

Mr. Otto L. Maynard  
President and Chief Executive Officer  
Wolf Creek Nuclear Operating Corporation  
Post Office Box 411  
Burlington, KS 66839

September 12, 2000

SUBJECT: WOLF CREEK GENERATING STATION - ISSUANCE OF AMENDMENT RE: USE  
OF ADMINISTRATIVE CONTROLS FOR OPEN CONTAINMENT  
PENETRATIONS DURING REFUELING (TAC NO. MA9293)

Dear Mr. Maynard:

The Commission has issued the enclosed Amendment No. 135 to Facility Operating License No. NPF-42 for the Wolf Creek Generating Station. The amendment consists of changes to the Technical Specifications (TS) in response to your application dated June 23, 2000 (WO 00-0029), as supplemented dated July 21 and 26, 2000.

The amendment revises TS 3.9.4, "Containment Penetrations," to allow containment penetrations (with direct access to the outside atmosphere) to be unisolated under administrative controls during refueling operations with core alterations or irradiated fuel movement inside containment. The amendment (1) revises the note in Limiting Condition for Operation 3.4.9 for containment penetrations that may be unisolated under administrative controls, deleting the reference to penetrations P-63 and P-98, and (2) deletes the exception for penetrations P-63 and P-98 in Surveillance Requirement 3.9.4.1. In addition, there are format and editorial corrections to TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Start Air," and TS 5.2.2.b, "Administrative Controls," to correct errors issued in Amendment No. 123, issued March 31, 1999. There are also changes to the TS Bases.

A copy of our related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,



Jack Donohew, Senior Project Manager, Section 2  
Project Directorate IV & Decommissioning  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-482

Enclosures: 1. Amendment No. 135 to NPF-42  
2. Safety Evaluation

cc w/encls: See next page

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Wolf Creek Generating Station

cc:

Jay Silberg, Esq.  
Shaw, Pittman, Potts & Trowbridge  
2300 N Street, NW  
Washington, D.C. 20037

Regional Administrator, Region IV  
U.S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76011

Senior Resident Inspector  
U.S. Nuclear Regulatory Commission  
P. O. Box 311  
Burlington, KS 66839

Chief Engineer  
Utilities Division  
Kansas Corporation Commission  
1500 SW Arrowhead Road  
Topeka, KS 66604-4027

Office of the Governor  
State of Kansas  
Topeka, KS 66612

Attorney General  
Judicial Center  
301 S.W. 10th  
2nd Floor  
Topeka, KS 66612

County Clerk  
Coffey County Courthouse  
Burlington, KS 66839

Vick L. Cooper, Chief  
Radiation Control Program, RCP  
Kansas Department of Health  
and Environment  
Bureau of Air and Radiation  
Forbes Field Building 283  
Topeka, KS 66620

Vice President & Chief Operating Officer  
Wolf Creek Nuclear Operating Corporation  
P. O. Box 411  
Burlington, KS 66839

Superintendent Licensing  
Wolf Creek Nuclear Operating Corporation  
P.O. Box 411  
Burlington, KS 66839

U.S. Nuclear Regulatory Commission  
Resident Inspectors Office  
8201 NRC Road  
Steedman, MO 65077-1032

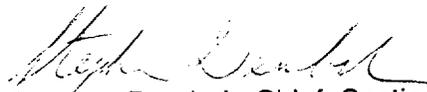
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-42 is hereby amended to read as follows:

2. Technical Specifications

- The Technical Specifications contained in Appendix A, as revised through Amendment No. 135, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated in the license. The Corporation shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 30 days of the date of issuance, including the completion of the administrative procedures that ensure that open containment penetrations, with direct access to the outside atmosphere during refueling operations with core alterations or irradiated fuel movement inside containment, will be promptly closed in the event of a fuel handling accident inside containment.

FOR THE NUCLEAR REGULATORY COMMISSION



Stephen Dembek, Chief, Section 2  
Project Directorate IV & Decommissioning  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: September 12, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 135

FACILITY OPERATING LICENSE NO. NPF-42

DOCKET NO. 50-482

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE

3.8-21  
3.9-5  
3.9-6  
5.0-2

INSERT

3.8-21  
3.9-5  
3.9-6  
5.0-2

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. One or more DGs with new fuel oil properties not within limits.</p>	<p>D.1 Restore stored fuel oil properties to within limits.</p>	<p>30 days</p>
<p>E. One or more DGs with two starting air receivers inservice with pressure &lt; 435 psig and ≥ 250 psig.</p> <p><u>OR</u></p> <p>One or more DGs with one starting air receiver inservice with pressure &lt; 610 psig and ≥ 300 psig.</p>	<p>E.1 Restore two starting air receivers with pressure ≥ 435 psig.</p> <p><u>OR</u></p> <p>E.2 Restore one starting air receiver with pressure ≥ 610 psig.</p>	<p>48 hours</p> <p>48 hours</p>
<p>F. Required Action and associated Completion Time not met.</p> <p><u>OR</u></p> <p>One or more DGs diesel fuel oil, lube oil, or starting air subsystem not within limits for reasons other than Condition A, B, C, D, or E.</p>	<p>F.1 Declare associated DG inoperable.</p>	<p>Immediately</p>

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains $\geq 85,300$ gal of fuel.	31 days
SR 3.8.3.2	Verify lubricating oil inventory is $\geq 750$ gal.	31 days
SR 3.8.3.3	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
SR 3.8.3.4	Verify pressure in two starting air receivers is $\geq 435$ psig or pressure in one starting air receiver is $\geq 610$ psig for each DG starting air subsystem.	31 days
SR 3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	31 days

### 3.9 REFUELING OPERATIONS

#### 3.9.4 Containment Penetrations

LCO 3.9.4

The containment penetrations shall be in the following status:

- a. The equipment hatch closed and held in place by four bolts;
- b. One door in the emergency air lock closed and one door in the personnel air lock capable of being closed; and

-----NOTE-----

An emergency personnel escape air lock temporary closure device is an acceptable replacement for an emergency air lock door.

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- c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere either:
  1. closed by a manual or automatic isolation valve, blind flange, or equivalent, or
  2. capable of being closed by an OPERABLE Containment Purge Isolation valve.

-----NOTE-----

Penetration flow path(s) providing direct access from the containment atmosphere to the outside atmosphere may be unisolated under administrative controls.

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APPLICABILITY: During CORE ALTERATIONS,  
During movement of irradiated fuel assemblies within containment.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more containment penetrations not in required status.	A.1 / Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u> A.2 Suspend movement of irradiated fuel assemblies within containment.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.4.1 Verify each required containment penetration is in the required status.	7 days
SR 3.9.4.2 Verify each required containment purge isolation valve actuates to the isolation position on an actual or simulated actuation signal.	18 months

## 5.0 ADMINISTRATIVE CONTROLS

### 5.1 Responsibility

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- 5.1.1 The Plant Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.
- 5.1.2 The Control Room Supervisor under the Shift Manager shall be responsible for the control room command function. During any absence of the Control Room Supervisor from the control room while the unit is in MODE 1, 2, 3, or 4, an individual with an active Senior Reactor Operator (SRO) license shall be designated to assume the control room command function. During any absence of the Control Room Supervisor from the control room while the unit is in MODE 5 or 6, an individual with an active SRO license or Reactor Operator license shall be designated to assume the control room command function.
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## 5.0 ADMINISTRATIVE CONTROLS

### 5.2 Organization

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#### 5.2.1 Onsite and Operating Organizations

Onsite and operating organizations shall be established for unit operation and corporate management, respectively. The onsite and operating organizations shall include the positions for activities affecting safety of the nuclear power plant.

- a. Lines of authority, responsibility, and communication shall be defined and established throughout highest management levels, intermediate levels, and all operating organization positions. These relationships shall be documented and updated, as appropriate, in organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the USAR;
- b. The Plant Manager shall be responsible for overall safe operation of the plant and shall have control over those onsite activities necessary for safe operation and maintenance of the plant;
- c. The President and Chief Executive Officer shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety; and
- d. The individuals who train the operating staff, carry out health physics, or perform quality assurance functions may report to the appropriate onsite manager; however, these individuals shall have sufficient organizational freedom to ensure their independence from operating pressures.

#### 5.2.2 Unit Staff

The unit staff organization shall include the following:

- a. A nuclear station operator shall be assigned when fuel is in the reactor and an additional nuclear station operator shall be assigned when the unit is in MODE 1, 2, 3, or 4.
- b. Shift crew composition may be one less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and 5.2.2.a and 5.2.2.f for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty

(continued)



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 135 TO FACILITY OPERATING LICENSE NO. NPF-42

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

1.0 INTRODUCTION

By application dated June 23, 2000, Wolf Creek Nuclear Operating Corporation (the licensee) requested changes to the Technical Specifications (TS, Appendix A to Facility Operating License No. NPF-42) for the Wolf Creek Generating Station (WCGS). The proposed changes would revise TS 3.9.4, "Containment Penetrations," of the TS to allow containment penetrations with direct access to the outside atmosphere to be open under administrative controls during refueling operations with core alterations or irradiated fuel movement inside containment.

The proposed changes would (1) revise the note in Limiting Condition for Operation (LCO) 3.4.9 for the containment penetrations that may be open under administrative controls, deleting the reference to containment penetrations P-63 and P-98, and (2) delete the exception for penetrations P-63 and P-98 in Surveillance Requirement (SR) 3.9.4.1. The changes would incorporate an NRC-approved improvement (identified by a Technical Specifications Task Force (TSTF) number) to the improved Standard TS for Westinghouse plants, such as WCGS. The improvement is TSTF-312, Revision 1, which allows containment penetrations with direct access from the containment atmosphere to the outside atmosphere to be open under administrative controls during refueling operations.

In addition, the licensee has proposed format and editorial corrections to TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Start Air," and TS 5.2.2.b, "Administrative Controls." The proposed changes are to remove errors issued in Amendment No. 123, dated March 31, 1999.

The supplements dated July 21 and 26, 2000, (ADAMS Accession No. ML003737556) provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on July 12, 2000 (65 FR 43053).

2.0 EVALUATION

The licensee has proposed to (1) modify TS 3.9.4 on containment penetrations to allow penetrations providing direct access from containment to the atmosphere to be open during refueling operations, and (2) correct TS 5.2.2.b and a required action for LCO 3.8.3.

## 2.1 Open Containment Penetrations During Refueling

In modifying TS 3.9.4, the licensee has proposed a generic change to the improved Standard TS for Westinghouse plants, NUREG-1431, "Standard Technical Specifications, Westinghouse Plants," Revision 1, dated April 1995. The generic change is TSTF-312, Revision 1, which is a change to the requirements on refueling operation that allows containment penetrations with direct access from the containment atmosphere to the outside atmosphere to be open under administrative controls. Because NUREG-1431 was part of the basis for the current TS for WCGS by the improved TS conversion in Amendment No. 123 issued March 31, 1999, and TSTF-312, Revision 1, is an improvement approved by the staff for NUREG-1431, the change in TSTF-312, Revision 1, is applicable to the TS for WCGS.

The licensee has proposed to modify the note to LCO 3.9.4 to state that penetration flow paths providing direct access from the containment atmosphere to the outside atmosphere may be unisolated under administrative controls and delete the exception in SR 3.9.4.1 to the requirement to verify each required containment penetration is in the required position. The proposed note to LCO 3.9.4 is similar to the change in TSTF-312, Revision 1. The proposed deletion of the exception in SR 3.9.4.1 is necessary because with the proposed note the exception in SR 3.9.4.1 is no longer needed. With the proposed note, penetrations P-63 and P-98 are no longer exceptions, as will be discussed below.

The justification for the NRC-approved TSTF is that (1) the dose calculations for the design-basis fuel handling accident (FHA) indicate acceptable radiological consequences, and (2) the licensee will implement administrative procedures that ensure that open containment penetrations can and will be promptly closed in the event of a FHA. The time to close the penetrations shall be documented by the licensee and included in the dose calculations. The review of the proposed changes to TS 3.4.9 will be in terms of the potential dose consequences of the FHA inside containment and the administrative controls to close the open containment penetrations during the FHA inside containment. The FHA inside containment is the limiting or bounding event for activities during refueling when there are core alterations or fuel handling inside containment.

### Dose Consequences of FHA Inside Containment

The limiting event during refueling when there are core alterations or fuel handling inside containment is the FHA inside containment. The licensee has described this event in Section 15.7.4 of the Updated Safety Analysis Report (USAR) for WCGS and the staff's acceptance criteria is given in Standard Review Plan (SRP) 15.7.4 of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants."

The licensee's and the staff's calculated potential dose consequences for the FHA inside containment at the exclusion area boundary and the assumptions used for the calculated dose consequences are in the attached Tables 1 and 2, respectively. The staff's calculated values of the potential dose consequences to the control room operators are also given in Table 1, and the assumptions are provided in Table 2. The acceptance criteria for the exposure of the control room operators is General Design Criterion (GDC) 19 in Appendix A to 10 CFR Part 50.

The licensee's dose consequences in Table 1 came from USAR Table 15.7-8 (exclusion area boundary dose consequences for the FHA inside the reactor building and containment) and Table 15.6-8 (for the control room operator doses for the large-break loss-of-coolant accident which bounds the FHA). The assumptions for these values are in USAR Tables 15.7-7, 15.A-1, and 15.A-2. The staff's dose consequences were reported in Amendment No. 95 issued February 28, 1996, and Amendment No. 120 issued March 22, 1999. The potential dose consequences in Amendment No. 95 were part of the basis of the approval to have both containment personnel airlock doors open during refueling with core alterations or irradiated fuel movement inside containment. The dose consequences reported by the staff in Amendment No. 120 are higher than that in Amendment No. 95 because Amendment No. 120 takes into account the increase in potential fuel burnup with the increase in nominal fuel enrichment to 5 weight percent of U-235 that was approved in that amendment. The staff's assumptions reported in Amendment No. 120 were increased to 1.2 fuel assemblies damaged and 12 percent radioiodines and 30 percent noble gases released (for the extended burnup due to the higher fuel enrichment) from the damaged fuel.

Because the licensee has assumed the same 2-hour period of release that the staff assumed for the FHA inside containment, the staff concludes that the time to close the containment penetrations under the licensee's administrative controls discussed above will not be more than the 2-hour period assumed in the licensee's and staff's dose calculations reported in Table 1.

Because the potential dose consequences from the licensee and the staff given in Table 1 for the FHA inside containment are within the acceptance criteria given in SRP Section 15.7.4 and GDC 19, the staff concludes that the potential doses are acceptable.

#### Administrative Controls and Procedures

In its application, the licensee stated that the proposed amendment would allow containment penetrations providing direct access to the outside atmosphere to be opened during refueling operations under administrative controls. This is currently only permitted for the two containment penetrations P-63 and P-98. The proposed amendment is to allow the licensee to conduct additional refueling outage activities concurrent with the fuel handling work in the outage to permit more efficient performance of outage work while maintaining an acceptable barrier against the release of fission product radioactivity to the outside atmosphere from a fuel accident during core alterations or fuel handling activities inside containment.

The licensee stated that the procedural controls would require that specified personnel would be designated to maintain an awareness of the open status of the containment penetrations during core alterations or irradiated fuel movement inside containment, and to be readily available to promptly close the open penetrations in the event of an accident. The licensee stated that the longest time expected to close the penetrations is on the order of minutes because most containment penetrations would be closed (they would be opened only as needed in the outage, such as for testing purposes) with the exceptions known in the control room, the special situation for closing these penetrations if it is needed would be addressed in the briefings of the personnel involved in the work that requires the penetrations to be open, the communications between the control room and the individual to close the penetration, the containment evacuation signal within the containment that would announce the FHA inside containment for the individual to close the penetration, and the fact that most penetrations can

easily be closed by a remote hand switch. Based on this, the staff concludes that the administrative controls during refueling operations on the open containment penetrations with direct access to the outside atmosphere is acceptable.

The licensee stated that it has not completed revising its procedures for maintaining administrative controls, but will complete them during the implementation of the proposed amendment. This is acceptable to the staff because the revised procedures will be available before the penetrations are unisolated during refueling operations under administrative controls.

Although the licensee stated that it believed that the penetrations could be closed within minutes of an event inside containment, it has not used a time on the order of minutes to calculate the potential consequences of the FHA inside containment. Because both the licensee and the staff (in its independent calculations) have assumed the two-hour release period in Regulatory Guide (RG) 1.25, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors," for the puff of radioactivity radioiodines and noble gases from the damaged fuel to leave containment, the staff concludes that the time to close the penetrations has been conservatively included in the calculation of potential dose consequences of the FHA inside containment.

#### Deletion of Reference to Penetrations P-63 and P-98 in the TS

Currently, containment penetrations P-63 (the service air valves KA V-039 and KA V-118) and P-98 (breathing air valves KB V-001 and KB V-002) which have direct access to the outside atmosphere are allowed to be open under administrative controls during refueling with core alterations or irradiated fuel movement inside containment. These two penetrations were approved to be open under administrative controls in Amendment No. 107, issued July 11, 1997. They are listed in a note to LCO 3.4.9 and in an exception to SR 3.4.9.1 that states these penetrations may be open under administrative controls.

In addition, Amendment No. 95 issued February 28, 1996, approved the containment airlock doors being open during refueling with core alterations or irradiated fuel movement inside containment. The containment is provided with two airlocks, a personnel airlock and an emergency airlock. The personnel airlock is two doors with a personnel chamber between the two doors. The personnel airlock provides access between the auxiliary building and the containment at the operating floor level and are provided for the purpose of permitting personnel to enter and exit the containment without breaking the integrity of the containment pressure boundary. There are redundant mechanical interlocks provided between the two airlock doors to ensure that both doors cannot be opened at the same time, and that one door will always be closed to maintain the containment pressure boundary.

Amendment No. 95 permits the interlocks to be disabled to permit both personnel airlock doors to be opened during core alterations or irradiated fuel handling inside containment when containment integrity is required for core alterations and movement of irradiated fuel inside containment. This would allow both personnel airlock doors to be open during core alterations and irradiated fuel movement inside containment to permit frequent containment access and the quick evacuation of personnel inside containment during an accident. With the personnel airlocks open during the FHA, there would be no filtration of the radioactivity released through

the airlocks during the FHA and the containment personnel airlock being open would be equivalent to a containment penetration that is open to the atmosphere.

In the safety evaluation for Amendment No. 95, the staff pointed out that the airlock doors will be closed as soon as possible after evacuation of containment is completed and the actual doses should be much lower than assumed in the staff's dose calculations. This would also be true for the containment penetrations because of the administrative controls proposed by the licensee to close the penetrations after the accident. The licensee also pointed out that the dispersion of radioactive gases through and outside containment will not be driven by any pressure differential resulting from the accident, but only due to the containment air circulation, so that the actual doses should be lower than assumed in the dose calculations in Table 1.

### Conclusion

The allowance for penetrations P-63 and P-98 to be open under administrative controls is inherently covered in the proposed note to LCO 3.4.9 for containment penetrations with direct access to the outside atmosphere and in the exception to SR 3.9.4.1, and thus both the note and the exception must be changed. The licensee has proposed to (1) replace the reference to penetrations P-63 and P-68 with the statement about "Penetration flow path(s) providing direct access from the containment atmosphere to the outside atmosphere," and (2) delete the exception for these two penetrations from SR 3.9.4.1. The effect of the two changes is now retained by adopting the note that is in TSTF-312, Revision 1. Therefore, the staff agrees that the proposed amendment for TS 3.4.9 is the implementation of TSTF-312, Revision 1.

Based on the proposed amendment to TS 3.4.9 being the implementation of NRC-approved TSTF-312, Revision 1, which is applicable to the TS for WCGS, the acceptable dose consequences of the FHA inside containment and administrative controls for the containment penetrations (with direct access to the outside atmosphere) that are open during refueling with core alterations or irradiated fuel movement inside containment, and the previous amendments approving such penetrations being open under administrative controls during refueling, the staff concludes that the proposed modification of the note to LCO 3.4.9 and the deletion of the exception in SR 3.4.9.1 are acceptable.

### 2.2 Format and Editorial Corrections to the TS

In its application, the licensee also proposed format and editorial corrections to (1) Required Action E.2 of TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Start Air," and (2) TS Section 5.2.2.b, "Unit Staff," of the Administrative Controls section of the TS. These corrections are to correct errors issued in Amendment No. 123 for the conversion to the improved TS for WCGS.

For Required Action E.2 of TS 3.8.3, the licensee has proposed to (1) shift the "OR" logical connector to the left, and (2) add the completion time of 48 hours. Shifting the "OR" to the left for Required Action E.2 will make the "OR" flush with the left margin of the required actions column and consistent with the format of the improved Standard Technical Specifications in NUREG-1431 for Westinghouse plants, and, as stated in Amendment No. 123, one basis for the improved Technical Specifications for WCGS issued in that amendment was NUREG-1431. Therefore, because shifting the "OR" to be flush with the margin of the column is consistent with the format of NUREG-1431, the staff concludes that the proposed change is acceptable.

For Condition E of TS 3.8.3 for one or more diesel generators being inoperable because the starting air receiver pressure is too low, there are two required actions -- E.1 for restoring the air pressure to more than 435 psig in two receivers, and E.2 for, air pressure more than 610 psig in one receiver. As stated in the Bases for TS 3.8.3, there are two air receivers for each diesel generator and there is sufficient receiver air pressure for 5 successive diesel generator starts if there is more than 435 psig in both receivers or more than 610 psig in one receiver. The diesel generator operability requirements on the air receiver are to assure there is at least 5 such starts and the Required Actions E.1 and E.2 are to restore the diesel generator to operability by having either of the two acceptable pressure-receiver conditions (i.e., both receivers greater than 435 psig or one receiver greater than 610 psig). The current TS have a single completion time of 48 hours specified for Condition E, and it may appear that this completion time applies only to Required Action E.1 because the 48 hours appears directly to the left of that required action. The licensee has proposed that the same completion time of 48 hours also be specified to the left of Required Action E.2. Because the diesel generators may be restored to operability by either of the two required actions, both actions do not have to be performed, and the two required actions are similar, the completion times for the two required actions should be same. Because the licensee has proposed for Required Action E.2 the same 48 hours that is clearly specified for Required Action E.1, the staff concludes that the proposed addition of the completion time of 48 hours to Required Action E.2 is acceptable.

The last correction is to TS Section 5.2.2.b on the unit staff organization. The licensee has proposed to replace the "(l)" by (i)" in 10 CFR 50.54(m)(2)(l). The correct reference to the regulations on the minimum licensed operator shift crew composition for the unit staff organization is to 50.54(m)(2)(i), as the licensee has proposed. Because the licensee has proposed to change the reference to the regulations to specify the correct reference, the staff concludes that the proposed change to 10 CFR 50.54 in TS Section 5.2.2.b is acceptable.

### 2.3 Conclusion

Based on the evaluation given in Sections 2.1 and 2.2 above, the staff concludes that the proposed amendment in the licensee's application of June 23, 2000, as supplemented July 21 and 26, 2000, is acceptable. In reviewing the proposed amendment, the staff also looked at the licensee's proposed changes to the Bases for TS 3.4.9. The staff did not have a disagreement with the changes to the Bases.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Kansas State Official was notified of the proposed issuance of the amendment. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes a surveillance requirement. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding

that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (65 FR 43053). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

## 5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Attachments: 1. Table 1, Calculated Radiological Dose Consequences (Rem)  
2. Table 2, Assumptions Used in Calculating Radiological Dose Consequences

Principal Contributor: J. Donohew

Date: September 12, 2000

TABLE 1

CALCULATED RADIOLOGICAL DOSE CONSEQUENCES (REM)

<u>Exclusion Area Boundary</u>	<u>Licensee Doses<sup>1</sup></u>	<u>Staff Doses</u> <u>Amdt 95<sup>2</sup> Amdt 120<sup>3</sup></u>		<u>NRC Acceptance Criteria</u> <u>SRP 15.7.4 Guidelines</u>
Whole Body	0.18	0.14	Not Given	6
Thyroid	64.1	39.7	57.2	75

<u>Control Room (operator)</u>	<u>Licensee Doses</u>	<u>Staff Doses</u> <u>Amdt 95 Amdt 120</u>		<u>NRC Acceptance Criteria</u> <u>GDC-19 Guidelines</u>
Whole Body	0.24	0.07	Not Given	5
Thyroid	20.49	14.5	15.4	Equivalent to 5 rem whole body**

<sup>1</sup> Doses from Wolf Creek Updated Safety Analysis Report Table 15.7-8 for the radiological consequences at the exclusion area boundary for a fuel handling accident (FHA) in the reactor building (containment), and Table 15.6-8 for the control room operator doses for a large-break loss-of-coolant accident (which bounds the FHA in the reactor building).

<sup>2</sup> Doses from Amendment No. 95, issued February 28, 1996.

<sup>3</sup> Doses from Amendment No. 120, issued March 22, 1999.

\*\* Guideline doses provided in Standard Review Plan (SRP) Section 6.4 define the dose equivalent as 30 rem to the thyroid.

TABLE 2

ASSUMPTIONS USED IN CALCULATING RADIOLOGICAL DOSE CONSEQUENCES  
FUEL HANDLING ACCIDENT INSIDE CONTAINMENT

<u>Parameters</u>	<u>Licensee Value</u> <sup>1</sup>	<u>Staff Value</u> <sup>2</sup> (Amdt 95)	<u>Staff Value</u> <sup>3</sup> (Amdt 120)
Power level (MWt)	3565	3565	3565
Number of fuel rods damaged		264	317
Total number of fuel rods		50,952	50,952
Number of assemblies affected	1.2	1.0	1.2
Shutdown time (hours)	100	100	100
Power radial peaking factor*	1.65	1.65	1.65
Fission product release duration (hours)	2.0	2.0	2.0
Release fractions:*			
Radioiodine	12.0% <sup>4</sup>	10.0%	12.0% <sup>4</sup>
Noble gases	10.0%	10.0%	30.0%
Krypton gases	30.0%	30.0%	30.0%
Radioiodine forms:*			
Elemental	75.0%	75.0%	75.0%
Organic	25.0%	25.0%	25.0%
<u>Receptor Point Variables (per TID-14844)</u>			
Exclusion area boundary**			
Atmospheric relative concentration, X/Q (sec/m <sup>3</sup> )			
0-2 hours	1.5 x 10 <sup>-4</sup>	1.4 x 10 <sup>-4</sup>	1.4 x 10 <sup>-4</sup>
Control room			
Atmospheric Dispersion, X/Q (sec/m <sup>3</sup> )	5.3 x 10 <sup>-4</sup>	1.2 x 10 <sup>-3</sup>	5.3 x 10 <sup>-4</sup>
Control room volume (feet <sup>3</sup> )	2.4 x 10 <sup>+5</sup>	2.4 x 10 <sup>+5</sup>	2.4 x 10 <sup>+5</sup>
Maximum filtration rate (feet <sup>3</sup> /minute)	1350	1350	1350
Geometry factor		18	

<sup>1</sup> Wolf Creek Updated Safety Analysis Report Tables 15.7-7, 15A-1, and 15.A-2 on parameters (including control room and atmospheric dispersion factors) used in evaluating the accident analysis of a fuel handling accident inside containment.

<sup>2</sup> Staff parameters from Amendment No. 95, issued February 28, 1996.

<sup>3</sup> Staff parameters from Amendment No. 120, issued March 22, 1999.

<sup>4</sup> Higher extended burnup release fraction for Iodine 131 from NUREG/CR-5009

\* NRC Regulatory Guide (RG) 1.25

\*\* Wolf Creek Safety Evaluation Report (SER), NUREG-0881