

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Richard A. Muench
Vice President Engineering

NOV 17 1999

ET 99-0042

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

Reference: Letter ET 94-0012, dated February 18, 1994, from
F. T. Rhodes, WCNO, to USNRC
Subject: Docket No. 50-482: Updated Response to Generic Letter 89-13

Gentlemen:

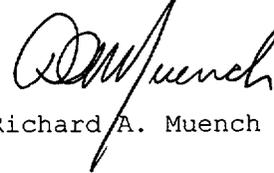
Generic Letter 89-13 required licensees to supply information about their respective service water systems to assure the NRC of compliance with General Design Criteria 44, quality assurance requirements, and to confirm that the safety functions of their respective service water systems were being met. The reference provided Wolf Creek Nuclear Operation Corporation's (WCNO) response to NRC Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment." WCNO has recently determined that the current condition of the service water system justifies making programmatic adjustments which will continue to satisfy the intent of Recommendation II in Generic Letter 89-13. This letter updates information which was provided in the reference.

Attachment I to this letter provides the current status of WCNO's program which was implemented to meet the recommendations of Generic Letter 89-13. The programmatic adjustments will be completed and implemented by January 15, 2000.

Attachment II to this letter identifies an action to which WCNO is committed.

If you have any questions concerning this manner, please contact me at (316) 364-4034, or Mr. Michael J. Angus at (316) 364-4077.

Very truly yours,



Richard A. Muench

RAM/rlr

Attachment

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

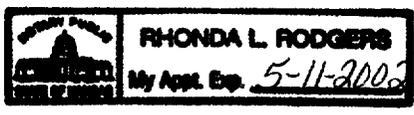
A-065

STATE OF KANSAS)
) SS
COUNTY OF COFFEY)

Richard A. Muench, of lawful age, being first duly sworn upon oath says that he is Vice President Engineering of Wolf Creek Nuclear Operating Corporation; that he has read the foregoing document and knows the content thereof; that he has executed that same for and on behalf of said Corporation with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By *Richard A. Muench*
Richard A. Muench
Vice President Engineering

SUBSCRIBED and sworn to before me this 17th day of November, 1999.



Rhonda L. Rodgers
Notary Public

Expiration Date 5-11-2002

Wolf Creek Nuclear Operating Corporation (WCNOC) submitted an updated response to Recommendation II of Generic Letter 89-13 by letter ET 97-0012, dated February 18, 1994. In our updated response to Recommendation II, we indicated we would conduct a testing program over three operating cycles on selected heat exchangers and make adjustments to our testing program following review of test data from the three-cycle period. WCNOC has reviewed this data and, based on those test results, is making changes to our safety-related heat exchanger testing program. Below is our updated response to Recommendation II from our Letter ET 97-0012, with the changes noted. As before, the term "service water system" is defined in this response as the system or systems that transfer heat from safety-related structures, systems, or components to the ultimate heat sink.

Recommendation II: Conduct a test program to verify the heat transfer capability of all safety-related heat exchangers cooled by service water.

Currently, thirty-two components are included in WCNOC's Generic Letter 89-13 program. These components are:

Component Cooling Water Heat Exchangers	EEG01A & B
Diesel Generator Intercooler Heat Exchangers	EKJ03A & B
Diesel Generator Lube Oil Heat Exchangers	EKJ04A & B
Diesel Generator Jacket Water Heat Exchangers	EKJ06A & B
Auxiliary Feedwater Pump Room Coolers	SGF02A & B
Spent Fuel Pool Room Coolers	SGG04A & B
Control Room Air Conditioning Units	SGK04A & B
Class 1E Air Conditioning Units	SGK05A & B
Safety Injection Pump Room Coolers	SGL09A & B
Residual Heat Removal Pump Room Coolers	SGL10A & B
Component Cooling Water Pump Room Coolers	SGL11A & B
Centrifugal Charging Pump Room Coolers	SGL12A & B
Containment Spray Pump Room Coolers	SGL13A & B
Electrical Penetration Room Coolers	SGL15A & B
Containment Coolers	SGN01A & B & C & D

Initial heat transfer testing was completed by the end of the fifth refueling outage with testing scheduled through the seventh refueling outage. A performance verification was to be conducted each fuel cycle by empirical calculations using test data obtained while the components were under a significant load. Therefore, following three fuel cycles, the best frequency for testing could be determined based on the results of the empirical calculations. However, achieving plant line-up conditions providing heat loads coincident with valid test data has proved to be exceedingly complex, especially for some components. As an alternative, a representative room cooler was selected to indicate the performance capability of other coolers similar in design and configuration.

It was also determined that ten of the thirty-two heat exchangers were not well suited to heat transfer verification testing due to their unique design applications. These were the Diesel Generator Heat Exchangers (EKJ03A & B, EKJ04A & B, EKJ06A & B), the Control Room Air Conditioning Units (SGK04A & B), and the Class 1E Air Conditioning Units (SGK05A & B). The Diesel Generator Heat Exchangers carry heat loads which are not easily determined by field instruments due to temperature modulating valves, and the Control Room and Class 1E Room Air Condition Units are water-to-freon heat exchangers which involve quantifying phase changes, enthalpy changes, and transient flow patterns. For these reasons, mechanical and/or chemical cleaning is performed for corrosion or deposit removal. Also, this group of heat exchangers is

visually inspected for erosion, corrosion, biofouling, pitting, and wall thinning. This maintenance program is currently performed once per refueling cycle on these particular components. [Changes to Program Attribute: Based on review of test data obtained from the fifth through the seventh refueling outages, WCNOG is modifying our program such that the frequency that the maintenance program is performed will be determined from test results and maintenance/inspection activities, instead of on a once per cycle basis.]

During implementation of the heat transfer verification testing program in the fifth refueling outage, unforeseen "As Low As Reasonable Achievable" (ALARA) concerns restricted the testing program to only one, SGN01D, of the four Containment Coolers. The heat transfer capability of the sample cooler, SGN01D, will be indicative of the performance of the other three coolers and the test results obtained during the fifth, sixth, and seventh outages will be used to determine an optimum testing frequency for the four Containment Coolers. [Changes to Program Attribute: WCNOG is revising the testing program to allow testing any of the four Containment Coolers and not limit the program to a specific cooler. Based on similar design and configuration, performance of any one of the four coolers would be representative of all four.]

Component Cooling Water Heat Exchangers (EEG01A & B) were both tested during the fifth refueling outage. Since the main heat load for these heat exchangers originates from the Residual Heat Removal System, the time frame available for testing is quite limited. After reviewing the test data, Component Cooling Water Heat Exchanger "B" was selected as the representative sample for the pair based on ease of testing. [Program Clarification: Heat Exchanger EEG01B test results obtained during the fifth, sixth, and seventh refueling outages have been used to determine an optimum testing frequency for both heat exchangers. The testing program currently reflects that either of the heat exchangers (EEG01A or B) can be tested.]

During the fifth refueling outage, all sixteen of the remaining coolers were heat transfer tested. Based on the results of these tests, Residual Heat Removal Pump Room Cooler "A" and Electrical Penetration Room Cooler "B" were selected as the representative sample coolers. The performance of these two room coolers will be indicative of the performance capability of the other coolers based on similar design and configuration. Additional test results obtained through the seventh refueling outage will be used to determine the best testing frequency for these sixteen coolers. [Changes to Program Attribute: WCNOG is revising our testing program such that a representative sample cooler will now be selected from any of the sixteen coolers, based on monitoring and trending data from past test results, available heat loads, and "As Low as Reasonable Achievable" (ALARA) concerns.]

Currently, a program is in place to periodically monitor flow and pressure drop through all thirty-two heat exchangers, to periodically clean and inspect the ten units aforementioned, and to verify the heat transfer capability of four representative heat exchangers. With these activities continuing through the seventh refueling outage, a monitoring, cleaning, inspecting, and testing strategy will be determined based on compiled test results and maintenance history. [Change Summary: As indicated above, WCNOG has reviewed the test data obtained through the seventh refueling outage and is modifying our testing and maintenance programs as described above. This summary of the review conducted of maintenance and evaluation practices related to the service water system confirms that established programs and revisions to these programs continue to adequately monitor and maintain the service water system.]

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
Programmatic adjustments to meet the recommendations of Generic Letter 89-13 will be completed and implemented by January 15, 2000.	January 15, 2000