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February 26, 2001

Dale Hardy Roberts
Secretary/Chief Regulatory Law Judge
Missouri Public Service Commission
200 Madison Street, Suite 100
P.O. Box 360
Jefferson City, Missouri 65102

FILED[2]
FEB 26 2001
Missouri Public Service Commission

RE: *Kansas City Power & Light Company*
Case No. ES-99-581

Dear Mr. Roberts:

Enclosed for filing in the above-referenced matter are the original and eight (8) copies of the **HIGHLY CONFIDENTIAL** Response of Kansas City Power & Light Company, which are being filed under seal. One (1) original of the **NON-PROPRIETARY** Response of Kansas City Power & Light Company is being filed, simultaneously. Copies of the foregoing Highly Confidential and public version of the Response has been hand-delivered or mailed this date to each party of record.

If you have any questions regarding this filing, please do not hesitate to contact the undersigned counsel.

Thank you for your attention to this matter.

Sincerely,

James M. Fischer

James M. Fischer

/jr
Enclosures
cc: Office of the Public Counsel
Dana K. Joyce, General Counsel

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Missouri Public Service Commission

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of Kansas City Power & Light Company Regarding an Incident at the Hawthorn Station, Kansas City, Missouri, on February 17, 1999	)))))	Case No. ES-99-581

RESPONSE OF KANSAS CITY POWER & LIGHT COMPANY

COMES NOW Kansas City Power & Light Company ("KCPL") in response to the Order Directing Response issued by the Public Service Commission of the State of Missouri ("Commission") dated February 1, 2001. In support of its response, KCPL states the following:

Introduction

On January 25, 2001, the Commission's staff ("Staff") filed its Motion to File Staff Final Electric Report with the Commission. Staff attached a copy of its Final Electric Report to said motion ("Staff Report"). The Staff Report included a copy of KCPL's Investigation Report as an exhibit ("KCPL Report"). As revealed by the investigation reports prepared by KCPL and Staff, reconstructing and identifying the events that ultimately resulted in the explosion at the Hawthorn plant was a complex task. In the main, KCPL concurs with the Staff's recitation of the events culminating in the explosion at the Hawthorn plant. KCPL, however, has identified several statements in the Staff Report that needs further discussion to increase the overall accuracy of the report.

On February 22, 2001, KCPL and Staff discussed KCPL's concerns, and plan to have additional discussions. Based on the February 22nd discussion, KCPL believes that Staff and KCPL will be able to resolve the issues discussed in this filing.

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KCPL's Areas of Concern

Page 1, Paragraph 2:

The Staff Report states that "[a]t 3:00 p.m., on February 16, 1999, the toilets in the restrooms located in the Control Room for Hawthorn Unit #5 overflowed into the Control Room area."[1]

KCPL Response:

This language suggests that the toilets started to **overflow at approximately 3:00 P.M. The facts contained in the KCPL Report establish that the toilets stopped flowing at 3:00 P.M. KCPL is able to identify three sources to support the earlier time for the event. One is taken from the alarm printers, which generated alarms from the introduction of water during the period of 2:30 - 3:00 P.M. The second reference source is the shift foreman who contacted personnel at 2:45 P.M. and advised them "dirty water" was backing up from the Unit #5 Control Room restrooms. Sewage was also observed flowing out of a clean out plug on the first floor, near the Computer Room at 2:45 p.m.** See KCPL Report, Appendix 1; see also KCPL Report, p. 5, § 3.5.

Page 1, Paragraph 3:

The Staff Report states that **"In addition, switching the cards without reconfiguring sent a signal to the main gas trip valve to open."**

KCPL Response:

**KCPL wishes to point out that the main gas trip valve was only partially open when recovered and believes it is more accurate to insert "partially" in front of the word "open." It is also noted that the description "open" verses "partially open" is used on

[1] ** ** denotes Highly Confidential information.

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page 2, paragraph 1 and page 21, paragraph 1 in the Staff Report. The recovered gas valves actually depict a range of positions from fully closed to fully open. KCPL believes some readers may conclude that the various gas valves were found in a completely open condition.**

Page 8, at 2/16/99 15:22:

The Staff Report states that **a master fuel trip (MFT) manual reset clears alarms.**

KCPL Response:

The purpose of a MFT reset is not to clear alarms. It is actually a part of the recommended troubleshooting activity that enables the personnel to identify the valid or remaining problems to be addressed within the system. A more accurate description of the manual reset is that it clears faults since alarms may still be present after a manual reset is initiated. This reference to alarms instead of faults is also made in the Staff Report on page 13, paragraph 3.

Pages 10 - 11:

At several points the Staff Report **describes input/output cards "being removed from the racks." These removals were part of a structured, troubleshooting effort, which methodically and sequentially removed cards from the racks, in a consecutive pattern, causing the racks to receive power in short duration, or bursts, followed by removal of power for each card. Staff does describe this troubleshooting process more accurately and in more detail at one point in its report (page 11, at 22:08) with reference to rack #2. But in other points in the timeline, Staff uses the shorthand of "cards pulled" to described the process. (See Staff Report, p. 10 at 15:30-1600 and 21:00-21:25)**

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Pages14-15. Timeline:

KCPL suspects that in this portion of the Staff Report, Staff simplified or abbreviated its description of the events. The Staff's timeline states **main gas trip valve opened, corner burner gas valve opened and ignitors are energized."** KCPL believes the abbreviated descriptions increase the likelihood that a reader will misinterpret some of the events leading up to the explosion.

KCPL Response:

KCPL believes incorporating more detailed information would better describe what actually occurred. KCPL believes the following language is a better description of what took place:

> **Main gas trip valve partially opened (<50%), corner burner gas valve traveled toward an open position, and two (2) of twelve (12) ignitors were energized.**

The statement made in connection with 22:08 of the timeline contains a typographical error. The Staff Report states: "A corner burner gas valve opened and one (1) of three (3) gas vent valves **opened (emphasis supplied)." See Staff Report, p. 15. This sentence should read: "A corner burner gas valve opened and one (1) of three (3) gas vent valves **closed** (emphasis supplied)." In addition, 22:08 of the timeline states that the "[i]gnitors are energized and de-energized" and while this is true, this language does not provide a full picture of what actually happens when a rack was powered up or down. The actual equipment involved when a rack is powered up or down includes two ignitors and one (1) corner burner gas valve. Each of these components received a signal whenever a rack is powered up or down. Accordingly,

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KCPL believes that a discussion of the troubleshooting process used by KCPL to test the rack necessarily requires a discussion of all of the relevant components.**

Page 19, Paragraph 3:

Staff's report again states **the BMS reset button was manually pushed to remove alarms rather than faults.**

KCPL Response

See second KCPL Response on p. 3.

STAFF'S RECOMMENDATIONS

The Staff Report contains seven (7) recommendations. KCPL has several concerns regarding some of Staff's recommendations. **The Staff Report does not define several key terms. Consequently, KCPL cannot determine the scope of Staff's recommendations. For example, Staff's first recommendation would require KCPL to test the fuel trip logic on all non-nuclear units to determine whether a failure of one device of the control system could put the unit in a hazardous condition. The number of units that KCPL will have to test will depend on the definition of "unit." The scope of the test expands if Staff defines "unit" so that it includes auxiliary boilers and diesel generators, and contracts if they are excluded from the definition. KCPL believes that auxiliary boilers and diesel generators were not intended to be included in the Staff's recommendation.

In addition, the Staff Report does not define or provide any guidance on what constitutes a "hazardous condition." To avoid the application of a subjective interpretation of what constitutes a "hazardous condition," KCPL believes that it should be required to meet the boiler code section of the National Fire Protection Associated Code applicable when the unit went into service. It is important that KCPL apply the standard for what

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constitutes a hazardous condition that existed at the time of the construction of the unit rather than a subjective interpretation of what could conceivably be defined as a "hazardous condition."

The recommendations contained in the Staff Report would require KCPL to file written reports regarding the following issues:

1. the fuel trip control logic of the Burner Management System ("BMS") for each unit;
2. modifications, if any, to each unit's fuel trip control logic of the BMS, and
3. modifications, if any, to KCPL's operating procedures as they relate to ensuring a safe trip condition.

As written, it is not clear whether these reporting requirements would require a one-time filing or whether these requirements would be on going. The current facts do not support a continuing obligation. Unless future developments support a different approach, KCPL believes that its obligation to file these reports should end after the initial filings.**

If adopted, the Staff Report's sixth recommendation will require KCPL to file the reports required by the recommendations with the Commission within six (6) months. This is not feasible. **KCPL does not have the expertise and intends to hire an outside consultant, qualified in the NFPA Code, to test the fuel trip control logic of the BMS. KCPL estimates that the consultant will need three (3) weeks to test the fuel trip control logic of the BMS of each unit, and an additional week to finalize each unit's written report. If the Commission narrows the definition of the word "unit," KCPL believes it may have as many as nineteen (19) units that it would have to test.[2] At nineteen (19) units, times four (4) weeks, the testing of each unit's fuel trip control logic of the BMS would require

[2] A narrow definition of "unit" would exclude auxiliary boilers and diesel generators.

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seventy-six (76) weeks to perform. It is clear that Staff did not intend that KCPL be required to shut down its power plants to perform the tests recommended in the Staff Report. KCPL will perform these reviews and tests of the units while scheduled outages are being performed. This will result is negligible purchased power costs and have no impact on unit availability.

While a forced outage of a unit could conceivably allow for testing to be conducted at a faster pace, KCPL hopes that the Commission would be willing to accept a plan to test these units within a Planned Outage Program. In furtherance of this goal, KCPL has produced a testing schedule that would not require additional unit outages for the purpose of conducting Staff's recommended review and testing. Copies of the testing schedules are attached hereto as Exhibits "A" and "B." Rather than file multiple reports concerning each unit's fuel trip control logic, KCPL suggests that it be permitted to submit each report as completed to Staff, who would then compile a single report after all of the individual unit reports were submitted to it. Finally, Staff would file a compilation of KCPL's reports with the Commission.**

The fifth recommendation appears to require operating procedure reviews that would necessarily encompass a review of all technician troubleshooting guides used at the plants. The third recommendation of the Staff Report would require KCPL to **"review the operating procedures of its non-nuclear units to determine if procedures need to be modified to ensure a [safe] trip condition of those units." KCPL does not have written operating procedures for every conceivable event. KCPL's training has gone to simulation training. Consequently, KCPL does not have a need to create an operating procedure for each operating condition. Moreover, if KCPL created a written operating

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procedure for each operating condition, it would be so voluminous that it would be unusable by the operating personnel.**

In addition, the fifth recommendation would require KCPL **to "revise procedures or install equipment at all non-nuclear plants to manually isolate any fuel from the boiler while any work is being performed on the burner management system, and/or fuel trip relays." As drafted, this recommendation is too broad. In fact, there are certain tests that cannot be performed unless the boiler is in operation. KCPL suggests that this recommendation be revised so that KCPL must manually isolate any fuel from the boiler while the plant is off line and work is being performed on the burner management system and/or fuel trip control logic relays.** This recommendation would address Staff's safety concerns.

WHEREFORE, for the foregoing reasons, KCPL respectfully requests that the Commission accept KCPL's Response to Staff's Electric Incident Report.

Respectfully submitted,

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ATTORNEYS FOR KANSAS CITY
POWER & LIGHT COMPANY

CERTIFICATE OF SERVICE

I do hereby certify that a true and correct copy of the foregoing Response has been hand delivered or mailed via U.S. Mail, postage prepaid, this 26th day of February 2001, to:

Dana Joyce, General Counsel
Missouri Public Service Commission
P.O. Box 360
Jefferson City, Missouri 65102

Martha Hogerty, Public Counsel
Office of the Public Counsel
P.O. Box 7800
Jefferson City, Missouri 65102

James M. Fischer

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EXHIBIT A

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EXHIBIT B

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