

WOLF CREEK NUCLEAR OPERATING CORPORATION

Britt McKinney
Vice President Plant Operations & Plant Manager

MAR 27 2000

WO 00-0015

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Subject: Docket No. 50-482: Licensee Event Report 1999-017-00

Gentlemen:

The enclosed Licensee Event Report (LER) 1999-017-00 is being submitted, pursuant to 10 CFR 50.73(a)(2)(i), regarding operation in a condition prohibited by Technical Specifications. On five occasions, Wolf Creek Nuclear Operating Corporation (WCNOC) received test results for the Control Room ventilation system or emergency exhaust system charcoal filter/adsorber that did not meet the surveillance requirements.

The attachment to this letter identifies actions committed to by WCNOC in the enclosed LER.

If you should have any questions regarding this submittal, please contact me at (316) 364-4112, or Mr. Michael J. Angus at (316) 364-4077.

Very truly yours,



Britt McKinney

btm/rlr

Enclosure

Attachment

cc: J. N. Donohew (NRC), w/e, w/a
W. D. Johnson (NRC), w/e, w/a
E. W. Merschoff (NRC), w/e, w/a
Senior Resident Inspector (NRC), w/e, w/a

IE22

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1)
WOLF CREEK GENERATING STATION

DOCKET NUMBER (2)
05000482

PAGE (3)
1 OF 4

TITLE (4)
Charcoal Filter Testing Results Received that Were Outside the Technical Specification Surveillance Requirements

| EVENT DATE (5) | | | LER NUMBER (6) | | | REPORT DATE (7) | | | OTHER FACILITIES INVOLVED (8) | |
|----------------|-----|------|----------------|-------------------|-------------|-----------------|-----|------|-------------------------------|---------------|
| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REV. NUMBER | MONTH | DAY | YEAR | FACILITY NAME | DOCKET NUMBER |
| 08 | 31 | 1999 | 1999 | 017 | 00 | 03 | 27 | 2000 | FACILITY NAME | DOCKET NUMBER |

| OPERATING MODE (9) | | MODE 1 | | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11) | | | | | | | |
|--------------------|------|-------------------|-------------------------------------|---|--|----------------------|--|----------|--|--|--|
| POWER | 100% | 20.402(b) | | 20.405(c) | | 50.73(a)(2)(iv) | | 73.71(b) | | | |
| LEVEL (10) | | 20.405(a)(1)(i) | | 50.36(c)(1) | | 50.73(a)(2)(v) | | 73.71(c) | | | |
| | | 20.405(a)(1)(ii) | | 50.36(c)(2) | | 50.73(a)(2)(vii) | | OTHER | | | |
| | | 20.405(a)(1)(iii) | <input checked="" type="checkbox"/> | 50.73(a)(2)(i) | | 50.73(a)(2)(viii)(A) | | | | | |
| | | | | 50.73(a)(2)(ii) | | 50.73(a)(2)(viii)(B) | | | | | |
| | | 20.405(a)(1)(v) | | 50.73(a)(2)(iii) | | 50.73(a)(2)(x) | | | | | |

LICENSEE CONTACT FOR THIS LER (12)

NAME
Michael J. Angus
Manager Licensing and Corrective Action

TELEPHONE NUMBER (Include Area Code)
(316) 364-4077

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX |
|-------|--------|-----------|--------------|--------------------|-------|--------|-----------|--------------|--------------------|
| | | | | | | | | | |
| | | | | | | | | | |

SUPPLEMENTAL REPORT EXPECTED (14)

| YES | NO | EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
|-----|-------------------------------------|-------------------------------|-------|-----|------|
| | <input checked="" type="checkbox"/> | | | | |

ABSTRACT (16):

On five separate occasions from 1997 to 1999, Wolf Creek Generating Station (WCGS) received charcoal sample penetration results for the Control Room emergency ventilation system or the emergency exhaust system charcoal filter/adsorber (F/A) unit that were above that allowed by the corresponding Technical Specification (pre-Amendment No. 123) surveillance requirements. In all cases, once the surveillance results were received, the affected train was declared inoperable. In addition, in all cases, the train was restored to operable status within the 7-day allowed out-of-service time. Since the sample results were received more than 7 days after the sample was taken, the condition of the charcoal was outside of the surveillance requirements for greater than the allowed out-of-service time. The root cause of the five failed charcoal samples is indeterminate. Corrective actions include modifying the work instructions on charcoal replacement relative to bed/tray and canister filling practices to ensure consistent charcoal loading, and revising STS PE-002, "Charcoal Adsorbent Sampling for Nuclear Safety Related Unit," to more closely trend charcoal degradation and to require evaluation of adsorber surveillance test failures. In all five cases the level of degradation of the charcoal would not have prevented the filter/adsorber units from performing their design safety function. Therefore, the significance of this issue is considered minimal.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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| Wolf Creek Generating Station | | 05000482 | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | 2 OF 4 | |
| | | | | 1999 | 017 | 00 | | |

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

Plant Conditions Prior to the Event:

Mode -- 1
Power -- 100 percent
Temperature -- 586.2 degrees Fahrenheit
Pressure - 2238.2 pounds per square inch gauge

Basis for Reportability:

Prior to December 18, 1999, Wolf Creek Nuclear Operating Corporation (WCNOC) operated under Technical Specifications based on NUREG-0452. WCNOC implemented Amendment No. 123 which approved the Improved Standard Technical Specifications (NUREG-1431) on December 18, 1999. Technical Specifications (pre-Amendment No. 123) 3.7.6, "Control Room Emergency Ventilation System," GK system; and 3.7.7, "Emergency Exhaust System-Auxiliary Building," GG system, stated respectively: "Two independent Control Room Emergency Ventilation Systems shall be OPERABLE" and "Two independent Emergency Exhaust Systems shall be OPERABLE." The Technical Specifications further stated that with one system in either specification inoperable, the plant had 7 days to restore the system to operable status. Technical Specification action statements 3.7.6 and 3.7.7 required that with one Control Room emergency ventilation system or auxiliary building emergency exhaust system inoperable, "...restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours." Contrary to this requirement, in five (5) instances, one train of the two systems was considered to have been inoperable longer than the allowed 7 days due to the trains failing to meet their charcoal testing surveillance requirement 4.7.6 and 4.7.7.

The common scenario is that a charcoal sample was taken per Technical Specification (TS) surveillance requirements. The sample was submitted to an independent laboratory for testing, but when the failed sample results were received, more than 7 days had already elapsed. Therefore, the degraded condition of the charcoal had existed for greater than the TS allowed out-of-service time. In accordance with NUREG 1022, Revision 1, "It should be assumed that the discrepancy occurred at the time of discovery unless there is firm evidence, based on a review of relevant information (e.g., the equipment history and cause of failure) to believe that the discrepancy existed previously." In this case, there is firm evidence that the discrepancy existed for longer than the 7-day allowed out-of-service time (i.e., the sample was taken more than 7 days before WCNOC received the failed test results). Therefore, these instances are reportable per 10 CFR 50.73 (a) (2) (i) (b) as operation outside the Wolf Creek Generating Station (WCGS) Technical Specifications.

In all cases, once the surveillance results were received, the affected train was declared inoperable. In addition, in all cases, the train was restored to operable status within the 7-day allowed out-of-service time.

In no case would these surveillance failures have prevented the systems from meeting their safety function. On one occasion, the value exceeded that assumed in the safety analysis; however, WCNOC engineering personnel evaluated that failure and determined that in all cases the level of degradation did not impact the ability of the charcoal filters to perform their function.

Per NUREG 1022, Revision 1, the LER date is based on the date of the event. Therefore, this LER is assigned a 1999 number.

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| | | | | 1999 | 017 | 00 | | |

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

Event Description:

WCNOC personnel reviewing an industry event associated with the reportability of charcoal failures raised a question regarding previous failures at WCGS. Upon further review, WCNOC personnel identified that on five (5) occasions test results for the Control Room ventilation system or emergency exhaust system charcoal filter/adsorber were received that did not meet the surveillance requirements. WCGS operated with a safety-related emergency exhaust (GG system) or Control Room emergency ventilation system (GK system) filter/adsorber (F/A) unit in a degraded condition for longer than the allowed out-of-service time in Technical Specifications (pre-Amendment No.123) 3.7.6 or 3.7.7. The failed surveillances and results are identified below.

| Filter/Adsorber Unit | Charcoal Analysis Results (% penetration*) | Value Assumed In Safety Analysis | Tech Spec Limit | Sample Results Date |
|----------------------|--|----------------------------------|-----------------|---------------------|
| FGG-02A | 9.38% | 10% | 2% | 1/9/97 |
| FGK-01A | 2.83% | 5% | 2% | 12/18/97 |
| FGG-02B | 3.22% | 10% | 2% | 12/23/98 |
| FGG-02A | 12.35% | 10% | 2% | 2/9/99 |
| FGK-01B | 2.68% | 5% | 2% | 8/31/99 |

*Percent methyl iodide penetration per ASTM D-3803-89.

As indicated above, the last failure occurred on August 31, 1999.

Root Cause:

Performance Improvement Request (PIR) 2000-0590 was initiated to determine the root cause and corrective actions. The conclusion reached in the evaluation is that the root cause of the 5 failed charcoal samples is indeterminate. WCNOC uses the practice of running the adsorber to the TS surveillance allowance limit, then replacing the charcoal when it exceeds that limit. This is consistent with the standard industry practice. However, this practice did not include trending of charcoal degradation, evaluation of test failures to understand causes, or recognition of the significance of exceeding safety analysis assumed values.

A potential contributing cause to sample test failures is not establishing a consistent technique for filling charcoal beds/trays and sample canisters. Incorrect charcoal loading is considered a contributor to charcoal degradation in the beds/trays and canisters.

Corrective Actions Taken:

In all cases, once the surveillance results were received, the affected train was declared inoperable. In addition, in all cases, the train was restored to operable status within the 7-day allowed out-of-service time.

Actions to Prevent Recurrence:

Work instructions on charcoal replacement will be modified relative to bed/tray and canister filling practices to ensure consistent charcoal loading. This action will be completed by May 17, 2000.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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

STS PE-002, "Charcoal Adsorbent Sampling for Nuclear Safety Related Unit," will be revised to more closely trend charcoal degradation, and to require evaluation of adsorber surveillance test failures. This action will be completed by May 17, 2000.

Safety Significance:

In four of the five events, the test results for methyl iodide penetration of the charcoal showed values less than the values assumed in analyses for the Fuel Handling Accident (FHA) and for Loss of Coolant Accidents (LOCA). However, for the analysis of one charcoal sample from unit FGG-02A, the penetration of 12.35% found is greater than the 10% value assumed in FHA safety analysis. This condition would result in an increase in the calculated FHA thyroid dose at the exclusion area boundary from 9.37 rem to 10.00 rem. This remains less than the Standard Review Plan acceptance guideline value of 75 rem.

Based on the above, in all five cases the level of degradation of the charcoal would not have prevented the filter/adsorber units from performing their design safety function. Therefore, the significance of this issue is considered minimal.

Other Previous Occurrences:

WCNOC LERs were reviewed for the years 1997, 1998, and 1999. No reportable events with similar root cause and corrective actions were identified.

LIST OF COMMITMENTS

The following table identifies those actions committed to by Wolf Creek Nuclear Operating Corporation (WCNOC) in this document. Any other statements in this submittal are provided for information purposes and are not considered to be commitments. Please direct questions regarding these commitments to Mr. Michael J. Angus, Manager Licensing and Corrective Action at Wolf Creek Generating Station, (316) 364-4077.

| COMMITMENT | Due Date/Event |
|--|-----------------------|
| Work instructions on charcoal replacement will be modified relative to bed/tray and canister filling practices to ensure consistent charcoal loading. | 5/17/2000 |
| STS PE-002, "Charcoal Adsorbent Sampling for Nuclear Safety Related Unit," will be revised to more closely trend charcoal degradation, and to require evaluation of adsorber surveillance test failures. | 5/17/2000 |