



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 18, 2010

Mr. Matthew W. Sunseri
President and Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
Post Office Box 411
Burlington, KS 66839

SUBJECT: WOLF CREEK GENERATING STATION – REQUEST FOR ADDITIONAL
INFORMATION REGARDING LICENSE AMENDMENT REQUEST TO REVISE
TECHNICAL SPECIFICATION TABLE 3.3.2, "ENGINEERED SAFETY
FEATURE ACTUATION SYSTEM INSTRUMENTATION" (TAC NO. ME3762)

Dear Mr. Sunseri:

By letter dated April 13, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML101100391), Wolf Creek Nuclear Operating Corporation (WCNOC, the licensee) submitted a request for a license amendment for Wolf Creek Generating Station to revise Technical Specification 3.3.2, "Engineered Safety Feature Actuation System Instrumentation," to add footnote (m) to Function 8.a. to identify the enabled functions and the applicable modes for the Reactor Trip, P-4 interlock function.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the information provided by the licensee and determined that additional information identified in the enclosure to this letter is needed in order for the staff to complete its review. The draft copy of the request for additional information was provided to Ms. Diane Hooper of your staff via e-mail on August 2, 2010. Mr. Steve Wideman of WCNOC informed the NRC staff on August 5, 2010, that a conference call to discuss the request for additional information is not needed and agreed to provide the response by September 24, 2010.

If you have any questions, please contact me at 301-415-3016 or balwant.singal@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Balwant K. Singal", with a small "js" in the left margin.

Balwant K. Singal, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-482

Enclosure
As stated

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST TO CHANGE TECHNICAL SPECIFICATIONS

TABLE 3.3.2-1, FUNCTION 8.a, ENGINEERED SAFETY FEATURE ACTUATION SYSTEM

INTERLOCKS, REACTOR TRIP, P-4

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

By letter dated April 13, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML101100391), Wolf Creek Nuclear Operating Corporation (WCNOC, the licensee) submitted a license amendment request (LAR) for Wolf Creek Generating Station to revise Technical Specification (TS) 3.3.2, "Engineered Safety Feature Actuation System Instrumentation," to add footnote (m) to Function 8.a. of TS Table 3.3.2-1 to identify the enabled functions and the applicable modes for the Reactor Trip, P-4 interlock function. According to the WCNOC letter, this LAR is being submitted to prevent unnecessary cycling of the main feedwater isolation valves, and to preclude confusion regarding applicable modes and plant conditions for compliance with TS Table 3.3.2-1, Function 8.a (Engineered Safety Feature Actuation System Interlock, Reactor Trip, P-4).

The Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's submittal and determined that the following additional information is needed to complete its review:

1. The Licensee Event Report (LER), 2009-009-01 (ADAMS Accession No. ML100890421), referenced within your LAR indicates that the implementation of the bypass to defeat the feedwater isolation on low Tav_g coincident with P-4 interlock function is accomplished via plant procedure SYS SB-122, "Enabling/Disabling P-4/ Lo-Tav_g FWIS," through the use of the temporary installation of jumpers. Within your LAR and the referenced LER, it is indicated that the installation or removal of such jumpers is required when performing procedures GEN 00-006, "Hot Standby to Cold Shutdown," STS AE-201, "Feedwater Chemical Injection Inservice Valve Test," and GEN 00-002, "Cold Shutdown to Hot Standby."

Further, the referenced precedent in Section 4.2 of your LAR describes the installation of a new bypass switch at Callaway Plant, Unit 1, to accomplish the feedwater isolation function on P-4 prior to entering Mode 2.

For each of the methods called for within the various plant procedures, which require the installation of jumpers to defeat the feedwater isolation signal on low Tav_g coincident with P-4 interlock, please describe how plant operators are made aware that such protection features are being bypassed (or otherwise deliberately rendered inoperative),

Enclosure

and indicate the approximate collective frequency (i.e., inclusive of all applicable operating or maintenance procedures) for which such bypasses are required to be implemented. Please describe how the installation of these jumpers addresses Institute of Electrical and Electronics Engineers (IEEE)-279-1971, "Criteria for Nuclear Power Plant Protection Systems," regarding indication of bypasses, access to means of bypasses, and independence between safety and non-safety functions, and NRC Regulatory Guide 1.47, "Bypassed and Inoperable Status Indication for Nuclear Power Plant Safety Systems."

2. Technical Specification Task Force (TSTF)-444, Revision 1, "ESFAS [Engineered Safety Features Actuation System] Interlock P-4, P-11 & P-12 LCO [Limiting Condition for Operation] Actions and Surveillance Requirements Revisions," previously evaluated ESFAS interlock function "P-4" (Reactor Trip). The evaluation noted that even though the permissive "P-4" may not be directly credited in the safety analyses, some safety analyses may incorporate into their model selected permissive functions. The TSTF evaluation cited the turbine trip is assumed to occur on a reactor trip, typically in non-loss-of-coolant accident events. If the trip function is expected to occur and incorporated into the models, then the results may affect the limiting transient for certain events.

The licensee states in the LAR that none of the Updated Safety Analysis Report (USAR) Chapter 15 accident analyses credit the turbine trip from reactor trip (P-4 interlock function) for accident mitigation. However, one of the statements in the TS Bases the licensee proposes to delete states, "Only the turbine trip function is explicitly assumed since it is an immediate consequence of the reactor trip function."

Please confirm that there is not a limiting transient in the safety analyses model that incorporates the P-4 permissive function by assuming a turbine trip.

3. Chapter 15 of the USAR documents the results of the analyses for the limiting cases of all the anticipated operational occurrences (AOOs) and accidents. The licensee indicates that the P-4 interlock functions are not credited in the USAR Chapter 15 analyses for justification of the TS removal. The licensee clarifies that the Chapter 15 cases, other than (1) the control rod withdrawal event from subcritical and (2) the boron dilution event, are initiated from Modes 1 and 2 plant conditions.

Although the initial plant conditions, such as power levels, reactor coolant system, and steam generator (SG) temperatures and pressures in Modes 3 through 6, may be less limiting than the Modes 1 and 2 conditions, the reactor trip and engineered safety feature (ESF) actuation functions may not be included in the TS for Modes 3 through 6 and, therefore, may not be credited in the safety analysis. The capabilities of the ESF may be reduced for accident mitigation for events initiating from Modes 3 through 6. Single failure considerations in the systems affected by the proposed TS changes may identify a worst single failure that is different from that assumed in the Chapter 15 analysis.

Please provide a discussion or the results of an analysis to demonstrate that with the proposed blockage of the three P-4 interlock functions in Mode 3, the Chapter 15 analyses for all AOOs and accidents bounds the results of the corresponding events

initiating from Modes 3 through 6, with a combination of the worst single failure consideration.

4. As stated in Attachment 1 to the LAR, the licensee proposes to relocate the reactor trip P-4 interlock for (1) the feedwater isolation on low Tavg function and (2) the turbine trip function out of the TSs for Mode 3. The licensee indicates that none of the USAR Chapter 15 accident analyses credit the above-cited reactor trip (P-4 interlock functions) for accident mitigation.

The proposed TS removal would allow the use of (1) the main feedwater to control SG levels and (2) the steam flow from the SGs to warm the main turbine during various surveillance testing and maintenance activities that involve opening the reactor trip breakers. The LAR does not specify a particular allowable time limit for these activities. A Chapter 15 licensing basis accident (LBA) may occur while these plant activities are ongoing.

Please provide a discussion or the results of analyses to show that with the proposed TS deletion of the turbine trip and feedwater isolation functions, the Chapter 15 analyses for applicable LBAs remain valid and bounds the results of the corresponding accidents initiating from Modes 3 through 6.

August 18, 2010

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President and Chief Executive Officer
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Sincerely,
/ra/ (NKalyanam for)
Balwant K. Singal, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-482
Enclosure
As stated
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ADAMS Accession No.: ML102180064 * Memo dated 7/22/10 **via email

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NAME	WKemper*	AUises**	MMarkley (CFLyon for)	BSingal (NKalyanam for)
DATE	7/22/10	7/22/10	8/16/10	8/18/10

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