

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Otto L. Maynard
Vice President Plant Operations

May 16 1996

WO 96-0069

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

Reference: Letter ET 95-0094, dated October 24, 1995,
R. C. Hagan, WCNOG, to the NRC

Subject: Docket No. 50-482: Revision to Previous Request
to Revise Technical Specification Surveillance
Requirements 4.7.6 and 4.9.13

Gentlemen:

The Reference transmitted an application for amendment to Facility Operating License No. NPF-42 for Wolf Creek Generating Station (WCGS). This license amendment request proposed revising Surveillance Requirement 4.7.6.e.4 to reflect a proposed design change to the output rating of the charcoal filter adsorber unit heater in the pressurization system portion of the control room emergency ventilation system. Also requested were revisions to Surveillance Requirements 4.7.6.c.2 and 4.7.6.d to reflect a proposed change to the acceptance criteria for the testing of carbon samples from the charcoal adsorbers of the control room emergency ventilation system.

This letter provides a revised submittal to supersede the Reference, and adds the Auxiliary Building (Surveillance Requirement 4.7.7a) and Fuel Building (Surveillance Requirement 4.9.13.b.2 and c) Emergency Exhaust Systems to our original request. Also provided is a copy of WCNOG Calculation GK-474, Revision 1, which provides additional information requested by the Staff to support our proposed reduction in the output rating for the charcoal filter adsorber unit heater in the pressurization system portion of the control room emergency ventilation system.

Attachment I provides a Safety Evaluation including a description of the proposed changes. Attachment II provides a No Significant Hazards Consideration Determination and Attachment III provides an Environmental Impact Determination. The specific changes to the technical specifications proposed by this request are provided in Attachment IV. Attachment V provides a copy of Calculation GK-474.

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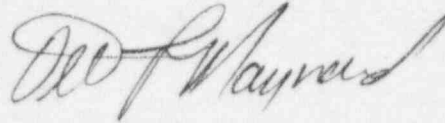
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In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Kansas State official. This proposed revision to the WCGS Technical Specifications will be fully implemented within 120 days of receiving formal Nuclear Regulatory Commission approval.

If you have any questions concerning this matter, please contact me at (316) 364-8831, extension 4450, or Mr. Terry S. Morrill, at extension 8707

Very truly yours,



Otto L. Maynard

OLM/jra

Attachments I - Safety Evaluation
 II - No Significant Hazards Consideration Determination
 III - Environmental Impact Determination
 IV - Proposed Technical Specification Change
 V - Calculation GK-474

cc: G. W. Allen (KDHE), w/a
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J. C. Stone (NRC), w/a

STATE OF KANSAS)
) SS
COUNTY OF COFFEY)

Otto L. Maynard, of lawful age, being first duly sworn upon oath says that he is Vice President Plant Operations 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 *Otto L. Maynard*
Otto L. Maynard
Vice President
Plant Operations

SUBSCRIBED and sworn to before me this 16th day of May, 1996.



Mary E. Gifford
Notary Public

Expiration Date 12/09/1999

ATTACHMENT I
SAFETY EVALUATION

Safety Evaluation

Proposed Change

This license amendment request proposes to revise Surveillance Requirement 4.7.6.e.4 to reflect a proposed design change to the output rating, from 15kW to 5kW, of the charcoal filter adsorber unit heater in the pressurization system portion of the control room emergency ventilation system (CREVS). Surveillance Requirements 4.7.6.c.2, 4.7.6.d, and 4.9.13.b and c, are also being revised to reflect a proposed change to the acceptance criteria for the testing of carbon samples from the CREVS charcoal adsorbers and the auxiliary/fuel building emergency exhaust system charcoal adsorbers. Surveillance Requirement 4.7.7.a for the auxiliary building portion of the auxiliary/fuel building emergency exhaust system is also affected by this proposed change. However, since Surveillance Requirement 4.7.7.a refers to Surveillance Requirements 4.9.13.b and c, no changes to 4.7.7.a are required. This proposed change would adopt ASTM D3803-1989 as the laboratory testing standard for charcoal samples from the charcoal adsorbers in the control room filtration system, control building pressurization system, and the auxiliary/fuel building emergency exhaust system. Laboratory testing of the carbon samples taken from the charcoal adsorbers will be performed at 30 degrees Centigrade ($^{\circ}\text{C}$) and 70% relative humidity for a methyl iodide penetration of 2%, instead of the current 1% limit.

Evaluation

The design function of the control room pressurization system filter adsorber unit heater, per ANSI N509, is to reduce the relative humidity of the air entering the charcoal filter beds from design ambient conditions (i.e., 100% relative humidity) to 70% relative humidity. The original Wolf Creek Generating Station (WCGS) design specified a heater with a rating of $15\text{kW} \pm 2\text{kW}$ to meet this functional requirement. However, review of associated design basis calculations indicates that this system requires only about 3.13kW to meet the functional requirement.

The proposed heater rating change (i.e., from $15 \pm 2\text{kW}$ to $5 \pm 1\text{kW}$) will yield a new maximum design rating of 6kW. Under maximum overvoltage conditions the heater would produce 7.26kW. The new minimum design rating would be 4 kW, and under degraded voltage conditions the heater would produce 3.53kW. The maximum heater output of 7.26kW is significantly lower than the maximum allowable output that would meet ANSI N-509 operational limitations. The new minimum design output of 3.53kW exceeds the minimum capacity needed to reduce the relative humidity of the incoming air from 100% to 70%.

Thus, reducing the control room pressurization system filter adsorber unit heater capacity from $15\text{kW} \pm 2\text{kW}$ to $5\text{kW} \pm 1\text{kW}$ will provide sufficient operating margin and still meet CREVS' design basis requirements. In addition, the reduction in heat load output from the

heater will reduce excess heat input to the control building during emergency conditions, thus increasing the margin of safety between the cooling capacity of the system air conditioning units and the building heat load (under accident conditions). WCGS Calculation GK-474, Revision 1, provides additional information in support of this request, and is provided as Attachment V to this letter. This calculation is being submitted as requested by the Staff.

CREVS includes the control room air conditioning units (SGK04A,B), the control room filtration units (FGK01A,B), and the control building pressurization units (FGK02A,B), as shown in the WCGS Updated Safety Analysis Report (USAR) Figure 9.4-1. CREVS is designed to maintain the habitability of the control room during a design basis loss of coolant accident (LOCA) by creating a positive pressure envelope within the control room, by filtering the supply air to remove particulates, and by providing charcoal adsorbers to remove iodines. This will ensure that the doses to control room personnel will be within the limits of General Design Criterion (GDC) 19 of Appendix A to 10 CFR 50. One of the key accident analysis assumptions utilized in the calculation that evaluated the potential radiological consequences to control room personnel from a LOCA was the filter decontamination efficiency of 95%. The flow rates through the charcoal filtration units are limited to $2000 \pm 10\%$ cubic feet per minute (CFM), in accordance with Technical Specification 3/4.7.6.c.3. This will maintain the average atmospheric residence time greater than or equal to 0.25 seconds.

Charcoal samples are routinely tested to verify filter efficiency: every eighteen months; upon achieving total run time of 720 hours; and following a significant event or activity, such as painting, welding, or fire, which could potentially create fumes in an amount that could affect charcoal filter efficiency. WCGS Technical Specification Surveillance Requirements 4.7.6 and 4.9.13 specifies that charcoal is to be tested per the guidance of Regulatory Guide 1.52, March 1978, position C.6.a.3. This Regulatory Guide, in turn, specifies the testing is to be performed in accordance with ANSI N509-1976. ANSI N509-1976 specifies that testing is to be performed in accordance with Military Specification RDT M16-1T, with no year specified. A conflict has been identified between the testing conditions specified by RDT M16-1T and ANSI N509-1976. The RDT M16-1T test consists of three stages, with the air flow in each stage at 25 °C, whereas ANSI N509-1976 specifies that the air used in the second stage be at 80°C. Technically, this test cannot be completed by injecting 80°C and 70% relative humidity air into a test specimen that has been stabilized at 25°C. Doing this causes condensation to form in the charcoal sample, which disqualifies the test.

WCGS charcoal samples are analyzed by an outside testing laboratory, which recognized the problem described above and changed their test method to the latest version of RDT M16-1T (the 1977 version), as allowed by ANSI N509-1976. RDT M16-1T-1977 specifies that 80°C air be used for all three stages of the test, which eliminates the condensation problem. In order to remove the confusion in the current WCGS Technical Specifications concerning the correct testing protocol required, the

referenced testing protocol for these charcoal samples is being revised to ASTM D3803-1989, which specifies the testing to be performed at 30°C and 70% relative humidity for a methyl iodide penetration not to exceed 2%.

The 30°C at 70% relative humidity ASTM D3803-1989 test to be performed on charcoal samples from FGK01A,B and FGK02A,B is representative of the postulated conditions for the control room after a design basis LOCA. The current specification 3/4.7.6 penetration limit of 1% for testing at 80°C and 70% relative humidity per test standard RDT M-16-1T is less conservative than a 2% penetration limit for testing at 30°C and 70% relative humidity, due to the more stringent tolerance placed upon temperature and humidity in ASTM D3803-1989, as well as the test being performed at the lower temperature of 30°C. Thus, testing the charcoal using the new protocol will provide greater assurance that the charcoal filters will perform at an efficiency of at least 95%. The above discussion also applies to the Fuel Building and Auxiliary Building HVAC systems. Therefore, Technical Specifications 4.7.6.c.2, 4.7.6.d and 4.9.13.b and c are being changed to specify the new protocol and reference ASTM D3803-1989.

Unreviewed Safety Question Evaluation

The changes to the technical specifications discussed above do not involve an unreviewed safety question because operation of the WCGS with these changes would not:

1. Increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report.

The requested changes to the control room pressurization system heater capacity and the charcoal sample surveillance acceptance criteria for the control room, fuel building, and auxiliary building emergency ventilation systems will not affect the method of operation of the systems. The new heater capacity will still exceed filter operational requirements and safety margin by a significant amount. In addition, the testing of the charcoal filter samples will continue to be performed in accordance with NRC-accepted methods and acceptance criteria, and the new test protocol will still ensure filter efficiency is maintained equal to or greater than 95%. Therefore, the proposed changes will not increase the consequences of an accident or malfunction of equipment important to safety previously evaluated in the USAR.

2. Create a possibility for an accident or malfunction of a different type than previously evaluated in the safety analysis report.

The requested change to the heater capacity in the control room emergency ventilation system will not affect the method of operation of the system, and the new heater capacity will still exceed filter operational requirements and safety margin. Since

only the heater size is being changed and system operation is not being modified as a result of this change, then no new or different accidents other than those already evaluated will be created by this change. The changes to the surveillance requirements are being made to adopt current NRC-accepted methods of testing charcoal samples. These changes will not affect the method of operation of the applicable systems and the laboratory testing will continue to demonstrate the required adsorber performance after a design-basis LOCA.

3. Reduce the margin of safety as defined in the bases for any Technical Specification.

The requested change to the heater capacity in the control room emergency ventilation system will reduce the heater output of the system, but the new heater capacity will still exceed filter operational requirements and safety margin. Therefore, this change will not reduce the margin of safety of the control room emergency ventilation system filter operation. The new charcoal adsorber sample laboratory testing protocol is more stringent than the current testing practice and meets current NRC-approved test methods. The new testing criteria will continue to demonstrate the required adsorber performance after a design-basis LOCA and will not affect the filter system performance. Therefore, this change will also not reduce the margin of safety of the control room ventilation system filter operation.

Based on the above discussions and the no significant hazards consideration determination presented in Attachment II, the proposed changes do not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report; or reduce the margin of safety as defined in the basis for any technical specification. Therefore, the proposed changes do not adversely affect or endanger the health or safety of the general public or involve a significant safety hazard.

ATTACHMENT II

NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

No Significant Hazards Consideration Determination

This license amendment request proposes to revise Surveillance Requirement 4.7.6.e.4 to reflect a proposed design change to the output rating, from 15kW to 5kW, of the charcoal filter adsorber unit heater in the pressurization system portion of the control room emergency ventilation system (CREVS). Surveillance Requirements 4.7.6.c.2, 4.7.6.d, and 4.9.13.b and c, are also being revised to reflect a proposed change to the acceptance criteria for the testing of carbon samples from the CREVS charcoal adsorbers and the auxiliary/fuel building emergency exhaust system charcoal adsorbers. Surveillance Requirement 4.7.7.a for the auxiliary building portion of the auxiliary/fuel building emergency exhaust system is also affected by this proposed change. However, since Surveillance Requirement 4.7.7.a refers to Surveillance Requirements 4.9.13.b and c, no changes to 4.7.7.a are required. This proposed change would adopt ASTM D3803-1989 as the laboratory testing standard for charcoal samples from the charcoal adsorbers in the control room filtration system, control building pressurization system, and the auxiliary/fuel building emergency exhaust system. Laboratory testing of the carbon samples taken from the charcoal adsorbers will be performed at 30 degrees Centigrade (°C) and 70% relative humidity for a methyl iodide penetration of 2%, instead of the current 1% limit.

Standard I - Involve a Significant Increase in the Probability or Consequences of an Accident Previously Evaluated

The design function of the filter adsorber unit heater in the pressurization system portion of CREVS is to reduce the relative humidity of the air entering the charcoal filter beds to 70% relative humidity. Although the original design specified a heater with a rating of 15 kW, review of the design basis calculation for this system indicates that only about 3.13 kW is actually required (including applicable margins to allow for voltage variations). The proposed change to the CREVS heaters' output rating from 15 kW to 5 kW will not affect the method of operation of the system, and the new heater capacity will still exceed filter operational requirements and safety margin. Neither the heater change nor the charcoal testing protocol changes will affect system operation or performance, nor do they affect the probability of any event initiators. These changes do not affect any Engineered Safety Features actuation setpoints or accident mitigation capabilities. Therefore, the proposed changes will not significantly increase the consequences of an accident or malfunction of equipment important to safety previously evaluated in the USAR.

Standard II - Create the Possibility of a New or Different Kind of Accident from any Previously Evaluated

The requested change to the CREVS heaters' output rating and the changes to the charcoal sample testing protocol will not affect the method of operation of the systems, and the new heater capacity will still exceed filter operational requirements and safety margin by a significant

amount. The proposed changes only affect the heater size in the system and the testing criteria for the charcoal samples. No new or different accident scenarios, transient precursors, failure mechanisms, or limiting single failures will be introduced as a result of these changes. Therefore, the possibility of a new or different kind of accident other than those already evaluated will not be created by this change.

Standard III - Involve a Significant Reduction in the Margin of Safety

The requested change to the CREVS heaters' output rating will reduce the heater output of the system, but the new heater output will still exceed filter operational requirements and safety margin by a significant amount. In addition, the reduction in heat load output from the heater will increase the design margin between the cooling capacity of the system air conditioning units and the building heat load. The new charcoal adsorber sample laboratory testing protocol is more stringent than the current testing practice and more accurately demonstrates the required performance of the adsorbers following a design basis LOCA. Therefore, these changes will not reduce the margin of safety of the HVAC systems' operation.

Based on the above discussions, it has been determined that the requested technical specification changes do not involve a significant increase in the probability or consequences of an accident or other adverse condition over previous evaluations; or create the possibility of a new or different kind of accident or condition over previous evaluations; or involve a significant reduction in a margin of safety. Therefore, the requested license amendment does not involve a significant hazards consideration.

ATTACHMENT III
ENVIRONMENTAL IMPACT DETERMINATION

Environmental Impact Determination

This amendment request meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) as specified below:

- (i) the amendment involves no significant hazards consideration

As demonstrated in Attachment II, the proposed change does not involve any significant hazards consideration.

- (ii) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite

The proposed changes do not involve a change to the facility or operating procedures which would create new types of effluents. The reduction in heater capacity will still provide a significant margin over system operating requirements to reduce incoming air relative humidity to the required limits. The change in charcoal sample testing protocol will not affect system performance or operation. Therefore, all offsite and control room doses will remain within the limits of 10 CFR 100 and 10 CFR 50 Appendix A, GDC 19.

- (iii) there is no significant increase in individual or cumulative occupation radiation exposure

The reduction in the control room emergency ventilation system filter heater capacity will not affect system operation and will not reduce filter efficiency. The change in charcoal sample testing protocol also will not reduce filter efficiency. Thus, these changes will not result in a significant increase in individual or cumulative occupational radiation exposure.

Based on the above, it is concluded that there will be no impact on the environment resulting from the proposed changes and that the proposed changes meet the criteria specified in 10 CFR 51.22 for a categorical exclusion from the requirements of 10 CFR 51.21 relative to requiring a specific environmental assessment by the Commission.

ATTACHMENT IV

PROPOSED TECHNICAL SPECIFICATION CHANGE