WOLF CREEK
NUCLEAR OPERATING CORPORATION

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JUN 2 3 2000

WO 00-0029

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Washington, D. C. 20555

Subject: Docket No. 50-482: Application For Amendment To Technical Specification 3.9.4, "Containment Penetrations," to Allow Use of Administrative Controls for Open Penetrations During Refueling Operations

Gentlemen:

In accordance with the provisions of 10 CFR 50.90, Wolf Creek Nuclear Operating Corporation (WCNOC) is submitting a request for an amendment to WCNOC's license NPF-42 to change the Technical Specifications for the Wolf Creek Generating Station (WCGS).

The proposed amendment would revise the WCGS Technical Specifications (TS) for Limiting Condition for Operation (LCO) 3.9.4, "Containment Penetrations" to allow certain containment penetrations to be open during refueling activities under appropriate administrative controls. The changes are consistent with NRC approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-312, Revision 1. In addition, format and editorial corrections in TS 3.8.3 and 5.2.2b. are being made that are attributed to errors associated with the conversion application and supplements or submittal of the certified copy of the improved Technical Specifications.

Attachment I provides a detailed description, safety analysis of the proposed change, and WCNOC's determination that the proposed change does not involve a significant hazards consideration. Attachment II provides the existing TS pages marked-up to show the proposed change. Attachment III provides the existing TS Bases pages marked-up to show the proposed change (for information only). Attachment IV provides a summary of the licensing commitments made in this submittal.

WCNOC requests that approval of this proposed License Amendment be provided approximately 30 days prior to the beginning of the Refueling Outage 11 scheduled to begin on September 30, 2000. The amendment will be implemented within 30 days of NRC approval.

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In addition, WCNOC is submitting this License Amendment Request in conjunction with the industry consortium of five plants as a result of a mutual agreement known as Strategic Teaming and Resource Sharing or STARS. The STARS group consists of the five plants operated by TXU Electric, AmerenUE, Wolf Creek Nuclear Operating Corporation, Pacific Gas and Electric, and STP Nuclear Operating Company. Other members of the STARS group can also be expected to submit plant specific License Amendment Requests similar to this request. These additional License Amendment Requests will be submitted either in parallel with or upon approval of this request in order to reduce the amount of NRC resources required to evaluate and approve the requests.

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 should have any questions regarding this submittal, please contact me at (316) 364-4112, or Mr. Tony Harris at (316) 364-4038.

Very truly yours,

Britt T. McKinney

BTM/rlr

Attachments:
- I - Description and Assessment
- II - Proposed Technical Specification Changes
- III Proposed Technical Specification Bases Changes
- IV - List of Commitments

cc: V. L. Cooper (KDHE), w/a
J. N. Donohew (NRC), w/a
W. D. Johnson (NRC), w/a
E. W. Merschoff (NRC), w/a
Senior Resident Inspector (NRC), w/a

STATE OF KANSAS)
) SS
COUNTY OF COFFEY)

Britt T. Mc-Kinney, of lawful age, being first duly sworn upon oath says that he is Vice President Plant Operations and Plant Manager 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 Britt T. Mc-Kinney
Vice President Plant Operations and
Plant Manager

SUBSCRIBED and sworn to before me this 23rd day of June, 2000.

Julie A. Dale
Notary Public

JULIE A. DALE
Notary Public - State of Kansas
My Appt. Expires 10/20/2002

Expiration Date 10/20/2002

ATTACHMENT I

Description and Assessment

Safety Analysis

1.0 INTRODUCTION

This proposed License Amendment Request is a request pursuant to 10 CFR 50.90 to revise Technical Specification (TS) 3.9.4, "Containment Penetrations," for the Wolf Creek Generating Station (WCGS).

In addition, format and editorial corrections in TS 3.8.3, 3.9.4, and 5.2.2b. are being made that are attributed to errors associated with the conversion application and supplements or submittal of the certified copy of the improved Technical Specifications.

2.0 DESCRIPTION

The proposed License amendment would revise the Limiting Condition for Operation (LCO) 3.9.4, Item (c) by revising the NOTE to allow unisolating containment penetration flow path(s) under administrative controls during operations involving core alterations or fuel movement inside containment. Surveillance Requirement (SR) 3.9.4.1 is revised to delete the exception for containment penetrations P-63 and P-98 based on the revision to the NOTE.

The proposed License amendment would revise TS 3.8.3, ACTION E, to provide the correct format consistent with TS 1.2, "Logical Connectors," and 1.3 "Completion Times." Specifically, the "OR" logical connector is shifted to be flush with the left margin and a Completion Time is specified for Required Action E.2.

The proposed License amendment would revise TS 5.2.2b. to correctly reference the regulation that specifies the requirements for shift crew composition. Specifically, "10 CFR 50.54(m)(2)(I)" is revised to "10 CFR 50.54(m)(2)(i)."

3.0 BACKGROUND

The current TS 3.9.4 only permits opening containment penetrations P-63 (service air valves KA V-039 and KA V-118) and P-98 (breathing air valves KB V-001 and KB V-002) under administrative controls during operations involving core alterations or fuel movement inside containment. Amendment No. 107 (Reference 1) approved the use of administrative controls for these penetrations due to the possibility that direct access could be established through these penetrations if the associated air compressor was turned off or failed with its respective containment isolation valves open. The proposed Technical Specification change would allow opening containment penetration flow path(s) that provide direct access from the containment atmosphere to the outside atmosphere under administrative controls during operations involving core alterations or fuel movement inside containment.

Technical Specification 3.6.3, "Containment Isolation Valves," currently has a similar provision for temporarily opening containment penetration flow paths in MODES 1 through 4 under administrative controls. This allowance does not apply during refueling operations when the need for containment integrity is less. The allowance to keep penetration flow paths open with administrative controls in place will support the performance of other outage activities concurrent with fuel handling activities. The current TS would require that some outage activities be interrupted while fuel handling activities or core alterations are in progress. The proposed revision will allow for more efficient performance of outage work while continuing to provide an acceptable

barrier against the release of fission product radioactivity to the outside atmosphere during core alterations or fuel handling activities inside containment.

Administrative controls will be implemented to ensure in the event of a fuel handling accident (FHA) inside containment, the open penetrations will be promptly closed. These administrative controls include an awareness of the temporary flow path conditions and the designation of individuals to isolate the flow paths in the event of a FHA. The proposed change is described below and is consistent with NRC approved Industry/TSTF Standard Technical Specification Change Traveler, TSTF-312, Revision 1 (Reference 2).

4.0 TECHNICAL ANALYSIS

During core alterations or movement of irradiated fuel assemblies within containment, a release of fission product radioactivity to the environment due to a FHA inside containment will be restricted to required limits when the TS requirements are met. In MODES 1, 2, 3, and 4, this is accomplished by maintaining containment OPERABLE as described in TS 3.6.1, "Containment."

The requirements of TS 3.9.4, "Containment Penetrations," ensure that the consequences of a postulated FHA inside containment during core alterations or fuel handling activities remain within acceptable limits. The LCO establishes containment penetration closure requirements, which limit the potential escape paths for fission products by ensuring that there is at least one integral barrier to the release of radioactive material. LCO 3.9.4 requires a minimum of one door in the emergency airlock to be closed and at least one door in the personnel airlock to be capable of being closed and requires that each penetration providing direct access from the containment atmosphere to the outside atmosphere either be closed by a manual or automatic isolation valve, blind flange, or "equivalent." As discussed in the TS Bases, Background section for TS 3.9.4, "equivalent" isolation methods must be approved and may include use of a material that can provide a temporary, atmospheric pressure, ventilation barrier for containment penetrations during fuel movement.

The proposed TS change to allow the containment penetration flow path(s) to remain open while using administrative controls fully implements NRC approved TS traveler TSTF-312, Revision 1. Further, this approach is consistent with the administrative controls currently allowed by WCGS TS for more restrictive, higher operational modes. Current provisions in TS 3.6.3, "Containment Isolation Valves," allow penetration flow paths to be unisolated under administrative controls in MODES 1 through 4. The controls include a designated operator having continuous communication with the Control Room who can isolate the open valve in the event of an accident. This allowance has been determined to be an acceptable means to allow the opening of flow paths in consideration of the administrative controls that minimize the impact of an accident. These modes are more significant than during refueling operations due to the RCS energy and potential to provide a significant motive force for the expulsion of radionuclides, subsequent to a design basis accident.

A similar allowance is acceptable for penetrations that are open during fuel movement or core alterations provided appropriate administrative controls are utilized. During core alterations or fuel movement activities inside containment, the potential for a FHA resulting in containment pressurization is negligible since the reactor is shutdown. Therefore, allowing penetration flow path(s) that have direct access from the containment atmosphere to the outside atmosphere to be unisolated is acceptable during refueling operations provided appropriate administrative controls are used. These proposed controls will include an awareness of the open penetration and designation of individual(s) readily available for closing the open penetration in the event of a FHA inside containment.

The WCGS design basis FHA is defined as the dropping of a spent fuel assembly onto the spent fuel pool fuel storage area or inside containment. Both analyses assume the rupture of the cladding of all the fuel rods in the assembly. These FHA events are postulated for safety system design purposes even though many administrative controls and physical limitations are imposed on fuel handling operations. Section 15.7.4 of the USAR (Reference 3) discusses the consequences of a postulated FHA inside containment. The results from the current analysis of a FHA indicate an exclusion area boundary thyroid dose of 64.1 REM and whole body dose of 0.177 REM. These results are well within the 10 CFR 100 (Reference 4) offsite dose limits of 300 REM and 25 REM, respectively, and less than the guideline values of Standard Review Plan, Section 15.7.4, Revision 1 (Reference 5).

The FHA analysis presented in the USAR (Reference 3) considered dropping a single irradiated fuel assembly in either the containment or fuel building. The postulated FHA inside containment with the personnel airlock doors remaining open, remains the limiting FHA when considering open penetration flow paths. In the event of a FHA inside containment with open penetrations, transmission of radionuclides to the outside environment is unlikely. This is because the dispersion of radioactive material through the containment will not be driven by any pressure differential resulting from the accident, but only due to the course of containment air circulation. The administrative controls for prompt closure of the containment penetration flow paths would minimize the potential spread of radioactive isotopes from the containment to the outside environment. Therefore, following a FHA inside containment, the lack of containment pressurization provides sufficient time to manually isolate the penetration flow paths to minimize dose consequences. The consequences of a FHA inside containment with open penetration flow paths are bounded by the current analysis described in the USAR. This ensures that offsite dose is well within the 10 CFR 100 regulatory limits and less than the guideline values of Standard Review Plan, Section 15.7.4, Revision 1.

Amendment No. 95 (Reference 6) approved leaving the containment air lock open during fuel movement and core alteration. In that application, WCNOC recalculated the doses and revised the design basis for the FHA analysis to be consistent with Regulatory Guide 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." In that reanalysis, credit was not taken for the containment building barriers. The analysis calculated the doses for the 0-2 hour period at the exclusion area boundary. The calculated doses were within the Standard Review Plan criteria of 6 REM to the whole body and 75 REM to the thyroid. As discussed in Amendment No. 107 (Reference 1), the potential dose consequences from a simultaneous release of the gaseous effluents through an unisolated penetration flow path and the open personnel airlock doors is the same. That is because the analysis assumes all radioactive material from the FHA is released to the environment within a two hour period. Therefore, allowing penetration flow paths to be unisolated during core alterations or movement of irradiated fuel will not invalidate the conclusion that the potential dose consequences from a FHA will be well within the 10 CFR Part 100 limits.

The NRC has historically required plants' technical specifications to maintain containment closure during core alterations and fuel handling as a defense-in-depth measure to further limit releases. This has been relaxed by allowing both doors to the containment personnel air lock and selected containment penetrations to be open during core alterations and fuel handling with provisions in place to quickly close one door or isolate the penetration (References 1 and 6). WCNOC proposes to extend the same provisions for penetration flow paths open during core alterations and fuel handling. These procedural controls include:

1. Appropriate personnel will maintain an awareness of the open status of the penetration flow path during core alterations and movement of irradiated fuel assemblies within containment.

2. Specified individuals will be designated and readily available to promptly isolate open penetration flow paths in the event of a FHA inside containment.

Based on the analysis of the FHA and the administrative controls specified for the proposed allowance to unisolate containment penetration flow paths, the proposed changes are acceptable. With respect to the proposed administrative controls, the proposed License amendment provides assurance that offsite dose levels associated with a FHA inside containment will be maintained well within the applicable regulatory limits of 10 CFR 100.

Administrative Changes to Correct Editorial/Format Errors

License Amendment No. 123 and the associated Safety Evaluation was issued on March 31, 1999 for the conversion of the WCGS Technical Specifications (pre Amendment No. 123) to the improved Technical Specifications (post Amendment No. 123). Subsequent to implementation of Amendment No. 123, WCNOC has identified several format and editorial changes that require correcting.

The proposed License amendment would revise TS 3.8.3, ACTION E, to provide the correct format consistent with TS 1.2, "Logical Connectors," and 1.3 "Completion Times." Specifically, the "OR" logical connector is shifted to be flush with the left margin and a Completion Time is specified for Required Action E.2.

The proposed License amendment would revise TS 5.2.2b. to correctly reference the regulation that specifies the requirements for shift crew composition. Specifically, "10 CFR 50.54(m)(2)(I)" is revised to "10 CFR 50.54(m)(2)(i)."

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Determination

WCNOC has evaluated whether or not a significant hazards consideration is involved with the proposed changes by focusing on the three standards set forth in 10 CFR 50.92(c) as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   The status of the penetration flow paths during refueling operations has no affect on the probability of the occurrence of any accident previously evaluated. The proposed revision does not alter any plant equipment or operating practices in such a manner that the probability of an accident is increased. Since the consequences of a FHA inside containment with open penetration flow paths are bounded by the current analysis described in the USAR and the probability of an accident is not affected by the status of the penetration flow paths, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed changes to correct editorial/format errors involve corrections to the technical specifications that are associated with the original conversion application and supplements or the certified copy of

the improved Technical Specifications. As such, these changes are considered as administrative changes and do not modify, add, delete, or relocate any technical requirements in the technical specifications.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The open containment penetration flow paths are not accident initiators and do not represent a significant change in the configuration of the plant. The proposed allowance to open the containment penetrations during refueling operations will not adversely affect plant safety functions or equipment operating practices such that a new or different accident could be created.

The proposed changes to correct editorial/format errors involve corrections to the technical specifications that are associated with the original conversion application and supplements or the certified copy of the improved Technical Specifications. As such, these changes are considered as administrative changes and do not modify, add, delete, or relocate any technical requirements on the technical specifications.

Therefore, the proposed revision will not create a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No

Technical Specification LCO 3.9.4 closure requirements for containment penetrations ensure that the consequences of a postulated FHA inside containment during core alterations or fuel handling activities are minimized. The LCO establishes containment closure requirements, which limit the potential escape paths for fission products by ensuring that there is at least one integral barrier to the release of radioactive material. The proposed change to allow the containment penetration flow paths to be open during refueling operations under administrative controls does not significantly affect the expected dose consequences of a FHA because the limiting FHA is not changed. The proposed administrative controls provide assurance that prompt closure of the penetration flow paths will be accomplished in the event of a FHA inside containment thus minimizing the transmission of radioactive material from the containment to the outside environment. Under the proposed TS change, the provisions to promptly isolate open penetration flow paths provide assurance that the offsite dose consequences of a FHA inside containment will be minimized.

The proposed changes to correct editorial/format errors involve corrections to the technical specifications that are associated with the original conversion application and supplements or the certified copy of the improved Technical Specifications. As such, these changes are considered as administrative changes and do not modify, add, delete, or relocate any technical requirements in the technical specifications.

Therefore, the proposed changes to the Technical Specifications do not involve a significant reduction in the margin of safety.

Based on the above evaluations, WCNOC concludes that the activities associated with the above described changes present no significant hazards under the standards set forth in 10 CFR 50.92 and that there is reasonable assurance that the health and safety of the public will not be endangered by the proposed change. Moreover, because this change does not involve a significant hazards consideration, it will also not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

5.2 Regulatory Safety Analysis

Applicable Regulatory Requirements/Criteria

The regulatory basis for TS 3.9.4, "Containment Penetrations," is to ensure that the primary containment is capable of containing fission product radioactivity that may be released from the reactor core following a FHA inside containment. This ensures that offsite radiation exposures are maintained well within the requirements of 10 CFR 100.

10 CFR Part 50, Appendix A, General Design Criterion (GDC) 16, "Containment Design," requires that reactor containment and associated systems shall be provided to establish an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment and to assure that the containment design conditions important to safety are not exceeded for as long as the postulated accident conditions require.

GDC 54, "Piping Systems Penetrating Containment," requires that piping systems penetrating primary reactor containment shall be provided with leak detection, isolation, and containment capabilities having redundancy, reliability, and performance capabilities which reflect the importance to safety of isolating these piping systems. Such piping systems shall be designed with a capability to test periodically the operability of the isolation valves and associated apparatus and to determine if valve leakage is within acceptable limits.

GDC 56, "Primary Containment Isolation," describes the isolation provisions that must be provided for lines that connect directly to the containment atmosphere and which penetrate primary reactor containment unless it can be demonstrated that the isolation provisions for a specific class of lines are acceptable on some other defined basis.

GDC 61, "Fuel Storage and Handling and Radioactivity Control," requires that the fuel storage and handling, radioactive waste, and other systems which may contain radioactivity shall be designed to assure adequate safety under normal and postulated accident conditions.

U. S. NRC Regulatory Guide 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," is NRC guidance which describes a method acceptable to the NRC staff for licensee evaluation of the potential radiological consequences of a fuel handling accident.

NUREG/CR-5009, "Assessment of the Use of Extended Burnup Fuel in Light Water Power Reactors," relates to the expected release fraction for the radioactive iodine. According to this report, the calculated release fraction for extended burnup fuel may be up to 20% higher than that assumed in Regulatory Guide 1.25 for iodine-131.

NUREG-0800, "U. S. NRC Standard Review Plan," Section 15.7.4, provides guidance to the NRC staff for the review and evaluation of system design features and plant procedures provided for the mitigation of the radiological consequences of postulated fuel handling accidents.

The parameters of concern and the acceptance criteria applied are based on the requirements of 10 CFR 100 with respect to the calculated radiological consequences of a FHA and GDC 61 with respect to appropriate containment, confinement, and filtering systems.

Analysis

The method of analysis used for evaluating the potential radiological consequences of the postulated fuel handling accident is in compliance with Regulatory Guide 1.25 and the guidance in NUREG-0800, Section 15.7.4 and NUREG/CR-5009. The analysis presented in Section 15.7.4 of the WCGS USAR, demonstrating the adequacy of the system design features and plant procedures provided for the mitigation of the radiological consequences of postulated fuel handling accidents, assumes no credit is taken for iodine removal by the atmosphere filtration system filters. All radioactivity released to the containment is assumed to be released to the environment at ground level over a two hour period.

Conclusion

The technical analysis performed by WCNOC demonstrates that the consequent doses at the exclusion area and low population zone boundaries are well within the limits of 10 CFR 100. Therefore, the proposed License amendment is in compliance with GDC 16, 54, 56, and 61 as well as Regulatory Guide 1.25, NUREG/CR-5009, and the criteria contained in NUREG-0800, Section 15.7.4.

6.0 ENVIRONMENTAL EVALUATION

WCNOC has determined that the proposed amendment would change requirements with respect to the installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. WCNOC has evaluated the proposed change and has determined that the change does not involve (i) a significant hazards consideration, (ii) a significant change in the types of or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. As discussed above, the proposed changes do not involve a significant hazards consideration and the analysis demonstrates that the consequences from a FHS are well within the 10 CFR 100 limits. The implementation of administrative controls precludes a significant increase in occupational radiation exposure. Accordingly, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed change is not required.

7.0 REFERENCES

1. Letter dated July 11, 1997 from James C. Stone, NRC to Otto L. Maynard, WCNOC, "Wolf Creek Generating Station - Amendment No. 107 to Facility Operating License No. NPF-42 (TAC No. M98508)."

2. Industry/TSTF Standard Technical Specification Change Traveler TSTF-312, "Administratively Control Containment Penetrations," Rev. 1.

3. USAR Section 15.7.4, "Fuel Handling Accidents."

4. 10 CFR Part 100, Paragraph 11, "Determination of Exclusion Area, Low Population Zone, and Population Center Distance."

5. NUREG-0800, Standard Review Plan, Section 15.7.4, Rev. 1, July 1981.

6. Letter dated February 28, 1996 from James C. Stone, NRC to Neil S. Carns, WCNOC, "Wolf Creek Generating Station - Amendment No. 95 to Facility Operating License No. NPF-42 (TAC No. M94113)."

7. Federal Register, 65 FR 9017 Vol. 65, N0. 36.

8. Letter from Ronald W. Hernan, Office of Nuclear Reactor Regulation (USNRC) to J. A. Scalice, Chief Nuclear Officer and Executive Vice President, Tennessee Valley Authority dated February 11, 2000.

8.0 PRECEDENTS

There are precedents for allowing containment penetrations to be open during refueling activities using appropriate administrative controls. The Tennessee Valley Authority operating licenses for Sequoyah Unit 1, Operating License No. DPR-77 and Docket No. 50-327, and for Sequoyah Unit 2, Operating License No. DPR-79 and Docket No. 50-328, have been amended to allow containment penetrations to be open during refueling activities using appropriate administrative controls (Reference 7). These amendments, Nos. 249 and 240 respectively, were issued on February 11, 2000 (Reference 8).

The significant difference between the Sequoyah change and the change proposed herein is that the Sequoyah plant design includes a secondary containment enclosure which is designed to hold up radioactive gases prior to their filtered release (Reference 8) while the WCGS plant design includes no such system. The WCGS analysis of a FHA inside containment takes no credit for iodine removal by the atmosphere filtration system filters but assumes that all activity released is released at ground level to the environment over a two hour period.

ATTACHMENT II

PROPOSED TECHNICAL SPECIFICATION CHANGES

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 P-63 (Service Air valves KAV-039 and KAV-118) and Penetration P-98 (Breathing Air valves KB V-001 and KB V-002)~~ may be unisolated under administrative controls.

Penetration flow path(s) providing direct access from the containment atmosphere to the outside atmosphere

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
	AND	
	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 ~~except for containment penetrations P-63 and P-98 that are open under administrative controls.~~	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

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more DGs with new fuel oil properties not within limits.	D.1 Restore stored fuel oil properties to within limits.	30 days
E. One or more DGs with two starting air receivers inservice with pressure < 435 psig and ≥ 250 psig. OR One or more DGs with one starting air receiver inservice with pressure < 610 psig and ≥ 300 psig.	E.1 Restore two starting air receivers with pressure ≥ 435 psig. OR E.2 Restore one starting air receiver with pressure ≥ 610 psig.	48 hours 48 hours
F. Required Action and associated Completion Time not met. OR 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.	F.1 Declare associated DG inoperable.	Immediately

5.0 ADMINISTRATIVE CONTROLS

5.2 Organization

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)

ATTACHMENT III

PROPOSED TECHNICAL SPECIFICATION BASES CHANGES

B 3.9 REFUELING OPERATIONS

B 3.9.4 Containment Penetrations

BASES

BACKGROUND

During CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, a release of fission product radioactivity within containment will be restricted from escaping to the environment when the LCO requirements are met. In MODES 1, 2, 3, and 4, this is accomplished by maintaining containment OPERABLE as described in LCO 3.6.1, "Containment." In MODE 6, the potential for containment pressurization as a result of an accident is not likely; therefore, requirements to isolate the containment from the outside atmosphere can be less stringent. The LCO requirements are referred to as "containment closure" rather than "containment OPERABILITY." Containment closure means that all potential escape paths are closed or capable of being closed. Since there is no potential for containment pressurization, the 10 CFR 50, Appendix J leakage criteria and tests are not required.

penetration

The containment serves to contain fission product radioactivity that may be released from the reactor core following an accident, such that offsite radiation exposures are maintained well within the requirements of 10 CFR 100. Additionally, the containment provides radiation shielding from the fission products that may be present in the containment atmosphere following accident conditions.

The containment equipment hatch, which is part of the containment pressure boundary, provides a means for moving large equipment and components into and out of containment. During CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, the equipment hatch must be held in place by at least four bolts. Good engineering practice dictates that the bolts required by this LCO be approximately equally spaced.

The containment air locks, which are also part of the containment pressure boundary, provide a means for personnel access during MODES 1, 2, 3, and 4 unit operation in accordance with LCO 3.6.2, "Containment Air Locks." Each air lock has a door at both ends. The doors are normally interlocked to prevent simultaneous opening when containment OPERABILITY is required. During periods of unit shutdown when containment closure is not required, the door interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary. During CORE ALTERATIONS or movement of irradiated

penetration

BASES

penetration

BACKGROUND (continued)

fuel assemblies within containment, containment closure is required; therefore, the door interlock mechanism may remain disabled. However, one personnel air lock door must be capable of being closed, and one emergency air lock door must be closed. In the case of the emergency air lock door, a temporary closure device is an acceptable replacement for the air lock door (Ref. 1). Both containment personnel air lock doors may be open during movement of irradiated fuel or CORE ALTERATIONS, provided an air lock door is capable of being closed and the water level in the refueling pool is maintained as required. Service air valves KA V-039 and KA V-118 (Containment Penetration P-63) and Breathing air valves KB V-001 and KB V-002 (Containment Penetration P-98) may be opened under administrative control during movement of irradiated fuel or CORE ALTERATIONS to provide air services to the reactor building to support outage activities. (Ref. 5). Administrative controls ensure that 1) appropriate personnel are aware of the open status of the containment during movement of irradiated fuel or CORE ALTERATIONS, 2) specified individuals are designated and readily available to close the air lock or the service air and breathing air valves following an evacuation that would occur in the event of a fuel handling accident and 3) any obstructions (e.g. cables and hoses) that would prevent rapid closure of an open air lock can be quickly removed. (Ref. 4).

The requirements for containment penetration closure ensure that a release of fission product radioactivity within containment will be restricted from escaping to the environment. The closure restrictions are sufficient to restrict fission product radioactivity release from containment due to a fuel handling accident during refueling.

The Containment Purge System includes two subsystems. The shutdown purge subsystem includes a 36 inch supply penetration and a 36 inch exhaust penetration. The second subsystem, a mini-purge system, includes an 18 inch supply penetration and an 18 inch exhaust penetration. During MODES 1, 2, 3, and 4, the two valves in each of the shutdown purge supply and exhaust penetrations are secured in the closed position or blind flange installed. The two valves in each of the two minipurge penetrations can be opened intermittently, but are closed automatically by the Engineered Safety Features Actuation System (ESFAS). Neither of the subsystems is subject to a Specification in MODE 5 or MODE 6 excluding CORE ALTERATIONS or movement of irradiated fuel in containment.

In MODE 6, large air exchanges are necessary to conduct refueling operations. The normal 36 inch purge system is used for this purpose, and all four valves may be closed by the ESFAS in accordance with

— No changes this page, included for information —

BASES

BACKGROUND (continued)

LCO 3.3.6, "Containment Purge Isolation Instrumentation," during CORE ALTERATIONS or movement of irradiated fuel in containment.

When the minipurge system is not used in MODE 6, all four 18 inch valves are closed.

The other containment penetrations that provide direct access from containment atmosphere to outside atmosphere must be isolated on at least one side. Isolation may be achieved by an OPERABLE automatic isolation valve, or by a manual isolation valve, blind flange, or equivalent. Equivalent isolation methods must be approved and may include use of a material that can provide a temporary, atmospheric pressure, ventilation barrier for the other containment penetrations and the emergency personnel escape lock during fuel movements (Ref. 1).

APPLICABLE SAFETY ANALYSES

During CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, the most severe radiological consequences result from a fuel handling accident. The fuel handling accident is a postulated event that involves damage to irradiated fuel (Ref. 2). Fuel handling accident, analyzed in Reference 2, assumes dropping a single irradiated fuel assembly. The requirements of LCO 3.9.7, "Refueling Pool Water Level," and the minimum decay time of 100 hours prior to CORE ALTERATIONS ensure that the release of fission product radioactivity, subsequent to a fuel handling accident, results in doses that are well within the guideline values specified in 10 CFR 100. Standard Review Plan, Section 15.7.4, Rev. 1 (Ref. 3), defines "well within" 10 CFR 100 to be 25% or less of the 10 CFR 100 values. The acceptance limits for offsite radiation exposure will be 25% of 10 CFR 100 values.

Containment penetrations satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

This LCO limits the consequences of a fuel handling accident in containment by limiting the potential escape paths for fission product radioactivity released within containment. The LCO requires any penetration providing direct access from the containment atmosphere to the outside atmosphere to be closed except for the OPERABLE containment purge penetrations and the personnel air lock. For the OPERABLE containment purge penetrations, this LCO ensures that each penetration is isolable by the Containment Purge Isolation System to ensure that releases through the valves are terminated, such that radiological doses are within the acceptance limit.

BASES

INSERT A

LCO (continued)

LCO 3.9.4.b is modified by a Note allowing an emergency escape air lock temporary closure device to be an acceptable replacement for an emergency air lock door.

INSERT B

~~LCO 3.9.4.c is modified by a Note allowing Penetration P-63 (Service air valves KA V-039 and KA V-118) and Penetration P-98 (Breathing air valves KB V-001 and KB V-002) to be unisolated under administrative controls.~~

APPLICABILITY

The containment penetration requirements are applicable during CORE ALTERATIONS or movement of irradiated fuel assemblies within containment because this is when there is a potential for a fuel handling accident. In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1. In MODES 5 and 6, when CORE ALTERATIONS or movement of irradiated fuel assemblies within containment are not being conducted, the potential for a fuel handling accident does not exist. Therefore, under these conditions no requirements are placed on containment penetration status.

ACTIONS

A.1 and A.2

If the containment equipment hatch, air locks, or any containment penetration that provides direct access from the containment atmosphere to the outside atmosphere is not in the required status, including the containment purge isolation valve not capable of automatic actuation, the unit must be placed in a condition where the isolation function is not needed. This is accomplished by immediately suspending CORE ALTERATIONS and movement of irradiated fuel assemblies within containment. Performance of these actions shall not preclude completion of movement of a component to a safe position.

SURVEILLANCE REQUIREMENTS

SR 3.9.4.1

This Surveillance demonstrates that each of the containment penetrations required to be in its closed position is in that position. The Surveillance on the open purge isolation valves will demonstrate that the valves are not blocked from closing. Also the Surveillance will demonstrate that each valve operator has motive power, which will ensure that each valve is capable of being closed by an OPERABLE automatic containment purge isolation signal. ~~The SR specifies that~~ containment penetrations ~~P-63 and P-98~~ that are open under

INSERT A

One door in the emergency air lock must be closed and one door in the personnel air lock must be capable of being closed. Both containment personnel air lock doors may be open during movement of irradiated fuel or CORE ALTERATIONS, provided an air lock door is capable of being closed and the water level in the refueling pool is maintained as required. Administrative controls ensure that 1) appropriate personnel are aware of the open status of the containment during movement of irradiated fuel or CORE ALTERATIONS, 2) specified individuals are designated and readily available to close the air lock following an evacuation that would occur in the event of a fuel handling accident, and 3) any obstructions (e.g., cables and hoses) that would prevent rapid closure of an open air lock can be quickly removed (Ref. 4).

INSERT B

The LCO is modified by a Note allowing penetration flow paths with direct access from the containment atmosphere to the outside atmosphere to be unisolated under administrative controls. Administrative controls ensure that 1) appropriate personnel are aware of the open status of the penetration flow path during CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, and 2) specified individuals are designated and readily available to isolate the flow path in the event of a fuel handling accident.

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.9.4.1 (continued)

administrative controls are not required to meet the SR during the time the penetrations are open.

The Surveillance is performed every 7 days during CORE ALTERATIONS or movement of irradiated fuel assemblies within containment. The Surveillance interval is selected to be commensurate with the normal duration of time to complete fuel handling operations. A surveillance before the start of refueling operations will provide sufficient surveillance verification during the applicable period for this LCO. As such, this Surveillance ensures that a postulated fuel handling accident that releases fission product radioactivity within the containment will not result in a release of fission product radioactivity to the outside atmosphere.

SR 3.9.4.2

This Surveillance demonstrates that each containment purge isolation valve actuates to its isolation position on manual initiation or on an actual or simulated high radiation signal. The 18 month Frequency maintains consistency with other similar ESFAS instrumentation and valve testing requirements. In LCO 3.3.6, the Containment Purge Isolation instrumentation requires a CHANNEL CHECK every 12 hours and a COT every 92 days to ensure the channel OPERABILITY during refueling operations. Every 18 months a CHANNEL CALIBRATION is performed. SR 3.6.3.5 demonstrates that the isolation time of each valve is in accordance with the Inservice Testing Program requirements. These Surveillances will ensure that the valves are capable of closing after a postulated fuel handling accident to limit a release of fission product radioactivity from the containment.

BASES

REFERENCES

1. Amendment No. 74 to Wolf Creek Generating Station Operating License NPF-42, dated July 7, 1994.

2. USAR, Section 15.7.4.

3. NUREG-0800, Section 15.7.4, Rev. 1, July 1981.

4. Amendment No. 95 to Wolf Creek Generating Station Operating License NPF-42, dated February 28, 1996.

5. ~~Amendment No. 107 to Wolf Creek Generating Station Operating License NPF-42, dated July 11, 1997.~~

LIST OF COMMITMENTS

The following table identifies those actions committed to by Wolf Creek Nuclear Operating Corporation (WCNOC) in this document. Any other statements in this submittal are provided for information purposes and are not considered to be commitments. Please direct questions regarding these commitments to Mr. Tony Harris, Manager Regulatory Affairs at Wolf Creek Generating Station, (316) 364-4038.

COMMITMENT	Due Date/Event
The amendment will be implemented within 30 days of NRC approval.	Within 30 days of NRC approval
Administrative controls will be implemented to ensure in the event of a fuel handling accident (FHA) inside containment, the open penetrations will be promptly closed. These administrative controls include an awareness of the temporary flow path conditions and the designation of individuals to isolate the flow paths in the event of a FHA.	Within 30 days of NRC approval