BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of an Incident on May 9, 2007 at the Iatan generating plant Kansas City Power & Light Company operates.	)))	Case No. ES-2007-0458

STAFF'S INTERIM INCIDENT REPORT

COMES NOW the Staff of the Missouri Public Service Commission (Staff) and, in response to the Missouri Public Service Commission's May 31, 2007, *Order Granting Request to Establish Case*, states:

1. In its *Order Granting Request to Establish Case*, the Missouri Public Service Commission (Commission) ordered, "The Commission's Staff shall file either its final incident report or an interim incident report no later than September 6, 2007."

2. Attached is the Staff's interim incident report on the May 9, 2007, superheater attemperator spray water pipe failure at the Iatan Generating Station which Kansas City Power & Light (KCPL) operates near Weston, Missouri, that caused the deaths of two KCPL employees and critically injured another.

3. As related in the interim report, during its preliminary investigation KCPL found that the failed pipe section had a wall thickness of only 1/8 inch rather than 1/2 inch and that flow accelerated corrosion (FAC) may have contributed to the erosion of the pipe wall and, ultimately, the failure of the pipe. In response to its preliminary investigation findings, among other things, KCPL inspected other piping in Iatan Unit 1 for signs of FAC, inspected its LaCygne Unit 2 superheater attemperator water spray piping, changed the pH of its boiler water,

stopped using an oxygen scavenger chemical, and replaced the failed pipe section with higher chrome content pipe.

4. The Staff is not performing an independent engineering investigation of the incident. The Staff is reviewing the investigations of KCPL and the Occupational Safety & Health Administration (OSHA). As part of its investigation KCPL hired Dr Chiu of Performance Improvement International to determine the root cause of the pipe failure. His final report is not expected to be available until October 9, 2007. Because the KCPL and OSHA investigations still underway, the Staff's report is interim and based on information known to the Staff as of August 31, 2007.

5. The Staff will file a final report shortly after KCPL and OSHA complete their investigations. The Staff anticipates those investigations may be completed by October 31, 2007.

WHEREFORE the Staff submits the attached interim report on the Staff's investigation of the May 9, 2007 incident at Unit 1 of the Iatan generating plant Kansas City Power & Light Company operates near Weston, Missouri.

Respectfully submitted,

/s/ Nathan Williams
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Certificate of Service

I hereby certify that copies of the foregoing have been mailed, hand-delivered, transmitted by facsimile or electronically mailed to all counsel of record this 6th day of September, 2007.

/s/ Nathan Williams

MISSOURI PUBLIC SERVICE COMMISSION

Interim Report

Kansas City Power and Light
Case No. ES-2007-0458

Superheater Attemperator Spray Water Pipe Failure
Iatan Plant
Weston, Missouri
May 9, 2007

Prepared by the Staff of the
Missouri Public Service Commission
September 6, 2007

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Summary

This interim incident report contains the facts of the pipe failure on Iatan Unit 1, and is filed as per Staff's motion to open this case. On May 9, 2007, a 4" diameter high pressure superheater attemperator water spray line failed at the Iatan Generating Station which Kansas City Power & Light (KCPL) operates near Weston, Missouri. The failure allowed the high pressure, high temperature water to flash to steam and resulted in the death of two KCPL employees. In addition, one employee sustained critical injuries. Four other employees who were nearby received no physical injuries. KCPL replaced the pipe, inspected other areas of potential concern based on its preliminary investigation and then returned Iatan Unit 1 to service on May 27,2007.

This interim report by the Staff of the Missouri Public Service Commission (Staff) is based on information as of August 31, 2007, and contains no conclusions or recommendations because the investigations of KCPL, and the Occupational Safety & Health Administration (OSHA) are ongoing. Staff is continuing to monitor their investigations and will file a final report with the Missouri Public Service Commission (Commission) when all investigations into the cause of the failure are completed and available to Staff for review. Currently Staff's report is based on its review of the ongoing investigations of KCPL and OSHA. KCPL has informed Staff that KCPL's insurance company is not conducting an independent study of the incident. If Staff learns of other investigations or sources of information regarding the incident, Staff will review them and may rely on them in its report as well. Staff is not performing an independent investigation.

KCPL's preliminary investigation revealed that the wall thickness of the pipe section that failed was 1/8" rather than the 1/2" it should have been and that flow accelerated corrosion (FAC) in the pipe may have contributed to the failure of the pipe.

Damage Area

At approximately 11:45 am on May 9, 2007, a 4" diameter high pressure superheater attemperator spray water pipe ruptured near the area of the Iatan 1 coal feeders. A section of the 4" diameter pipe approximately 9 inches in length blew out. See Photographs 1, 2 and 3. The water in the pipe was at 345 degrees Fahrenheit and under 2,900 psig of pressure. When the pipe ruptured the water was exposed to atmospheric pressure causing it to flash to steam.

Damage to the infrastructure of Iatan 1 plant included the rupture of the water piping, the movement of piping supports and pipe, and damage to various sections of piping insulation and wall siding.

Personnel Injuries

When the pipe ruptured, there were seven (7) KCPL employees nearby. Several of the employees were at Coal Feeder F working to clear coal that was plugging the feeder. Three employees were waiting in the in the area of the 4" diameter superheater attemperator spray water pipe to clean up the area after the feeder work was completed. One employee died on site of multiple blunt force injuries, one employee died the next

day at the hospital from complications from thermal burns. A third employee was in critical condition when he arrived at the hospital and is currently receiving continuing medical treatment. Four other employees were taken to a hospital to be checked out but none sustained physical injuries.

Interim Status

KCPL's preliminary investigation into the incident indicates that flow accelerated corrosion (FAC) may have contributed to the failure of the pipe. FAC is a phenomenon caused when under certain water chemistry conditions, water at a high flow velocity removes and continually removes the protective oxide layer formed on the inside wall by dissolved oxygen and the steel. Eventually the wall thickness of the steel is reduced to a point where it fails due to its loss of strength. The wall thickness of the failed pipe section was found to be 1/8 inch instead of the 1/2 inch it should have been.

KCPL has hired Dr Chiu of Performance Improvement International to conduct an investigation to determine the root cause of the failure, which may be something in addition to FAC. Dr. Chiu has not completed his investigation. KCPL has indicated that it expects Dr Chiu's final report will be available by October 9, 2007.

OSHA is currently conducting its investigation (Inspection 310932322), and KCPL believes that its report may be completed by November 9, 2007. KCPL is providing Staff with copies of the information KCPL is providing to OSHA.

KCPL Response

The failed superheater attemperator piping, as well as piping in five other locations, has been repaired or replaced. KCPL replaced the superheater attemperator piping with steel pipe having a higher chrome content. KCPL returned Iatan Unit 1 to service on May 27, 2007.

Based on the preliminary indication of possible FAC in the failed pipe, KCPL began investigating other pipe in the plant to determine if there were signs of FAC in them. Because KCPL's LaCygne Unit 2 is similar in design to the Iatan Unit 1, KCPL inspected the superheater attemperator water spray piping on the La Cygne unit shortly after the incident at Iatan Unit 1. KCPL found no evidence of FAC in that pipe.

KCPL also has contracted with two testing firms to test certain additional areas of piping at Iatan Unit 1, as well as the piping at other KCPL plants. KCPL has purchased software to use in determining where FAC might occur and will add those areas to its current pipe testing program schedule. In addition, KCPL has hired a consultant to assist in developing a formal program for identifying FAC at its plants.

KCPL also has reviewed the chemistry and treatment of the boiler water. KCPL has made adjustments to the pH of the boiler water and has stopped using an oxygen scavenger chemical. KCPL made these changes based on recommendations by Electric Power Research Institute (EPRI).

Staff Investigation

Staff visited the Iatan Plant site on May 11, 2007, and visually inspected the area where the pipe ruptured. Staff has participated in conference calls with KCPL personnel on May 30, 2007, and July 27, 2007. Staff has started a review of the documents KCPL provided to OSHA. Staff is awaiting the final reports from OSHA, and KCPL's consultants before completing its final report.

Conclusion

Because Staff's investigation is incomplete, the Staff presents no conclusions or recommendations to the Commission at this time.

PHOTOGRAPHS

PHOTOGRAPH # 1
LOCATION OF PIPE RUPTURE

PHOTOGRAPH # 2
VIEW OF DAMAGED PIPE WITH COAL FEEDERS IN BACKGROUND

PHOTOGRAPH #3
SECTION OF RUPTURED PIPE