WOLF CREEK
NUCLEAR OPERATING CORPORATION

January 28, 2010

Terry J. Garrett
Vice President Engineering

ET 10-0003

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

Subject: Docket No. 50-482: Application To Revise Technical Specification 3.6.3, "Containment Isolation Valves"

Gentlemen:

Pursuant to 10 CFR 50.90, Wolf Creek Nuclear Operating Corporation (WCNOC) hereby requests an amendment to Renewed Facility Operating License No. NPF-42 for the Wolf Creek Generating Station (WCGS). The proposed amendment revises the Limiting Condition for Operation (LCO) of Technical Specification (TS) 3.6.3, "Containment Isolation Valves." WCNOC is proposing to add a Note to LCO 3.6.3 to allow the reactor coolant pump seal injection valves to be considered OPERABLE with the valves open and power removed.

Attachment I through IV provide the Evaluation, Markup of TSs, Retyped TS pages, and proposed TS Bases changes, respectively, in support of this amendment request. Attachment IV, proposed changes to the TS Bases, is provided for information only. Final TS Bases changes will be implemented pursuant to TS 5.5.14, "Technical Specification (TS) Bases Control Program," at the time the amendment is implemented. Attachment V provides a List of Regulatory Commitments made by WCNOC in this submittal.

It has been determined that this amendment application does not involve a significant hazard consideration as determined per 10 CFR 50.92. Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of this amendment.

This amendment application was reviewed by the Plant Safety Review Committee. In accordance with 10 CFR 50.91, a copy of this amendment application, with attachments, is being provided to the designated Kansas State official.

A001
NRR

WCNOC requests approval of the proposed amendment by January 27, 2011. The changes proposed are not required to address an immediate safety concern. It is anticipated that the license amendment, as approved, will be effective upon issuance and will be implemented within 90 days from NRC approval. Please contact me at (620) 364-4008 or Mr. Richard Flannigan at (620) 364-4117 for any questions you may have regarding this application.

Sincerely,

Terry J. Garrett

TJG/rlt

Attachments:
- I Evaluation
- II Proposed Technical Specification Changes (Mark-up)
- III Revised Technical Specification Pages
- IV Proposed TS Bases Changes (for information only)
- V List of Regulatory Commitments

cc: E. E. Collins (NRC), w/a
T. A. Conley (KDHE), w/a
G. B. Miller (NRC), w/a
B. K. Singal (NRC), w/a
Senior Resident Inspector (NRC), w/a

STATE OF KANSAS)
) SS
COUNTY OF COFFEY)

Terry J. Garrett, of lawful age, being first duly sworn upon oath says that he is Vice President Engineering of Wolf Creek Nuclear Operating Corporation; that he has read the foregoing document and knows the contents thereof; that he has executed the 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 _____
Terry J. Garrett
Vice President Engineering

SUBSCRIBED and sworn to before me this 28th day of January, 2010.

Gayle Shepheard
Notary Public

GAYLE SHEPHEARD
Notary Public - State of Kansas
My Appt. Expires 7/24/2011

Expiration Date 7/24/2011

EVALUATION

1.0 SUMMARY DESCRIPTION

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EVALUATION

1.0 SUMMARY DESCRIPTION

The amendment application proposes changes to the Wolf Creek Generating Station (WCGS) Technical Specifications Limiting Condition for Operation (LCO) of Technical Specification (TS) 3.6.3, "Containment Isolation Valves." Wolf Creek Nuclear Operating Corporation (WCNOC) is proposing to add a Note to LCO 3.6.3 to allow the reactor coolant pump seal injection valves to be considered OPERABLE with the valves open and power removed.

2.0 DETAILED DESCRIPTION

Proposed changes to the TSs are as follows:

- A Note is added to LCO 3.6.3 stating: "All reactor coolant pump seal injection valves may be open with power removed."

In December 2008, the NRC completed a Triennial Fire Protection Inspection at WCGS as documented in the NRC inspection report (Reference 6.1). The inspection report documents an unresolved item concerning the availability of diagnostic instrumentation needed to respond to a loss of reactor coolant pump seal cooling during certain fire scenarios. Procedure OFN KC-016, "Fire Response," requires operators to recognize when one or both seal cooling methods are lost and take specific mitigating actions. The NRC determined that neither procedure OFN KC-016 nor any other fire protection program document identified the instrumentation needed to identify a loss of seal cooling.

The reactor coolant pumps (RCPs) are designed with shaft seals that keep reactor coolant fluid from leaking out along the pump shaft onto the containment floor. The seals must be kept cool to prevent degradation and possible increased leakage. Two systems are used to keep the seals cool; 1) the Component Cooling Water System, cooling the RCP thermal barrier heat exchanger, and 2) the Chemical and Volume Control System (CVCS) through the seal injection supply lines, injecting cool water directly onto the seals. By design, either one of the two systems are sufficient by itself to keep the RCP seals from degradation due to overheating.

It has been determined that a fire in multiple areas of the plant could cause electrical cable damage that could cause spurious closure of one or more of the RCP seal injection valves. This would have a minimum impact on the risk of core damage frequency (CDF) due to the existence of thermal barrier heat exchanger cooling. However, the same fire could cause thermal barrier heat exchanger cooling to also be lost. The total estimated CDF increase is less than 5E-07/year.

The RCP seal injection valves are considered containment isolation valves and are listed in Table B 3.6.3-1 of the TS Bases. However, these valves do not receive an automatic isolation signal to close at any time and have no closure time requirements. The only time the valves could close during normal operation is if the operator takes cognizant action to close the valve remotely from the control room. If the valves were left in the open position with the electrical power removed from the motor operators, a fire could not spuriously cause the valves to close. This would remove the risk of RCP seal damage due to a fire. The operator could still take cognizant action to re-energize the motor and close the valve when necessary.

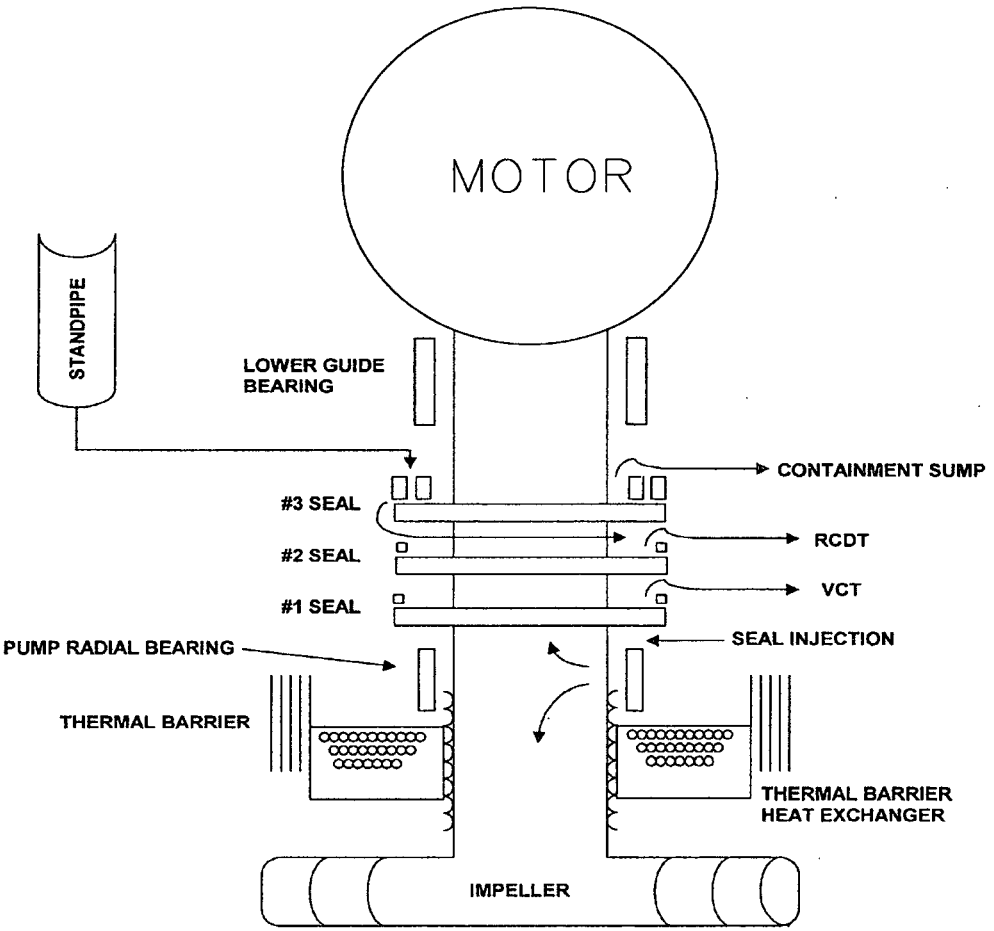
WCNOC discussed maintaining the RCP seal injection valves open with power removed with the NRC inspectors during the Fire Protection Triennial Inspection and with the NRC staff in a public meeting on January 15, 2009 (Reference 6.2).

3.0 TECHNICAL EVALUATION

3.1 System Description Reactor Coolant Pump Seals

The RCPs are designed to pump high pressure and high temperature reactor coolant from the steam generators to the reactor core. The water in the pumps could leak up the pump rotating shaft and onto the containment floor if shaft seals were not provided. Leakage along the reactor coolant pump shaft is controlled by three shaft seals arranged in series so that reactor coolant leakage to the containment is essentially zero. See Figure 1.

RCP Seal One Line Diagram
(Figure 1)
FOR INFORMATION ONLY



The number one seal, the main seal of the pump, is a controlled-leakage, film-riding face seal. The pressure on the high-pressure side of the seal is approximately reactor coolant loop pressure (~2250 psig), while the pressure on the low side is approximately 30 - 50 psig. The pressure on the low side is controlled by the pressure in the volume control tank and a throttled manual valve.

In normal operation, cool water is injected directly to each RCP by the charging pump via a seal water injection filter. It enters the pumps through a connection on the thermal barrier flange and flows to an annulus around the shaft inside the thermal barrier. A portion of the flow is directed down the shaft to cool the bearing and enters the Reactor Coolant System (RCS). The remainder flows up the shaft through the seals. This flow provides a controlled flow through the seal. Above the seal, most of the flow leaves the pump via the number one seal discharge line and returns to the volume control tank.

The term "controlled leakage" seal is used because the leakage from the seal is predetermined and controlled by ensuring that the gap between the non-rotating part (seal ring) and the rotating part (seal runner) is held to a nearly constant value. This is achieved by designing for a stable balance of hydrostatic forces on the ring.

The number two seal is a rubbing face type seal consisting of a carbon-graphite insert that is shrunk into a stainless steel seal ring. The seal ring insert rubs on a hard-faced stainless steel runner that rotates with the shaft. This seal directs the leakage from the number one seal into the number one seal discharge line. The number two seal leakoff is nominally 3 gallons per hour and is diverted to the waste disposal system by the number three seal.

The number three seal has the same design as the number two seal. It provides the back pressure to direct the leakage from the number two seal into the waste disposal system. Leakage from the number three seal is nominally 400 to 600 cc per hour and is routed to the waste disposal system.

Sealing at the interface between two components of the RCP seal system is provided by secondary sealing elastomers. The secondary sealing elastomers consist of EPDM o-rings and an organic filled Teflon based channel seal energized by an EPDM o-ring. The EPDM o-rings provide secondary sealing of seal system components that are in static contact, such as the interface between the ceramic number one seal faceplate and the number one seal stainless steel holder. The Teflon based channel seal provides secondary sealing between components that are in dynamic contact, such as the interface between the number one seal ring and the number one seal housing insert.

The seals are designed to operate nominally at a temperature of less than 150° F. The sealing characteristics may change with changing temperature and pressure by changing the hydrostatic forces, thermal distortion and extrusion of the elastomers. The seal injection system provides cooling to the seals to keep them at a temperature of less than 150° F. A back-up cooling method is provided by the thermal barrier cooling heat exchanger that uses component cooling water as a cooling medium to cool any upward flow of reactor coolant before it nears the seals. The cooled reactor coolant provides cooling to the seals and stable leakoff flows in the case of a loss of seal injection.

3.2 RCP Seal Injection Valves

The CVCS maintains the required water inventory in the RCS during normal operation, power changes, startup, and shutdown, including pressurizer auxiliary spray for depressurization. The CVCS also provides reactor grade water to the RCP seals for cooling and sealing purposes. Seal injection cooling water is provided by the CVCS charging pumps. The RCP seal injection valves (BBHV8351A, BBHV8351B, BBHV8351C, and BBHV8351D) are located on the four seal injection lines outside the containment. A check valve provides the isolation inside containment on each line. Figure 2 provides a simplified schematic of a RCP seal injection penetration. Per Westinghouse Standard Design Criteria document 1.14 (Project Information Package, Volume 1-3, Tab 5), the valves are considered remote-manual containment isolation valves.

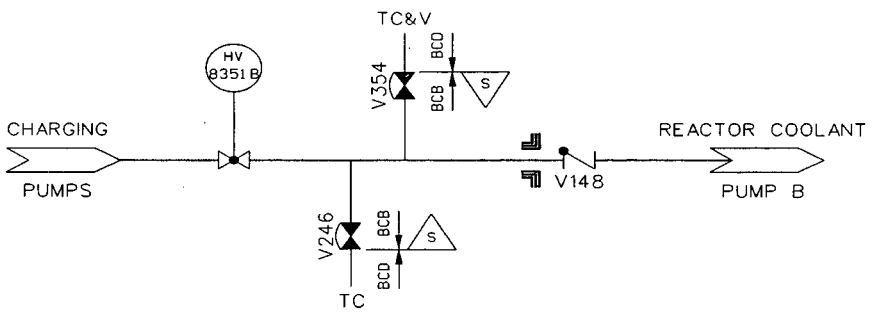


Figure 2
Simplified Schematic of a RCP Seal Injection Penetration

Licensing Basis

NUREG 0881, "Safety Evaluation Report related to the operation of Wolf Creek Generating Station, Unit No. 1," (Reference 6.3) Section 6.2.3, "Containment Isolation System," refers to NUREG 0830 (Reference 6.4). NUREG 0830, "Safety Evaluation Report related to the operation of Callaway Plant, Unit No. 1," Section 6.2.3, states, in part: "The staff has reviewed the applicant's containment isolation system design information and evaluation and found that... each line which must remain in service for safety reasons following an accident has at least one remote-manual valve,...."

Updated Safety Analysis Report (USAR) Section 6.2.4.2.3 discusses lines that are not automatically isolated upon receipt of isolation signals. This section states, in part: "Lines which are not required for the passage of emergency fluids are automatically isolated upon receipt of isolation signals, as discussed in Sections 6.2.4.5 and 7.0. Other open lines to the containment can be isolated subsequent to the LOCA by remote-manual operation when dictated by the emergency system functional requirements." The seal injection lines are considered essential following a LOCA and have no automatic isolation function. NUREG 0830, Section 6.2.3,

states, in part: "The staff has reviewed the applicant's designation of essential fluid systems penetrating the containment. Those systems or portions of systems classified by the applicant as essential include...the seal water supply to the reactor coolant pumps..."

USAR Figure 6.2.4-1 identifies the seal injection line penetrations (P-22, P-39, P-40, and P-41) as GDC-55 penetrations. NUREG 0830, Section 6.2.3, states, in part: "The containment isolation system meets the explicit requirements of GDC 55 except in cases where remote-manual isolation valves are used instead of automatic isolation valves..." "The cases where remote-manual isolation valves are used instead of automatic isolation valves include the reactor coolant pump seal water supply lines...." "The reactor coolant pump (RCP) seal water supply lines and the ECCS lines discharging to the reactor are classified as essential, and provisions have been made to detect possible leakage from these lines outside containment, thereby allowing remote-manual instead of automatic isolation valves."

Westinghouse Standard Design Document 1.14 states, "Due to the sensitive nature of the seals it is highly desirable to provide seal flow at all times. On plants where the charging pumps are used for safety injection, flow will be provided by the pumps through the seal injection lines following an accident. Because of this high pressure inflow there is no need to provide any sort of trip valves in these seal injection lines. Each line is equipped with a remote manual containment isolation valve which the operator can close when the charging pumps have completed their safeguards function."

Based on the above information, the NRC staff accepted the design of the portion of the WCGS containment isolation system that falls under the requirements of GDC-55, recognizing that there are some exceptions to those requirements. Those exceptions were considered acceptable by the staff. Therefore, the RCP seal injection valves require no automatic closure signals and require no closure time by design.

3.3 Justification for Change

Generic Safety Issue (GSI) 23, "Reactor Coolant Pump Seal Failures," was identified in 1980 as a result of staff concerns about RCP seal failures (seal degradation leading to a significant unisolable loss of reactor coolant). The RCP seal failure issue was originally prioritized as a high-priority issue on the basis of the frequency at which RCP seal failures occurred during normal operation. The normal operational seal failure rate has since been significantly reduced through improvements in design and operation of RCP seals. A potential cause of RCP seal failure is the loss of all seal cooling as a result of a station blackout, a loss of component cooling water, or a loss of service water. GSI-23 was closed in 1999 based on a number of considerations as discussed in Regulatory Issue Summary 2000-02, "Closure of Generic Safety Issue 23, Reactor Coolant Pump Seal Failure." (Reference 6.5)

The RCP seals prevent reactor coolant from leaking up the RCP rotating shaft and spilling on the containment floor, resulting in a small break LOCA. The seals require cooling to meet design conditions and to avoid failure. The CVCS via the RCP seal injection valves provides one method of cooling the seals. The Component Cooling Water System, cooling the thermal barrier heat exchanger, provides a second method of cooling the seals.

Spurious closure of the RCP seal injection valves is possible due to fire damage on control cables. Spurious closure of these valves has minimal impact on risk of CDF due to the existence of thermal barrier cooling. However, it has been discovered that the fire that can

cause the seal injection valves to spuriously close can also cause thermal barrier cooling to be lost. This simultaneous loss of seal cooling increases risk of CDF to approximately one half order of magnitude above the baseline at-power CDF. The WCGS Probabilistic Safety Assessment (PSA) models the RCP seal injection valves only for a failure in the closed position. These valves are not modeled as containment isolation valves and are postulated to remain open during any accident scenario.

The CVCS contains three charging pumps, one normal pump and two standby pumps. The standby pumps will automatically start and provide safety injection and seal injection following any accident signal. The CVCS, therefore, is able to continuously supply seal injection to all four RCPs under all plant conditions. Seal water supply flow rate is controlled by manually throttled valves to a total of nominally 32 gpm. Due to the high-pressure inflow, an automatic signal to close the seal injection valves is not required.

The CVCS piping, both inside and outside the containment is designed to ASME Boiler and Pressure Vessel Code, Section III, Class 2 requirements. These are the same requirements as the piping in the containment penetrations. Therefore, the piping system provides the same level of protection against radiation release as the containment penetrations.

The following four emergency operating procedures call for closure of the seal injection valves:

- EMG ES-02, "Reactor Trip Response"
- EMG FR-I1, "Response to High Pressurizer Level"
- EMG FR-I2, "Response to Low Pressurizer Level"
- EMG FR-I3, "Response to Voids in Reactor Vessel"

In all cases, the reason for closing the seal injection valves is to restore RCP seal injection flow following a loss of all RCP seal cooling. None of these procedures require closure of the seal injection valves in a specified time frame.

The RCP seal injection valves are considered containment isolation valves and are therefore under the purview of TS 3.6.3, "Containment Isolation Valves." The valves are required to be OPERABLE for normal operation of the plant. Based on the TS definition of OPERABLE/OPERABILITY, removing electrical power to the RCP seal injection valves would make the valve inoperable. If the valves were left in the open position with the electrical power removed from the motor operators, a fire could not spuriously cause the valves to close. This would remove the risk of RCP seal damage due to a fire. Operation with the power removed to the seal injection valves is considered acceptable since automatic closure of the valves is not required for containment isolation. Plant operators can energize the breakers remotely and remote-manually close the valves from the control room when required by plant procedures.

4. REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

Title 10 of the Code of Federal Regulations (10 CFR) Part 50 Appendix A, General Design Criterion (GDC) 55 - *Reactor coolant pressure boundary penetrating containment.* Each line that is part of the reactor coolant pressure boundary and that penetrates primary reactor containment shall be provided with containment isolation valves as follows, unless it can be

demonstrated that the containment isolation provisions for a specific class of lines, such as instrument lines, are acceptable on some other defined basis:

(1) One locked closed isolation valve inside and one locked closed isolation valve outside containment; or

(2) One automatic isolation valve inside and one locked closed isolation valve outside containment; or

(3) One locked closed isolation valve inside and one automatic isolation valve outside containment. A simple check valve may not be used as the automatic isolation valve outside containment; or

(4) One automatic isolation valve inside and one automatic isolation valve outside containment. A simple check valve may not be used as the automatic isolation valve outside containment.

Isolation valves outside containment shall be located as close to containment as practical and upon loss of actuating power, automatic isolation valves shall be designed to take the position that provides greater safety.

Other appropriate requirements to minimize the probability or consequences of an accidental rupture of these lines or of lines connected to them shall be provided as necessary to assure adequate safety. Determination of the appropriateness of these requirements, such as higher quality in design, fabrication, and testing, additional provisions for inservice inspection, protection against more severe natural phenomena, and additional isolation valves and containment, shall include consideration of the population density, use characteristics, and physical characteristics of the site environs.

The design of the seal injection penetration and isolation valves does not strictly meet the above criteria. However, the NRC staff accepted the WCGS design for this system in NUREG 0830, "Safety Evaluation Report related to the operation of Callaway Plant, Unit No. 1" NUREG 0881, "Safety Evaluation Report related to the operation of Wolf Creek Generating Station, Unit No. 1, Section 6.2.3, "Containment Isolation System," refers to NUREG 0830. NUREG 0830, Section 6.2.3, provides the following discussion:

> "The containment isolation system meets the explicit requirements of GDC 55 except in the cases where remote-manual isolation valves are used instead of automatic isolation valves and in cases where automatic isolation valves fail "as-is" versus failing closed upon loss of power to the valve operators.
>
> The cases where remote-manual isolation valves are used instead of automatic isolation valves include the reactor coolant pump seal water supply lines, ... (RHRS) shutdown lines. The reactor coolant pump (RCP) seal water supply lines and the ECCS lines discharging to the reactor are classified as essential, and provisions have been made to detect possible leakage from these lines outside containment, thereby allowing remote-manual instead of automatic isolation valves.
>
> The staff finds that the containment isolation provisions for Callaway either meet the explicit requirements of GDC 55, or, for the specific lines discussed above, are acceptable alternatives to the explicit requirements of GDC 55."

10 CFR 50, Appendix R, Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979, state in Paragraph I., "Introduction and Scope," that: "When considering the effects of fire, those systems associated with achieving and maintaining safe shutdown conditions assume major importance to safety because damage to them can lead to core damage resulting from loss of coolant through boiloff." This statement implies that fire in a nuclear plant must not cause a loss of coolant. The WCGS comparison to Appendix R, given in USAR Appendix 9.5E-1, takes no exception to this requirement. In the case of a loss of all RCP seal cooling, the risk of seal damage increases the risk of a seal LOCA.

NUREG 0800, Branch Technical Position (BTP) 8-4, "Application of the Single Failure Criterion to Manually Controlled Electrically Operated Valves," establishes the acceptability of disconnecting power to electrical components of a fluid system as one means of designing against a single failure that might cause an undesirable component action. Paragraph B.2 of that document states, in part: "When it is determined that failure of an electrical system component can cause undesired mechanical motion of a valve or other fluid system component, and this motion results in loss of the system safety function, it is acceptable, in lieu of design changes that also may be acceptable, to disconnect power to the electric systems of the valve or other fluid system component." The proposed change is consistent with this statement.

Paragraph B.4 of BTP 8-4 states: "When the single failure criterion is satisfied by removal of electrical power from valves described in items 2 and 3, above, these valves should have redundant position indication in the main control room, and the position indication system should, itself, meet the single failure criterion." Opening the breakers for the seal injection valves will remove power to the position indication circuits, so the valves will not have any direct position indication in the control room. However, each seal injection line has a flow indicator in the control room associated with the line which provides clear indication of the status of the valve position. A low flow alarm is provided that will alert the operator in the control room if flow is lost, indicating that the valve is closed rather than open. In addition, a single flow indicator in the control room provides indication of total seal injection flow. A reduction of flow by 25% will indicate that one of the seal injection valves is closed rather than open. This arrangement provides an acceptable alternative to the requirement of having redundant position indication in the main control room.

4.2 Significant Hazards Consideration

The amendment application proposes changes to the Wolf Creek Generating Station (WCGS) Technical Specifications Limiting Condition for Operation (LCO) of Technical Specification (TS) 3.6.3, "Containment Isolation Valves." Wolf Creek Nuclear Operating Corporation (WCNOC) is proposing to add a Note to LCO 3.6.3 to allow the reactor coolant pump (RCP) seal injection valves to be considered OPERABLE with the valves open and power removed.

WCNOC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, Issuance of Amendment:

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

   Response: No

This change affects the RCP seal cooling and the containment isolation system. The change allows the removal of power to the four RCP seal injection valves such that they will not close in response to a spurious signal. A spurious closure of one or more of the seal injection valves could lead to a loss of coolant from the RCP seal. Allowance for removal of power to the valve reduces the probability of this event. The RCP seal performance depends on the design, flow rates, pressures and temperatures. There are no changes to the RCP seal design, nor to the seal cooling flow rates, pressures or temperatures. Therefore, the consequences of a loss of coolant from the RCP seal are not impacted.

The seal injection valves are containment isolation valves. The system design for RCP seal cooling does not require automatic closure of the seal injection valves or closure of the valve within a specified time frame. The design of the system is such that the cooling water pressure passing through these valves is higher than the operating pressure of the reactor coolant system. The cooling water is needed to prevent a loss of coolant from the pump seals and the cooling water is assured because it is provided by the safety related charging pumps. In addition, a check valve is installed inside the containment on each seal injection line to provide a second containment isolation valve on the line. The seal injection valves fail as-is upon loss of electrical power and are not designed to change position following an accident. The seal injection valves are remote manual valves that can be operated from the control room based on plant procedures. These valves are not modeled as containment isolation valves in any accident analysis. A failure in the open position has no consequence due to the normal inflow of the seal injection water.

Therefore, this change will not increase the probability or consequences of an accident previously evaluated.

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

Response: No

The proposed amendment does not change the method by which any safety related plant system, subsystem, or component performs its specified safety function. The proposed changes will not affect the normal method of plant operation or change any operating parameters. No equipment performance requirements will be affected. Plant procedures will still provide for the appropriate closure of the seal injection valves when restoring seal injection. The proposed changes will not alter any assumptions made in the safety analyses regarding limits on RCP seal injection flow.

No new accident scenarios, transient precursors, failure mechanisms, or limiting single failures will be introduced as a result of this amendment. There will be no adverse effect or challenges imposed on any safety related system as a result of this amendment. The proposed amendment will not alter the design or performance of the 7300 Process Protection System, Nuclear Instrumentation System, or Solid State Protection System used in the plant protection systems.

Therefore, this change will not create the possibility of a new or different kind of accident from any previously evaluated.

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

Response: No

The proposed change does not affect the acceptance criteria for any analyzed event. There will be no effect on the manner in which safety limits or limiting safety system settings are determined nor will there be any effect on those plant systems necessary to assure the accomplishment of protection function. Removing power from the RCP seal injection valves during normal operation does not impact the assumed ECCS flow that would be available for injection into the RCS following an accident.

Therefore, this change does not involve a significant reduction in the margin of safety.

4.3 Conclusion

Based on the considerations discussed above, 1) there is a 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.

5. ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to 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. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a 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. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

6.1 Wolf Creek Generating Station – NRC Triennial Fire Protection Inspection Report 05000482/2008010, January 2, 2009. (ADAMS Accession Number ML090020490)

6.2 Summary of January 15, 2009, Category 1 Pre-Licensing Meeting with Wolf Creek Nuclear Operating Corporation on Post-Fire Shutdown Analysis Methods (TAC NO. ME0280), January 23, 2009. (ADAMS Accession Number ML090210206)

6.3 NUREG 0881, "Safety Evaluation Report related to the operation of Wolf Creek Generating Station, Unit No. 1," April 1982.

6.4 NUREG 0830, "Safety Evaluation Report related to the operation of Callaway Plant, Unit No. 1," October 1981.

6.7 Regulatory Issue Summary 2000-02, "Closure of Generic Safety Issue 23, Reactor Coolant Pump Seal Failure," February 15, 2000.

ATTACHMENT II

PROPOSED TECHNICAL SPECIFICATION CHANGES (MARK-UP)

3.6 CONTAINMENT SYSTEMS

3.6.3 Containment Isolation Valves

LCO 3.6.3 Each containment isolation valve shall be OPERABLE.

---NOTE---
All reactor coolant pump seal injection valves may be open with power removed.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

---NOTES---

1. Penetration flow path(s) except for containment shutdown purge valve flow paths may be unisolated intermittently under administrative controls.

2. Separate Condition entry is allowed for each penetration flow path.

3. Enter applicable Conditions and Required Actions for systems made inoperable by containment isolation valves.

4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when isolation valve leakage results in exceeding the overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more penetration flow paths with one containment isolation valve (CIV) inoperable except for purge valve leakage not within limit.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	4 hours for Category 1 CIVs AND 8 hours for Category 2 CIVs AND 12 hours for Category 3 CIVs AND (continued)

ATTACHMENT III
REVISED TECHNICAL SPECIFICATION PAGES

3.6 CONTAINMENT SYSTEMS

3.6.3 Containment Isolation Valves

LCO 3.6.3 Each containment isolation valve shall be OPERABLE.

----------NOTE----------
All reactor coolant pump seal injection valves may be open with power removed.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

----------NOTES----------
1. Penetration flow path(s) except for containment shutdown purge valve flow paths may be unisolated intermittently under administrative controls.

2. Separate Condition entry is allowed for each penetration flow path.

3. Enter applicable Conditions and Required Actions for systems made inoperable by containment isolation valves.

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CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more penetration flow paths with one containment isolation valve (CIV) inoperable except for purge valve leakage not within limit.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	4 hours for Category 1 CIVs AND 8 hours for Category 2 CIVs AND 12 hours for Category 3 CIVs AND (continued)

ATTACHMENT IV
PROPOSED TS BASES CHANGES
(for information only)

BASES

LCO (continued)

Containment purge valves with resilient seals must meet additional leakage rate requirements. The other containment isolation valve leakage rates are addressed by LCO 3.6.1, "Containment," as Type C testing.

This LCO provides assurance that the containment isolation valves and purge valves will perform their designed safety functions to minimize the loss of reactor coolant inventory and establish the containment boundary during accidents.

INSERT B 3.6.3-4

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, the containment isolation valves are not required to be OPERABLE in MODE 5. The requirements for containment isolation valves during MODE 6 are addressed in LCO 3.9.4, "Containment Penetrations."

ACTIONS

The ACTIONS are modified by a Note allowing penetration flow paths, except for 36 inch containment purge supply and exhaust valve penetration flow paths, to be unisolated intermittently under administrative controls. These administrative controls consist of stationing a dedicated operator at the valve controls, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for containment isolation is indicated. Due to the size of the containment purge line penetration and the fact that those penetrations exhaust directly from the containment atmosphere to the environment via the unit vent, the penetration flow path containing these valves may not be opened under administrative controls. A single valve in a penetration flow path may be opened to effect repairs to an inoperable valve, as allowed by SR 3.6.3.1.

A second Note has been added to provide clarification that, for this LCO, separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable containment isolation valve. Complying with the Required Actions may allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent Condition entry and application of associated Required Actions.

The ACTIONS are further modified by a third Note, which ensures appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

INSERT B 3.6.3-4

This LCO is modified by a Note that allows the reactor coolant pump seal injection valves (BBHV8351A, BBHV8351B, BBHV8351C, and BBHV8351D) be considered OPERABLE with the valve open and power removed. The valves are normally open containment isolation valves and do not receive any automatic isolation signal. The valves are open with power removed to prevent potential damage to the reactor coolant pump seals if the valves were to spuriously close in the event of a fire. (Reference 9)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.3.7 (continued)

The measured leakage rate for each containment mini-purge supply and exhaust isolation valve with resilient seals is less than 0.05 L_a when pressurized to P_a. The combined leakage rate for the containment shutdown purge supply and exhaust isolation valves, when pressurized to P_a, and included with all Type B and C penetrations is less than .60 L_a.

SR 3.6.3.8

Automatic containment isolation valves close on a containment isolation signal to prevent leakage of radioactive material from containment following a DBA. This SR ensures that each automatic containment isolation valve will actuate to its isolation position on a containment isolation signal. This surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass this Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

REFERENCES

1. USAR, Section 15.

2. USAR, Figure 6.2.4-1.

3. Multi-Plant Action MPA-B020, "Containment Leakage Due to Seal Deterioration."

4. Multi-Plant Action MPA-B024, "Venting and Purging Containment's While at Full Power and Effect of LOCA."

5. USAR, Section 6.2.4.

6. NUREG-0881, "Safety Evaluation Report related to the operation of Wolf Creek Generating Station, Unit No. 1," Section 6.2.3, April 1982.

7. NRC letter dated March 29, 2001, "Relief Request from the Requirements of ASME Code, Section XI, Related to Code Case OMN-1 for Wolf Creek Generating Station (TAC NO. MB0982)."

8. WCAP-15791-P, Rev. 1, "Risk-Informed Evaluation of Extensions to Containment Isolation Valve Completion Times," April 2004.

9. License Amendment No. XXX, [date].

ATTACHMENT V

REGULATORY COMMITMENTS

The following table identifies those actions committed to by WCNOC in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments. Please direct questions regarding these commitments to Mr. Richard Flannigan at (620) 364-4117.

Regulatory Commitments	Due Date / Event
The proposed changes to the WCGS Technical Specifications will be implemented within 90 days of NRC approval.	Within 90 days of NRC approval.