director