

WOLF CREEK

NUCLEAR OPERATING CORPORATION

John A. Bailey
Vice President
Operations

August 17, 1992

NO 92-0247

U. S. Nuclear Regulatory Commission
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Washington, D. C. 20555

Reference: Letter NO 92-0246 dated August 17, 1992, from
J. A. Bailey, WCNO to the U. S. Nuclear Regulatory
Commission
Subject: Docket No. 50-482: Emergency Technical Specification
Change to Surveillance Requirement 4.3.1.1

Gentlemer:

The purpose of this letter is to transmit an application for emergency amendment to Facility Operating License No. NPF-42 for Wolf Creek Generating Station (WCGS), Unit No. 1. This emergency license amendment request proposed a one time extension to the surveillance interval specified for Technical Specification Surveillance 4.3.1.1, Table 4.3-1, Functional Unit 1 (Manual Trip). As indicated in Attachment IV, the surveillance of the control room manual reactor trip switch shunt trip contacts would be deferred until the next entry into Mode 3, Hot Standby.

The reference transmitted a request for Nuclear Reactor regulation (NRR) Temporary Waiver of Compliance from the requirement of Technical Specification Surveillance Requirement 4.3.1.1 for which verbal approval was granted on August 14, 1992.

On August 14, 1992 at approximately 1130 CDT, a review of industry operation experience and discussions with a plant similar to WCGS had determined a need to request a Temporary Waiver of Compliance for the above surveillance requirement. Current procedure: independently test the shunt trip and undervoltage trip functions at the breakers but do not test the control room manual reactor trip shunt trip contact closure. A review of WCGS procedures and plan records determined that it was likely that no other surveillance procedure had accomplished the intended testing.

Attachment I provides a description of the amendment along with a Safety Evaluation. Attachment II provides the Significant Hazards Consideration Determination. Attachment III provides the Environmental Impact Determination. The proposed changes to the technical specification is provided in Attachment IV.

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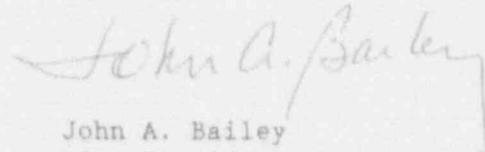
Pursuant to 10 CFR 50.91(a)(5), WCGS hereby requests emergency authorization and approval of this proposed amendment. The requested emergency authorization is appropriate because this amendment request involves no significant hazards consideration (Attachment II). This emergency Technical Specification amendment is required because this surveillance cannot be fully completed with the plant in Mode 1, Power Operation, or Mode 2, Startup. The results of the safety evaluation (Attachment I) show that the reactor trip system remains functional and that the effect of deferring the surveillance is minimal. There is no adverse effect on the health and safety of the public.

The WCGS Plant Safety Review Committee and the Nuclear Safety Review Committee have reviewed and approved this request.

In accordance with 10 CFR 50.91, a copy of this application, with attachments is being provided to the designated Kansas State Official.

If you have any questions concerning this matter, please contact me or Mr. Kevin J. Moles of my staff.

Very truly yours,



John A. Bailey
Vice President
Operations

JAB/jra

Attachments I - Safety Evaluation
 II - Significant Hazards Consideration Determination
 III - Environmental Impact Determination
 IV - Proposed Technical Specification Change

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

John A. Bailey, of lawful age, being first duly sworn upon oath says that he is Vice President 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 John A. Bailey
John A. Bailey
Vice President
Operations

SUBSCRIBED and sworn to before me this 17 day of August, 1992.



Denise L. Lawhorn
Notary Public

Expiration Date 1/08/96

ATTACHMENT I
SAFETY EVALUATION

Safety Evaluation

Proposed Change

The purpose of the proposed emergency Technical Specification change is to revise Technical Specification 3/4.3.1, Table 4.3-1, Functional Unit 1 (Manual Reactor Trip) and its associated Note 11 which applies to the Trip Actuating Device Operational Test (TADOT). This surveillance requires that the TADOT independently verify the operability of the undervoltage and shunt trip circuits for the manual reactor trip function and verify the operability of the bypass breaker trip circuit. The proposed change would add a footnote which states that complete verification of operability of the manual reactor trip switch circuitry be performed prior to startup from the first shutdown to Mode 3, Hot Standby, occurring after August 14, 1992.

Background

On August 14, 1992, at approximately 1130 CDT, a review of industry operating experience and discussions with a plant similar to Wolf Creek Generating Station (WCGS) had determined that surveillance procedures for testing manual actuation of the reactor trip breakers did not meet Technical Specification requirements. A review of WCGS procedures and surveillance history indicated a similar deficiency with the testing relied upon to satisfy Technical Specification Surveillance 4.3.1.1, Table 4.3-1, Functional Unit 1 (Manual Reactor Trip). Specifically, the current procedures independently test the shunt trip and undervoltage trip functions at the breakers but do not test the control room manual reactor trip switch shunt trip contact closure.

The testing inadequacy for the manual reactor trip function TADOT was discussed by Wolf Creek Nuclear Operating Corporation (WCNOC) representatives with NRC Region IV and NRC Office of Nuclear Reactor Regulation representatives on August 14, 1992. During this conference call, WCNOC requested verbal authorization for a Temporary Waiver of Compliance (TWOC) for Technical Specification Surveillance Requirement 4.3.1.1, Table 4.3-1, Functional Unit 1 as it pertains to the manual reactor trip function TADOT. The NRC authorized the TWOC at 1415 CDT.

This emergency Technical Specification amendment is required because this surveillance cannot be fully completed with the plant in Mode 1, Power Operation, or Mode 2, Startup. The plant is currently in Mode 1 at 100% power.

Description of the Reactor Trip System

The Reactor Trip System (RTS) maintains reactor operation within a safe region by automatically tripping the reactor whenever the limits of the region are approached. The RTS automatically initiates a reactor trip:

- a. Whenever necessary to prevent fuel damage for an anticipated operational transient (American Nuclear Society (ANS) Condition II).
- b. To limit core damage for infrequent faults (ANS Condition III), and
- c. So that energy generated in the core is compatible with the design provisions to protect the reactor coolant pressure boundary for limiting fault conditions (ANS Condition IV).

The reactor trip circuits automatically open the reactor trip breakers whenever a condition monitored by the RTS reaches a preset level. To ensure a reliable system, high quality is factored into the design, components, manufacturing, quality control and testing. In addition to redundant channels and trains, the design approach provides an RTS that monitors numerous systems variables, thereby providing protection system functional diversity. The extent of this diversity has been evaluated for a wide variety of postulated accidents. Wolf Creek Generating Station (WCGS) Updated Safety Analysis Report (USAR) Section 7.2 describes the RTS in detail, including each of the automatic trip functions and the protection provided by each trip.

A manual trip function is provided as part of the RTS. The manual trip function consists of two switches with two outputs on each switch. One output is used to actuate the Train "A" reactor trip breaker (RTB) and the other output actuates the Train "B" RTB (see USAR Figure 7.2-1 sheet 2). Operating a manual trip switch removes the voltage from the undervoltage trip attachment (UVTA) coil, de-energizing the shunt trip relay as well (as is the case for automatic reactor trips). The manual trip switch also directly energizes the shunt trip attachment (STA) coil. The manual reactor trip function serves as a backup to the automatic trip functions. Only automatic trip functions are assumed in the analysis of accidents described in Chapter 15 of the WCGS USAR.

Red and green position lights are included on the Main Control Board for breaker position. These lights are powered from the same fused 125 Volt DC supply used for closing and shunt-tripping the circuit breakers. Illumination of the green light indicates that the breaker is open and power is available for closing and tripping the breaker. The red light indicates that the breaker is closed. Since the red light is connected in series with the shunt trip coil, the light indicates that power is available to the shunt trip device and that there is circuit continuity in the shunt coil. This provides an indication that the shunt trip coil is ready to perform its function when required.

The shunt trip coils in the reactor trip breakers are powered from the 125 Volt DC Class 1E station batteries. Normally, the shunt trip coils are in a de-energized condition. When the trip breakers are closed, the red lamp current (approximately 50 milliamperes) flows through the trip coil to monitor the circuit continuity. This current is not large enough to actuate the trip coil armature. The reactor trip signal applies a nominal voltage of 125 Volt DC to each shunt trip coil in the redundant trains. As the breaker trips, its auxiliary switch opens to de-energize the shunt trip coil.

The WCGS Technical Specifications define the surveillance testing requirements for the RTS. All surveillances associated with the automatic reactor trip functions are current and the automatic trip function is operable. Technical Specification Table 4.3-1 Functional Unit 19 (Reactor Trip Breaker) and its associated Note 7 requires that each train be tested on a 62 day Staggered Test Basis and the TADOT independently verifies the operability of the undervoltage and shunt trip attachments. This surveillance requirement has been met for each RTB and demonstrates the operability of the diverse tripping mechanisms for the RTBs.

The current surveillance procedure used for the manual trip function independently tests the undervoltage trip functions to the breakers, but does not test the control room switch contacts for the shunt trip function.

The WCGS RTB design included both the undervoltage and shunt trip coils since the plant was licensed in 1985. The pre-operational test procedure verified that the undervoltage and shunt trip attachments were independently activated from the manual trip switches. NRC Generic Letter 85-09, "Technical Specification For Generic Letter 83-28," added this requirement (Note 11 of Table 4.3-1) to the WCGS Technical Specifications.

Based on the testing history for the manual trip function, the design of the switch, and the periodic use of a manual trip switch for plant shutdowns and surveillance tests, there is a high degree of confidence that the manual trip circuitry is fully functional.

Evaluation

The proposed change does not involve an unreviewed safety question because operation of WCGS in accordance with this change would not:

- a. Involve an increase in the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the USAR. The reactor trip breaker shunt and undervoltage trip actuation circuitry is redundant and reliable based on the testing history for the manual trip function, the design of the switch, and the periodic use of a manual trip switch for plant shutdowns and surveillance tests. Although the surveillance testing did not adequately test the shunt trip portions of the manual reactor trip function, there is no reason to believe that any element of the manual trip actuation of

the shunt trip would fail to operate. The diversity and redundancy of the reactor protection system would still enable it to perform its design function. Emergency Operating Procedure FR-S1, "Response to Nuclear Power Generation/ATWT," directs the operators to perform the following actions in the event that the manual reactor trip function is unavailable:

1. Open the supply breakers to 480 Volt AC load centers PG19 and de-energizing the Control Rod Drive Mechanism motor rator sets.
2. Manually insert the control rods.
3. Ensure the turbine is tripped.
4. Ensure auxiliary feedwater flow.
5. Initiate immediate Reactor Coolant System boration.
6. Dispatch an operator to locally open the RTBs.

The accidents evaluated in Chapter 15 of the WCGS USAR rely on the automatic trip function of the RTS. No credit is assumed for the manual trip function. The automatic portion of the reactor trip system is not impacted by this change. The manual portion, because of the highly reliable equipment, is essentially unaffected due to lack of testing.

Therefore, since the response of the plant to an accident is unchanged, there is no significant increase in either the probability or consequences of an accident previously evaluated as a result of this proposed change.

- b. Create the possibility for an accident or malfunction of equipment of a different type than any previously evaluated in the USAR. The proposed change does not affect the operation or response of any plant equipment or introduce any new failure mechanism. Therefore, the previous accident analyses are unchanged and bound all expected plant transients and there are no new or different accident scenarios introduced.
- c. Involve a reduction in the margin of safety as defined in the basis for any Technical Specification. The proposed change will not reduce the margin of safety defined in the BASES of any Technical Specification. The bases of Technical Specification 3/4.3-1, Reactor Trip System Instrumentation, states in part that operability of the RTS ensures that a reactor trip will occur when needed. The accidents evaluated in Chapter 15 of the WCGS USAR rely on the automatic trip function of the RTS. No credit is assumed for the manual trip function. The RTS possesses several

diverse and independent features which enable it to shut down the reactor on demand. The operation of any of these features demonstrates that the RTS is capable of performing its safety function. The operation of the undervoltage contacts necessary to affect a manual reactor trip have been demonstrated at least every 18 months. Therefore, the assumptions in the bases of the WCGS Technical Specifications are not affected and the proposed change will not result in a significant reduction in the margin of safety.

Conclusion

Based on the preceding discussion, the proposed change (for a period of up to 8 months) will not adversely affect or endanger the health and safety of the general public. Previous testing and periodic use of the manual reactor trip switches during outages provide a high degree of confidence that the manual trip circuitry is fully functional. The redundancy and diversity within the RTS, coupled with the aforementioned surveillances and routine switch use during outages and the fact that the manual trip is not assumed in Chapter 15 accident analyses provide reasonable assurance that WCGS will continue to operate in a safe manner.

ATTACHMENT II

SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Signification Hazards Consideration Determination

This emergency amendment request revises Technical Specification 3/4.3.1, Table 4.3-1, Functional Unit 1 (Manual Reactor Trip) and its associated Note 11 which applies to the Trip Actuating Device Operational Test (TADOT). The current surveillance procedure independently tests the undervoltage trip functions of the manual trip switches to the breaker, but does not test the shunt contacts. The proposed change is modification to Note 11 of Table 4.3-1 to defer shutdown a complete surveillance of this portion of the manual reactor trip circuitry until the next entry into Mode 3, Hot Standby.

The proposed change does not involve a significant hazards consideration because operation of WCGS in accordance with this change would not:

Standard 1 - Involve a Significant Increase in the Probability or Consequences of an Accident Previously Evaluated

The manual reactor trip function TADOT was correctly performed during pre-operational testing. Since that time, due to procedural inadequacy, the manual trip surveillance did not verify the operation of control room switch shunt trip contacts to the reactor trip switchgear. This portion of the circuitry was exercised at least once every 18 months during shutdowns; however, this routine use was not part of a surveillance test nor did it confirm independent operation of the shunt contacts. Although the surveillance testing did not adequately test this portion of the manual reactor trip function, there is no reason to believe that any element of the manual trip function is not functional. If for some reason, manual actuation of the shunt trip failed to operate, the diversity and redundancy of the Reactor Protection System would still enable it to perform its design function. The accidents evaluated in Chapter 15 of the WCGS USAR rely on the automatic trip function of the reactor protection system. No credit is assumed for the manual trip function. Further, all surveillances performed on the automatic trip functions, with the independent verification of UVT/ coil de-energization and STA energization via the closing of the shunt trip relay contact, have been performed correctly. Therefore, since the response of the plant to an accident is unchanged, there is no significant increase in either the probability or consequences of an accident previously evaluated as a result of this proposed change.

Standard 2 - Create the Possibility of a New or Different Kind of Accident from any Previously Evaluated

The proposed change does not involve any changes or hardware modification nor will there be any changes to the intended manner of plant operation or in the method by which any safety-related plant system performs its safety function. No new accident initiators, transient precursors, failure mechanisms, or limiting single failures are introduced as a result of this change.

Standard 3 - Involve a Significant Reduction in the Margin of Safety

The proposed change does not alter the manner in which safety limits or limiting safety system settings are determined. The proposed change will have no effect on those plant systems necessary to assure the accomplishment of protection functions and meet the accident analysis acceptance criteria in Chapter 15 of the WCGS USAR. There will be no impact on Departure from Nucleate Boiling Ratio limits, F_Q , F-delta-H, Loss of Coolant Accident-Peak Clad Temperature, or any other defined safety margin.

The Phases of Technical Specification 3/4.3.1 are not change since the ability of the Reactor Protection System, with its attendant diversity to ensure the subcriticality function, is not compromised. While some minor uncertainty could be postulated to apply to the manual reactor trip switch shunt trip contact to the reactor trip switchgear, this is insignificant when one considers the impact of this portion of the circuitry on the overall reactor protection system reliability.

Based upon the preceding information, it has been determined that the proposed change to the Technical Specification does not involve a significant increase in the probability or consequences of an accident previously evaluated, create the possibility of a new or different kind of accident from any accident previously evaluated, or involve a significant reduction in a margin of safety. Therefore, it is concluded that the proposed change meets the requirements of 10 CFR 50.92(c) and does not involve a significant hazards consideration.

ATTACHMENT III

ENVIRONMENTAL IMPACT DETERMINATION

This emergency amendment request revises Note 11 of Technical Specification Table 4.3-1 by adding the following sub-note:

"Complete verification of OPERABILITY of the manual reactor trip switch circuitry shall be performed prior to startup from the first shutdown to Mode 3 occurring after August 14, 1992."

This is needed due to a procedural shortcoming in the surveillances for the manual reactor trip switch circuitry.

The proposed amendment involves a change with respect to the surveillance requirements of facility components within the restricted area, as defined in 10 CFR 20. Wolf Creek Nuclear Operating Corporation has determined that the proposed amendment does not involve:

- (1) A significant hazard consideration, as discussed in Attachment II of this amendment application;
- (2) A significant change in the types or significant increase in the amounts of any effluents that may be release offsite; or
- (3) A significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 FR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.