

July 7, 1994

Docket No. 50-482

Mr. Neil S. Carns
President and Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
Post Office Box 411
Burlington, Kansas 66839

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WReckley OPA
RBarrett

Dear Mr. Carns:

SUBJECT: WOLF CREEK GENERATING STATION - AMENDMENT NO. 74 TO FACILITY
OPERATING LICENSE NO. NPF-42 (TAC NO. M88895)

The Commission has issued the enclosed Amendment No. 74 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 February 24, 1994.

The amendment revises Technical Specification 3.9.4, Containment Building Penetrations, to allow the use of temporary alternate closure methods for the emergency personnel escape lock and containment wall penetrations, during alterations of the core or movement of irradiated fuel within the containment.

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,

Original Signed By

William D. Reckley, Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 74 to NPF-42
- 2. Safety Evaluation

cc w/enclosures:
See next page

OFFICE	PDIV-2/LA	PDIV-2/PM	NRR:ES/TSB	NRR:OTSB	OGC	PDIV-2/D
NAME	E Peyton	WReckley:ye	RBarrett	CGrimes	C Munn	TQuay
DATE	5/12/94	5/16/94	6/7/94	6/15/94	6/17/94	6/29/94

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DATE	5/14/94	5/16/94	6/7/94	6/15/94	6/17/94	6/29/94

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Sincerely,

A handwritten signature in black ink that reads "William D. Reckley".

William D. Reckley, Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Enclosures:

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2. Safety Evaluation

cc w/enclosures:
See next page

cc w/enclosures:

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

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 74
License No. NPF-42

1. The Nuclear Regulatory Commission (the Commission) has found that:
- A. The application for amendment to the Wolf Creek Generating Station (the facility) Facility Operating License No. NPF-42 filed by the Wolf Creek Nuclear Operating Corporation (the Corporation), dated February 24, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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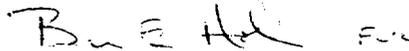
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-42 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 74, 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 issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Theodore R. Quay, Director
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 7, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 74

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

3/4 9-4
B 3/4 9-1

INSERT

3/4 9-4
B 3/4 9-1

REFUELING OPERATIONS

3/4.9.3 DECAY TIME

LIMITING CONDITION FOR OPERATION

3.9.3 The reactor shall be subcritical for at least 100 hours.

APPLICABILITY: During movement of irradiated fuel in the reactor vessel.

ACTION:

With the reactor subcritical for less than 100 hours, suspend all operations involving movement of irradiated fuel in the reactor vessel.

SURVEILLANCE REQUIREMENTS

4.9.3 The reactor shall be determined to have been subcritical for at least 100 hours by verification of the date and time of subcriticality prior to movement of irradiated fuel in the reactor vessel.

REFUELING OPERATIONS

3.4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

- a. The equipment door closed and held in place by a minimum of four bolts,
- b. A minimum of one door in each airlock is closed*, and
- c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:
 - 1) Closed by an isolation valve, blind flange, manual valve, or approved functional equivalent, or
 - 2) Be capable of being closed by an OPERABLE automatic containment purge isolation valve.

APPLICABILITY: During CORE ALTERATIONS or movement of irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS or movement of irradiated fuel in the containment building.

SURVEILLANCE REQUIREMENTS

4.9.4 Each of the above required containment building penetrations shall be determined to be either in its closed/isolated condition or capable of being closed by an OPERABLE automatic containment purge isolation valve within 100 hours prior to the start of and at least once per 7 days during CORE ALTERATIONS or movement of irradiated fuel in the containment building by:

- a. Verifying the penetrations are in their closed/isolated condition, or
- b. Testing the containment purge isolation valves per the applicable portions of Specification 4.6.3.2.

*An emergency escape hatch temporary closure device is an acceptable replacement for that airlock door.

3/4.9 REFUELING OPERATIONS

BASES

3/4.9.1 BORON CONCENTRATION

The limitations on reactivity conditions during REFUELING ensure that: (1) the reactor will remain subcritical during CORE ALTERATIONS, and (2) a uniform boron concentration is maintained for reactivity control in the water volume having direct access to the reactor vessel. The limitation on K_{eff} of no greater than 0.95 is sufficient to prevent reactor criticality during refueling operations. The locking closed of the required valves during refueling operations precludes the possibility of uncontrolled boron dilution of the filled portions of the Reactor Coolant System. This action prevents flow to the RCS of unborated water by closing flow paths from sources of unborated water. These limitations are consistent with the initial conditions assumed for the boron dilution incident in the safety analyses.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of the Source Range Neutron Flux Monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

When determining compliance with action statement requirements, addition to the RCS of borated water with a concentration greater than or equal to the minimum required RWST concentration shall not be considered to be a positive reactivity change.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short-lived fission products. This decay time is consistent with the assumptions used in the safety analyses.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

The requirements on containment building penetration closure and OPERABILITY ensure that a release of radioactive material within containment will be restricted from leakage to the environment. The OPERABILITY and closure restrictions are sufficient to restrict radioactive material release from a fuel element rupture based upon the lack of containment pressurization potential while in the REFUELING MODE.

The OPERABILITY of this system ensures the containment purge penetrations will be automatically isolated upon detection of high radiation levels within containment. The OPERABILITY of this system is required to restrict the release of radioactive materials from the containment atmosphere to the environment.

Equivalent isolation methods for the emergency personnel escape lock and containment wall penetrations ensure releases from containment are prevented for credible accident scenarios. The isolation techniques must be approved by an engineering evaluation and may include use of a material that can provide a temporary, pressure tight seal capable of maintaining the integrity of the penetrations and airlock to restrict the release of radioactive material from a fuel element rupture.

REFUELING OPERATIONS

BASES

3/4.9.5 COMMUNICATIONS

The requirement for communications capability ensures that refueling station personnel can be promptly informed of significant changes in the facility status or core reactivity conditions during CORE ALTERATIONS.

3/4.9.6 REFUELING MACHINE

The OPERABILITY requirements for the refueling machine and auxiliary hoist ensure that: (1) manipulator cranes will be used for movement of drive rods and fuel assemblies, (2) each crane has sufficient load capacity to lift a drive rod or fuel assembly, and (3) the core internals and reactor vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE FACILITY

The restriction on movement of loads in excess of the nominal weight of a fuel and control rod assembly and associated handling tool over other fuel assemblies in the storage pool areas ensures that in the event this load is dropped: (1) the activity release will be limited to that contained in a single fuel assembly, and (2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is consistent with the activity release assumed in the safety analyses.

3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

The requirement that at least one residual heat removal (RHR) loop be in operation ensures that: (1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor vessel below 140°F as required during the REFUELING MODE, and (2) sufficient coolant circulation is maintained through the core to minimize the effect of a boron dilution incident and prevent boron stratification. The minimum of 1000 gpm allows flow rates which provide additional margin against vortexing at the RHR pump suction while in a reduced RCS inventory condition.

Addition of borated water with a concentration greater than or equal to the minimum required RWST concentration but less than the actual RCS boron concentration shall not be considered a reduction in boron concentration.

The requirement to have two RHR loops OPERABLE when there is less than 23 feet of water above the reactor vessel flange ensures that a single failure of the operating RHR loop will not result in a complete loss of RHR capability. With the reactor vessel head removed and at least 23 feet of water above the reactor vessel flange, a large heat sink is available for core cooling. Thus, in the event of a failure of the operating RHR loop, adequate time is provided to initiate emergency procedures to cool the core.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 74 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 February 24, 1994, Wolf Creek Nuclear Operating Corporation (the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License No. NPF-42) for the Wolf Creek Generating Station. The proposed changes would revise Technical Specification 3.9.4, Containment Building Penetrations, to allow the use of temporary alternate closure methods for the emergency personnel escape lock and containment wall penetrations, during alterations of the core or movement of irradiated fuel within the containment.

2.0 BACKGROUND

Wolf Creek Generating Station Technical Specification 3.9.4 currently requires that a minimum of one door in each airlock be closed and that each penetration providing direct access from the containment atmosphere to the outside atmosphere be isolated or capable of being isolated by an automatic isolation valve. The technical specification lists specific acceptable isolation devices as closed isolation valves, blind flanges, closed manual valves, or operable automatic isolation valves. These requirements are applicable during core alterations or movement of irradiated fuel within the containment. Technical Specification 3.6.1.1 requires that primary containment integrity be maintained in Mode 1, Power Operation, through Mode 4, Hot Shutdown.

During a refueling outage, various activities must be completed inside the containment and sometimes require the routing of temporary hoses or cables through the airlocks or penetrations. The current requirements of Technical Specification 3.9.4 limit these activities to portions of the outage in which there are no core alterations or fuel movements being performed. These limitations result in a significant loss of flexibility in planning outage activities. The licensee is proposing to allow the use of temporary closure devices to isolate penetrations used for routing of temporary equipment.

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3.0 EVALUATION

The requirements for containment building penetrations during core alterations or fuel movement are intended to limit the radiological consequences of a fuel handling accident. The existing technical specification lists specific equipment which provides a suitable barrier to the release of radioactive material. However, the design of the isolation equipment is based primarily on the mitigation of design basis accidents during power operation. Given that a fuel handling accident is unlikely to result in pressurization of the containment, the closure of potential release paths by other means would also limit the consequences of such accidents to below the criteria given in Section 15.7 of the Standard Review Plan. This position was adopted by the staff in NUREG-1431, Standard Technical Specifications; Westinghouse Plants, September 1992. Acceptable containment penetration closure methods in the Standard Technical Specifications include valves, blind flanges or equivalent during core alterations or fuel movement.

The licensee has proposed to allow temporary closure devices instead of closing an airlock door and allow approved functional equivalent closure devices for containment penetrations in lieu of closed valves or blind flanges. The temporary devices would be fabricated to the specific requirements associated with the activities being performed during the core alterations or fuel movements. The devices would be designed, fabricated, installed, tested, and utilized in accordance with established procedures. The process would ensure that the temporary device provided adequate closure to maintain the applicability of the licensing basis analysis concerning fuel handling accidents.

The staff finds that the proposed change provides an effective means of preventing the release of radioactive material following a fuel handling accident. Licensing basis analyses related to the potential consequences of design basis accidents remain valid and demonstrate that regulatory requirements are satisfied. The staff finds the proposed changes acceptable.

4.0 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.

5.0 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. 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 (59 FR 17610). 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.

6.0 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.

Principal Contributor: W. D. Reckley

Date: July 7, 1994