

**STATE OF MISSOURI  
PUBLIC SERVICE COMMISSION**

At a session of the Public Service  
Commission held at its office in  
Jefferson City on the 23<sup>rd</sup> day  
of April, 2008.

In the Matter of an Incident on May 9, 2007, at the )  
Iatan Generating Plant that Kansas City Power & )  
Light Company Operates. )

**Case No. ES-2007-0458**

**ORDER ACCEPTING STAFF'S FINAL REPORT AND DIRECTING KCPL  
TO COMPLY WITH STAFF'S RECOMMENDATIONS**

Issue Date: April 23, 2008

Effective Date: May 3, 2008

On May 9, 2007, a four-inch diameter high-pressure, high-temperature water pipe ruptured at the Iatan Generating Station operated by Kansas City Power & Light Company. When the pipe ruptured, the 345-degree water in the pipe, which was under 2,900 psig of pressure, flashed to steam. The steam explosion killed two KCPL workers in the area and critically injured a third. The Commission opened this incident investigation on May 31, 2007.

Staff did not conduct an independent investigation of the incident, but instead relied on an investigation conducted by a consulting firm hired by KCPL. The investigation report prepared and submitted by the consultant, Performance Improvement International, concluded that the root cause of the pipe rupture was a phenomenon known as flow accelerated corrosion, or FAC.

Staff's report indicates flow accelerated corrosion can occur under certain water chemistry conditions when water flowing at a high velocity continually removes the

protective oxide layer formed on the inside wall of steel pipe by the reaction of dissolved oxygen and the steel. Eventually, the wall thickness of the steel pipe is reduced, from the inside out, to a point where it fails due to its loss of strength.

Staff reports that, in response to the Performance Improvement International report, KCPL has initiated a flow accelerated corrosion program designed to mitigate the risk of future pipe failures due to this phenomenon. Staff believes KCPL's new FAC program is appropriate and should mitigate the risk of future pipe failures.

To ensure that KCPL follows and updates its flow accelerated corrosion program, Staff made the following recommendations:

1. That the Commission order KCPL to keep all of its records relating to KCPL's FAC program, including testing results, and make them available for Staff to review upon request by Staff made with reasonable notice.
2. That the Commission order KCPL to, by June 1 of each year, provide to the Energy Utility Manager of Staff an annual report that describes the effectiveness of the FAC program that was in effect for the preceding twelve months, including all testing results obtained during those preceding twelve months. This report shall identify any revisions or changes made to the FAC program during the preceding twelve months.
3. That the Commission order KCPL to file a response to Staff's final incident report and Staff's recommendations within thirty days of a Commission Order adopting Staff's recommendation.

On March 18, the Commission ordered KCPL to file its response to Staff's final report no later than April 16. KCPL responded on April 16.

In its response, KCPL generally accepted Staff's recommendations. However, KCPL suggested a modification of Staff's second recommendation to provide that the report KCPL is to file each year should be filed on April 1, to cover the events of the preceding calendar year. KCPL represents that Staff has agreed to this modification of its recommendation.

The Commission thanks Staff for its work and finds that Staff's recommendations, as modified, are reasonable. The Commission accepts Staff's final report and will order KCPL to comply with Staff's recommendations. The Commission is also concerned that the other electric utilities subject to regulation by this Commission take appropriate actions to mitigate the risk of pipe failures in their generation plants. For that reason, the Commission will direct its Staff to investigate the steps other electric utilities have taken to deal with flow accelerated corrosion and report its findings to the Commission.

**IT IS ORDERED THAT:**

1. Kansas City Power & Light Company shall keep all its records relating to its flow accelerated corrosion program, including testing results, and shall make them available for Staff to review upon Staff's request, made with reasonable notice.
2. Kansas City Power & Light Company shall by April 1 of each year, provide to the Energy Utility Regulatory Manager of Staff, an annual report that describes the effectiveness of the flow accelerated corrosion program that was in effect for the previous calendar year, including all testing results obtained during that year. This report shall also identify any revisions or changes made to the flow accelerated corrosion program during that year.
3. Staff shall investigate the steps other Missouri investor-owned electric utilities have taken to deal with flow accelerated corrosion and shall file a report in this case detailing its findings and recommendation no later than August 1, 2008.
4. This order shall become effective on May 3, 2008.

5. This case shall be closed on May 4, 2008.

**BY THE COMMISSION**

A handwritten signature in black ink, appearing to read 'Colleen M. Dale', written in a cursive style.

Colleen M. Dale  
Secretary

(S E A L)

Davis, Chm., Murray, Clayton, Jarrett,  
and Gunn, CC., concur.

Woodruff, Deputy Chief Regulatory Law Judge