

APPROVED OMB NO. 3150-0104  
EXPIRES: 8/31/85

|   |           |           |  |                        |                    |  |                  |           |                 |                               |                     |                                     |                           |                               |  |     |  |      |  |
|---|-----------|-----------|--|------------------------|--------------------|--|------------------|-----------|-----------------|-------------------------------|---------------------|-------------------------------------|---------------------------|-------------------------------|--|-----|--|------|--|
| FACILITY NAME (1)<br>Wolf Creek Generating Station  |           |           |  |                        |                    | DOCKET NUMBER (2)<br>0   5   0   0   0   4   8   2 |                  |           |                 |                               |                     |                                     |                           | PAGE (3)<br>1 OF 0   4        |  |     |  |      |  |
| TITLE (4)<br>Technical Specification Violation - Ruskin Fire Dampers                              |           |           |  |                        |                    |  |                  |           |                 |                               |                     |                                     |                           |                               |  |     |  |      |  |
| EVENT DATE (5)  |           |           | LER NUMBER (6)   |                        |                    |  | REPORT DATE (7)  |           |                 | OTHER FACILITIES INVOLVED (8) |                     |                                     |                           |                               |  |     |  |      |  |
| MONTH   | DAY       | YEAR      | YEAR   | SEQUENTIAL<br>NUMBER   | REVISION<br>NUMBER | MONTH  | DAY              | YEAR      | FACILITY NAMES  |                               |                     |                                     | DOCKET NUMBER(S)          |                               |  |     |  |      |  |
|   |           |           |  |                        |                    |  |                  |           |                 |                               |                     |                                     | 0   5   0   0   0   :   : |                               |  |     |  |      |  |
| 0   3   1   | 1   8   5 | 8   5     | -  | 0   1   7              | -                  | 0   0  | 0   5   2        | 4   8   5 |                 |                               |                     |                                     | 0   5   0   0   0   :   : |                               |  |     |  |      |  |
| OPERATING<br>MODE (9)   |           |           | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11) |                        |                    |  |                  |           |                 |                               |                     |                                     |                           |                               |  |     |  |      |  |
| POWER<br>LEVEL<br>(10)  |           |           | 20.402(b)  |                        |                    |  | 20.406(e)        |           |                 |                               | 60.73(a)(2)(iv)     |                                     |                           |                               | 73.71(b)   |     |  |      |  |
| 0   0   0   0   |           |           | 20.406(a)(1)(i)  |                        |                    |  | 60.36(c)(1)      |           |                 |                               | 60.73(a)(2)(v)      |                                     |                           |                               | 73.71(c)   |     |  |      |  |
|   |           |           | 20.406(a)(1)(ii)   |                        |                    |  | 60.36(c)(2)      |           |                 |                               | 60.73(a)(2)(vi)     |                                     |                           |                               | OTHER (Specify in Abstract<br>below and in Text, NRC Form<br>365A) |     |  |      |  |
|   |           |           | 20.406(a)(1)(iii)  |                        |                    |  | X 60.73(a)(2)(i) |           |                 |                               | 60.73(a)(2)(vii)(A) |                                     |                           |                               |  |     |  |      |  |
|   |           |           | 20.406(a)(1)(iv)   |                        |                    |  | 60.73(a)(2)(ii)  |           |                 |                               | 60.73(a)(2)(vii)(B) |                                     |                           |                               |  |     |  |      |  |
|   |           |           | 20.406(a)(1)(v)  |                        |                    |  | 60.73(a)(2)(iii) |           |                 |                               | 60.73(a)(2)(ix)     |                                     |                           |                               |  |     |  |      |  |
| LICENSEE CONTACT FOR THIS LER (12)  |           |           |  |                        |                    |  |                  |           |                 |                               |                     |                                     |                           |                               |  |     |  |      |  |
| NAME<br>Merlin G. Williams - Superintendent of Regulatory, Quality<br>and Administrative Services |           |           |  |                        |                    |  |                  |           |                 |                               |                     | TELEPHONE NUMBER                    |                           |                               |  |     |  |      |  |
|   |           |           |  |                        |                    |  |                  |           |                 |                               |                     | AREA CODE                           |                           |                               |  |     |  |      |  |
|   |           |           |  |                        |                    |  |                  |           |                 |                               |                     | 3   1   6                           |                           | 3   6   4   -   8   8   3   1 |  |     |  |      |  |
| COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)                        |           |           |  |                        |                    |  |                  |           |                 |                               |                     |                                     |                           |                               |  |     |  |      |  |
| CAUSE   | SYSTEM    | COMPONENT | MANUF-<br>TURER  | REPORTABLE<br>TO NPRDS |                    | CAUSE  | SYSTEM           | COMPONENT | MANUF-<br>TURER | REPORTABLE<br>TO NPRDS        |                     |                                     |                           |                               |  |     |  |      |  |
|   |           |           |  |                        |                    |  |                  |           |                 |                               |                     |                                     |                           |                               |  |     |  |      |  |
|   |           |           |  |                        |                    |  |                  |           |                 |                               |                     |                                     |                           |                               |  |     |  |      |  |
|   |           |           |  |                        |                    |  |                  |           |                 |                               |                     |                                     |                           |                               |  |     |  |      |  |
| SUPPLEMENTAL REPORT EXPECTED (14)   |           |           |  |                        |                    |  |                  |           |                 |                               |                     | EXPECTED<br>SUBMISSION<br>DATE (15) |                           | MONTH                         |  | DAY |  | YEAR |  |
| <input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)                          |           |           |  |                        |                    |  |                  |           |                 |                               |                     |                                     |                           |                               |  |     |  |      |  |
| <input checked="" type="checkbox"/> NO  |           |           |  |                        |                    |  |                  |           |                 |                               |                     |                                     |                           |                               |  |     |  |      |  |

On April 24, 1985, it was determined that observed conditions on some fire dampers supplied by Ruskin Manufacturing Company were not in accordance with the as-designed conditions and that the fire rating of these dampers was potentially degraded from the original 3 hour fire rating approved by Underwriters Laboratories. These conditions had existed since installation of the fire dampers and are a violation of Technical Specification 3.7.11 "Fire Barrier Penetrations". The violation is considered to have existed from the date of license issue (March 11, 1985) until fire watches were established for all affected fire dampers on April 24, 1985. Prior to April 24, precautionary fire watches had been established when individual damper conditions indicated the possibility of a degraded fire rating.

This event posed no threat to the public health and safety.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

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| FACILITY NAME (1)             | DOCKET NUMBER (2) | LER NUMBER (6) |                   |                 | PAGE (3) |   |       |
|                               |                   | YEAR           | SEQUENTIAL NUMBER | REVISION NUMBER |          |   |       |
| Wolf Creek Generating Station | 0500048285        | 01             | 7                 | 0               | 0        | 2 | OF 04 |

TEXT (If more space is required, use additional NRC Form 365A's) (17)

In late 1984, Kansas Gas and Electric (KG&E) was notified of a 10 CFR 21 report filed by Ruskin Manufacturing Company regarding the potential for certain fire dampers to not completely close against normal ventilation system flow. This potential problem had been discovered during testing at the Palo Verde Nuclear Generating Station.

After evaluating this concern, KG&E determined that administrative controls which were already included in the Wolf Creek fire response procedures ensured that associated ventilation systems would be secured in areas affected by a fire. While this action is a valid means of complying with design and regulatory requirements at Wolf Creek Generating Station, an additional margin of protection was desired by KG&E. Consequently, an inspection, testing and modification program was developed in conjunction with Ruskin and Bechtel (Architect/Engineer) to assure the capability of fire dampers to fully close against ventilation system normal flow.

During the course of this program, additional concerns with some of the Ruskin dampers were identified. These concerns are in two areas - clearance between damper frames and embedded penetration sleeves, and mullion welds on multisection horizontal dampers.

- Clearance Between Damper Frames and Embedded Penetration Sleeves -

While installing modifications in some of the fire dampers to improve performance under flow conditions, it was determined that there was insufficient clearance between the damper frames and the embedded penetration sleeves to install pop rivets and screws as required for the modification. An evaluation determined that this situation could be indicative of insufficient clearance for thermal expansion of the damper during a fire which could affect the performance of the dampers.

Consequently, on April 4, 1985, as a precautionary measure in accordance with the Basis for Technical Specification 3.7.11, fire watches were established for affected fire dampers while additional inspections and evaluation of the inspection results proceeded. The number of fire dampers under fire watch was periodically adjusted based on new inspection results or evaluation determinations as they became available.

Subsequently, it was determined that the Ruskin fire dampers used at Wolf Creek that are installed in wall or floor sleeves, designed by Bechtel, were approved by Underwriters Laboratories (UL) on the basis of a gap existing between the damper frame and penetration sleeve to allow for thermal expansion of the damper when exposed to fire. The size of the gap is a function of the damper size and was a part of the bases for the original 3 hour fire rating of the dampers by UL. Insufficient gap between the damper frame and penetration sleeve during direct exposure to a fire may result in buckling of the damper frame that could degrade the integrity of the damper.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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|  |                                     | 85             | 017               | 00              | 03       | OF | 04 |

TEXT (If more space is required, use additional NRC Form 366A's) (17)

On April 24, 1985, with confirmation that the fire dampers were not in the as-designed condition and that the original 3 hour fire rating of the dampers may be degraded, all affected Ruskin fire dampers were placed under fire watches in accordance with the Action Statement of Technical Specification 3.7.11. It was also determined that Technical Specification 3.7.11 had been violated. This violation is considered to have existed from the date of license issue (March 11, 1985) until the required Technical Specification action was taken for all fire dampers on April 24, 1985.

KG&E verbally reported this situation to the NRC on April 26, 1985, as a potential 10 CFR 21 concern. A written report was subsequently issued on May 1, 1985.

A reinspection of all affected fire dampers is currently being conducted. Dampers found with insufficient gaps are being replaced or reworked in accordance with procedures provided by Bechtel and Ruskin. All modifications are UL approved to maintain the original 3 hour fire rating. All rework, except for replacement dampers, is expected to be complete by May 31, 1985. Cold Shutdown plant conditions will be required to accomplish replacement of some dampers. Remaining replacement work will be scheduled for the earliest opportunity, to be completed no later than the first Refueling Outage.

- Mullion Welds on Multisection Horizontal Dampers -

During an inspection of multisection fire dampers, a Ruskin representative noted horizontal damper sections with mullion weld spacings believed to be greater than allowed by Ruskin's design drawings. While these drawings were not immediately available for review, it was possible that this condition could affect the performance of the dampers. None of the vertical dampers inspected showed mullion weld spacing problems.

Consequently, on April 11, 1985, as a precautionary measure in accordance with the Basis for Technical Specification 3.7.11, fire watches were established for all multisection horizontal fire dampers installed in the plant while additional inspections and evaluation of the inspection results proceeded.

Subsequently, it was determined that Ruskin's design drawings did show a detail for the construction of multisection dampers in which each damper section is welded to a mullion with one inch welds on 6 inch centers for horizontal dampers and 8 inch centers for vertical dampers. These spacings were a part of the bases for the original 3 hour fire rating of the dampers by UL.

On April 17, 1985, Ruskin informed KG&E (through the original purchaser - Bechtel) that they had verbally reported this concern to the NRC. A written report from Ruskin was forwarded to the Director, Office of Inspection and Enforcement on April 22, 1985.



## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (If more space is required, use additional NRC Form 365A's) (17)

Following a review of the weld spacing concern with UL, it was established that a weld spacing of 9 inches is adequate for a 3 hour fire rating on the horizontal dampers. Ruskin has issued a revision to the appropriate drawings to show 9 inch spacing as an approved design condition.

A reinspection of all multisection horizontal fire dampers has been completed and one damper was found to have mullion weld spacing in excess of the 9 inch allowable. This damper has been reworked in accordance with procedures provided by Ruskin and this concern is now resolved.



KANSAS GAS AND ELECTRIC COMPANY

GLENN L. KOESTER  
VICE PRESIDENT - NUCLEAR

May 24, 1985

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Mr. R.P. Denise, Director  
Wolf Creek Task Force  
U.S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 1000  
Arlington, Texas 76011

KMLNRC 85-123  
Re: Docket No. STN 50-482  
Subj: Licensee Event Report 85-017-00

Gentlemen:

The enclosed Licensee Event Report is submitted pursuant to 10 CFR 50.73 (a) (2) (i) concerning a Technical Specification Violation.

Yours very truly,

Glenn L. Koester  
Vice President - Nuclear

GLK:dab

Enclosure

xc: PO'Connor (2), w/a  
JCummins, w/a

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