

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Richard N. Johannes
Chief Administrative Officer

July 15, 1994

CO 94-0005

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

Subject: Docket No. 50-482: Revision to Technical Specification
3/4.3.3, Table 4.3-3

Gentlemen:

This letter transmits an application for amendment to Facility Operating License No. NPF-42 for Wolf Creek Generating Station (WCGS). This license amendment request proposes revising Technical Specification Table 4.3-3, Radiation Monitoring Instrumentation For Plant Operations Surveillance Requirements, to change the Analog Channel Operational Test (ACOT) interval for selected radiation monitors from Monthly to Quarterly. This change is identified as a line-item improvement to technical specifications in Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation."

Attachment I provides a safety evaluation including a description of the proposed change. Attachment II provides a no significant hazards consideration determination and Attachment III provides an environmental impact determination. The specific change to the technical specifications proposed by this request are provided in Attachment IV.

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 30 days following formal NRC approval of the requested change.

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If you have any questions concerning this matter, please contact me at (316) 364-8831, extension 4001, or Mr. Richard D. Flannigan, at extension 4500.

Very truly yours,



Richard N. Johannes
Chief Administrative Officer

RNJ/jra

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

cc: G. W. Allen (KDHE), w/a
M. A. Miller (NRC), w/a
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STATE OF KANSAS)
) SS
COUNTY OF COFFEY)

Richard N. Johannes, of lawful age, being first duly sworn upon oath says that he is Chief Administrative Officer 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 N. Johannes
Richard N. Johannes
Chief Administrative Officer

SUBSCRIBED and sworn to before me this 15 day of July, 1994.

Marlene Heachman
Notary Public

Expiration Date 8-4-94



ATTACHMENT I

SAFETY EVALUATION

Safety Evaluation

Proposed Change

This license amendment request proposer to revise Technical Specification 3/4.3.3, Table 4.3-3, Radiation Monitoring Instrumentation For Plant Operations Surveillance Requirements, to change the Analog Channel Operational Test (ACOT) interval for the listed radiation monitors from Monthly to Quarterly. The specific monitors affected are:

- Containment Atmosphere - Gaseous Radioactivity - High (GT-RE-31 and 32)
- Gaseous Radioactivity - RCS Leakage Detection (GT-RE-31 and 32)
- Particulate Radioactivity - RCS Leakage Detection (GT-RE-31 and 32)
- Fuel Building Exhaust - Gaseous Radioactivity - High (GG-RE-27 and 28)
- Criticality - High Radiation Level (SD-RE-37 and 38, SD-RE-35 and 36)
- Control Room Air Intake - Gaseous Radioactivity - High (GK-RE-04 and 05)

This proposed change is identified as a line-item improvement in Section 5.14 of Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation," as recommended in NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements." As described in the below evaluation, this proposed change is compatible with Wolf Creek Generating Station operating experience. The ACOT referred to in this license amendment request is the same test referred to as the "Channel Functional Test" in the generic letter.

Background/System Description

The control room air supply radiation monitors (GK-RE-04 and 05), fuel building exhaust radiation monitors (GG-RE-27 and 28), and containment air radiation monitors (GT-RE-31 and 32), are safety-related radiation monitors designed to isolate the control room, fuel building and containment building, respectively, in the event that airborne radioactivity exceeds allowable limits. The containment monitors, GT-RE-31 and 32, additionally provide Reactor Coolant System leakage detection for gaseous and particulate activity.

These monitors are redundant for single-failure protection, seismic category I, powered from a Class IE power source, and designed to function following a safe shutdown earthquake. The function of these monitors is to monitor, record, alert and control the release of radioactive materials that may be generated during plant operation under normal or accident conditions.

These monitors are part of the radiation monitoring system, which is a digital system except for some local analog iodine monitors. The main components of this system are a control room minicomputer, detector assemblies, and local microprocessors. The control room minicomputer is the central equipment that continuously communicates with the local microprocessors, and provides radiation status display in the control room and performs various system alarm and control functions.

Each of the above radiation monitors is composed of a 4 π lead-shielded detector assembly, a local microprocessor and accessories. The detector assemblies for these monitors have three detector channels (one each for particulate, iodine and noble gas) and a check-source. The detector assembly contains a fixed filter with a beta scintillation detector for the particulate channel, charcoal cartridge with a gamma scintillation detector for the iodine channel, and a fixed volume chamber containing a beta scintillation detector for the noble gas channel. Since both radioactive particulates and radioactive noble gases are beta emitters, beta sensitive scintillation detectors are used to sense radioactivity in order to minimize the effects due to background radiation and, consequently, obtain a lower minimum detectable concentration. A NaI(Tl) gamma scintillation detector assembly is used for the iodine channel to permit spectrometric analysis (required for iodine monitoring). Each channel generates signals proportional to the noticed radiation levels. The local microprocessor processes these signals, computes average radiation levels for various time intervals, stores the data, transmits the data to the minicomputer upon request, and performs alarm and control functions. Each monitor is provided with a check source, operated from the control room, which simulates a radioactive sample in the detector assembly for operational and gross calibration checks.

In addition to the above monitors, this change is also requested for monitors SD-RE-35, 36, 37 and 38. These monitors are part of the area radiation monitoring system (ARMS), and serve as the criticality monitors for the new fuel storage pool (SD-RE-35 and 36) and the spent fuel storage pool (SD-RE-37 and 38), in the fuel building. The criticality monitors consist of five-decade range GM tube detectors. The detector signals are transmitted to the control room over individual cables. The displays, both local and in the control room, are five-decade logarithmic ratemeters. The alarms are both audible and visual, and are located in the control room and near the local detectors. As with the above monitors, each criticality monitor is provided with a check source, operated from the control room, which simulates a radioactive sample in the detector assembly for operational and gross calibration checks. These monitors are not safety-related and are powered from a non-Class IE power source. These monitors have no function related to the safe shutdown of the plant or the capability to mitigate the consequences of accidents that could result in offsite exposures comparable to the guideline exposure of 10 CFR 100. In addition, for the monitors listed in TS Table 4.3-3, no credit is taken in the plant accident analyses in Chapter 15 of the USAR for any automatic actuation function generated as a result of a radiation monitor signal.

Evaluation

Performing an ACOT on these detectors requires access to the delicate instruments inside the radiation monitor cabinets. It has been determined that the monthly ACOT has the potential to cause damage to the delicate instruments inside the cabinets. Previous failure of these instruments has been due to sub-component design, not calibration or setpoint problems. New components have been installed to eliminate the previous problems.

The WCNOC Reliability Centered Maintenance Group, with assistance from the WCNOC Instrumentation and Control Group, has reviewed past ACOT data for the subject radiation monitors, except for the criticality monitors. This review determined that no adjustments have been required for these instruments since the beginning of plant operation. It is WCNOC's position that performing the ACOT on a monthly basis for these detectors results in unnecessary calibrations that consequently require the detectors to be out of service for unnecessary periods of time, and increases the potential for damage to the monitor equipment. Extending the ACOT interval from Monthly to Quarterly will not adversely affect equipment performance, based on past ACOT data. It is believed that this change would reduce the potential for instrument damage and reduce instrument out of service times, thus effectively increasing system reliability and availability. This conclusion is consistent with the recommendation made in Section 5.14 of Generic Letter 93-05, which indicates that changing the monthly channel functional test to quarterly may be made in order to decrease licensee burden and increase the availability of the radiation monitors. This conclusion is also applicable to the criticality monitors, which are not safety-related and are powered from a non-Class IE power source. These monitors have no function related to the safe shutdown of the plant or the capability to mitigate the consequences of accidents that could result in offsite exposures comparable to the guideline exposure of 10 CFR 100.

Based on the above discussion 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 create the possibility for an accident or a malfunction of a different type than any 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 Technical Specification 3/4.3.3, Table 4.3-3, Radiation Monitoring Instrumentation For Plant Operations Surveillance Requirements, to change the Analog Channel Operational Test (ACOT) interval for selected radiation monitors from Monthly to Quarterly.

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

The probability of occurrence and the consequences of an accident evaluated previously in the Updated Safety Analysis Report (USAR) are not increased due to the proposed technical specification change. Review of past ACOT history for the affected monitors revealed that these monitors have experienced no calibration or setpoint-related problems since the beginning of plant operation. Increasing the ACOT frequency for these monitors will not adversely affect system operability, and this change would reduce the potential for instrument damage, thus effectively increasing system reliability and availability. These radiation monitors are not accident-initiating equipment, so increasing the surveillance interval on these monitors will not affect the probability of any accident previously evaluated. In addition, for the monitors listed in TS Table 4.3-3, no credit is taken in the plant accident analyses in Chapter 15 of the USAR for any automatic actuation function generated as a result of a radiation monitor signal. On these bases it is concluded that the probability and consequences of the accidents previously evaluated in the USAR are not increased.

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

No new type of accident or malfunction will be created since the radiation monitors are not accident-initiating equipment. The proposed change merely increases the ACOT interval for the affected radiation monitors, and does not change the method and manner of plant operation. The safety design bases in the USAR have not been altered. Thus, this change does not create the possibility of a new or different kind of accident from any previously evaluated.

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

The proposed changes do not change the plant configuration in a way that introduces a new potential hazard to the plant and do not involve a significant reduction in the margin of safety. The proposed changes do not affect applicable safety analysis acceptance criteria and will not affect system operating conditions. In addition, plant operating experience has shown that these monitors have not experienced calibration or setpoint-related failures since the beginning of plant operation. Therefore, it is concluded that the margin of safety, as described in the bases to any technical specification, is not reduced.

Based on the above discussions, it has been determined that the requested technical specification revision does 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 evaluation; 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 change does not involve a change to the facility or operating procedures which would cause an increase in the amounts of effluents or create new types of effluents. The proposed changes will not affect reactor core and coolant activities, or the method and manner of operation of the affected radiation monitors.

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

Increasing the ACOT interval for the affected radiation monitors would not adversely affect the operation of the reactor or the radiation monitoring system, and would not affect any system that would affect occupational radiation exposure. This proposed change will not affect the method or manner of system operation, and would not create additional exposure to personnel nor affect levels of radiation present. The proposed change will not result in any 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 change, and that the proposed change meets 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.