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

November 19, 2012

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

SUBJECT: WOLF CREEK GENERATING STATION - ISSUANCE OF AMENDMENT RE: ADOPTION OF TSTF-510, REVISION 2, "REVISION TO STEAM GENERATOR PROGRAM INSPECTION FREQUENCIES AND TUBE SAMPLE SELECTION," USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS (TAC NO. ME8569)

Dear Mr. Sunseri:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 199 to Renewed Facility Operating License No. NPF-42 for the Wolf Creek Generating Station. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated April 26, 2012.

The amendment revises the TSs to adopt NRC-approved Technical Specifications Task Force (TSTF) Change Traveler TSTF-510, Revision 2, "Revision to Steam Generator Program Inspection Frequencies and Tube Sample Selection," using the consolidated line item improvement process. Specifically, the amendment revises TS 3.4.17, "Steam Generator (SG) Tube Integrity," TS 5.5.9, "Steam Generator (SG) Program," and TS 5.6.10, "Steam Generator Tube Inspection Report," and includes TS Bases changes that summarize and clarify the purpose of the TS.

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,

CFLyon

Carl F. Lyon, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-482

Enclosures:
1. Amendment No. 199 to NPF-42
2. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
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WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 199
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) Renewed Facility Operating License No. NPF-42 filed by the Wolf Creek Nuclear Operating Corporation (the Corporation), dated April 26, 2012, 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.

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 Renewed Facility Operating License No. NPF-42 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 199, 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 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Michael T. Markley, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License and
Technical Specifications

Date of Issuance: November 19, 2012

ATTACHMENT TO LICENSE AMENDMENT NO. 199

RENEWED FACILITY OPERATING LICENSE NO. NPF-42

DOCKET NO. 50-482

Replace the following pages of the Renewed Facility Operating License No. NPF-42 and Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Renewed Facility Operating License

REMOVE	INSERT
4	4

Technical Specifications

REMOVE	INSERT
3.4-43	3.4-43
3.4-44	3.4-44
5.0-11	5.0-11
5.0-12	5.0-12
5.0-13	5.0-13
5.0-28	5.0-28

(5) The Operating Corporation, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(6) The Operating Corporation, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission, now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The Operating Corporation is authorized to operate the facility at reactor core power levels not in excess of 3565 megawatts thermal (100% power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 199, 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) Antitrust Conditions

Kansas Gas & Electric Company and Kansas City Power & Light Company shall comply with the antitrust conditions delineated in Appendix C to this license.

(4) Environmental Qualification (Section 3.11, SSER #4, Section 3.11, SSER #5)*

Deleted per Amendment No. 141.

*The parenthetical notation following the title of many license conditions denotes the section of the supporting Safety Evaluation Report and/or its supplements wherein the license condition is discussed.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.17 Steam Generator (SG) Tube Integrity

LCO 3.4.17 SG tube integrity shall be maintained.

AND

All SG tubes satisfying the tube plugging criteria shall be plugged in accordance with the Steam Generator Program.

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

ACTIONS

NOTE

Separate Condition entry is allowed for each SG tube.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more SG tubes satisfying the tube plugging criteria and not plugged in accordance with the Steam Generator Program.	A.1	Verify tube integrity of the affected tube(s) is maintained until the next refueling outage or SG tube inspection.	7 days
	AND		
	A.2	Plug the affected tube(s) in accordance with the Steam Generator Program.	Prior to entering MODE 4 following the next refueling outage or SG tube inspection
B. Required Action and associated Completion Time of Condition A not met. OR SG tube integrity not maintained.	B.1	Be in MODE 3.	6 hours
	AND		
	B.2	Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.17.1	Verify SG tube integrity in accordance with the Steam Generator Program.	In accordance with the Steam Generator Program
SR 3.4.17.2	Verify that each inspected SG tube that satisfies the tube plugging criteria is plugged in accordance with the Steam Generator Program.	Prior to entering MODE 4 following a SG tube inspection

5.5 Programs and Manuals

5.5.9 Steam Generator (SG) Program

A Steam Generator Program shall be established and implemented to ensure that SG tube integrity is maintained. In addition, the Steam Generator Program shall include the following:

a. Provisions for condition monitoring assessments. Condition monitoring assessment means an evaluation of the "as found" condition of the tubing with respect to the performance criteria for structural integrity and accident induced leakage. The "as found" condition refers to the condition of the tubing during an SG inspection outage, as determined from the inservice inspection results or by other means, prior to the plugging of tubes. Condition monitoring assessments shall be conducted during each outage during which the SG tubes are inspected or plugged to confirm that the performance criteria are being met.

b. Performance criteria for SG tube integrity. SG tube integrity shall be maintained by meeting the performance criteria for tube structural integrity, accident induced leakage, and operational LEAKAGE.

1. Structural integrity performance criterion: All in-service steam generator tubes shall retain structural integrity over the full range of normal operating conditions (including startup, operation in the power range, hot standby, and cool down), all anticipated transients included in the design specification, and design basis accidents. This includes retaining a safety factor of 3.0 against burst under normal steady state full power operation primary-to-secondary pressure differential and a safety factor of 1.4 against burst applied to the design basis accident primary-to-secondary pressure differentials. Apart from the above requirements, additional loading conditions associated with the design basis accidents, or combination of accidents in accordance with the design and licensing basis, shall also be evaluated to determine if the associated loads contribute significantly to burst or collapse. In the assessment of tube integrity, those loads that do significantly affect burst or collapse shall be determined and assessed in combination with the loads due to pressure with a safety factor of 1.2 on the combined primary loads and 1.0 on axial secondary loads.

2. Accident induced leakage performance criterion: The primary to secondary accident induced leakage rate for any design basis accident, other than a SG tube rupture, shall not exceed the leakage rate assumed in the accident analysis in terms of total leakage rate for all SGs and leakage rate for an individual SG. Leakage is not to exceed 1 gpm per SG.

(continued)

5.5 Programs and Manuals

5.5.9 Steam Generator (SG) Program (continued)

3. The operational LEAKAGE performance criterion is specified in LCO 3.4.13, "RCS Operational LEAKAGE."

c. Provisions for SG tube plugging criteria. Tubes found by inservice inspection to contain flaws with a depth equal to or exceeding 40% of the nominal tube wall thickness shall be plugged.

The following alternate tube plugging criteria shall be applied as an alternative to the 40% depth-based criteria:

1. For Refueling Outage 18 and the subsequent operating cycle, tubes with service-induced flaws located greater than 15.2 inches below the top of the tubesheet do not require plugging. Tubes with service-induced flaws located in the portion of the tube from the top of the tubesheet to 15.2 inches below the top of the tubesheet shall be plugged upon detection.

d. Provisions for SG tube inspections. Periodic SG tube inspections shall be performed. The number and portions of the tubes inspected and methods of inspection shall be performed with the objective of detecting flaws of any type (e.g., volumetric flaws, axial and circumferential cracks) that may be present along the length of the tube, from the tube-to-tubesheet weld at the tube inlet to the tube-to-tubesheet weld at the tube outlet, and that may satisfy the applicable tube plugging criteria. For Refueling Outage 18 and the subsequent operating cycle, the portion of the tube below 15.2 inches from the top of the tubesheet is excluded from this requirement. The tube-to-tubesheet weld is not part of the tube. In addition to meeting the requirements of d.1, d.2, and d.3 below, the inspection scope, inspection methods, and inspection intervals shall be such as to ensure that SG tube integrity is maintained until the next SG inspection. A degradation assessment shall be performed to determine the type and location of flaws to which the tubes may be susceptible and, based on this assessment, to determine which inspection methods need to be employed and at what locations.

1. Inspect 100% of the tubes in each SG during the first refueling outage following SG installation.

2. After the first refueling outage following SG installation, inspect each SG at least every 48 effective full power months or at least every other refueling outage (whichever results in more frequent inspections). In addition, the minimum number of tubes inspected

(continued)

5.5 Programs and Manuals

5.5.9 Steam Generator (SG) Program (continued)

at each scheduled inspection shall be the number of tubes in all SGs divided by the number of SG inspection outages scheduled in each inspection period as defined in a, b, and c below. If a degradation assessment indicates the potential for a type of degradation to occur at a location not previously inspected with a technique capable of detecting this type of degradation at this location and that may satisfy the applicable tube plugging criteria, the minimum number of locations inspected with such a capable inspection technique during the remainder of the inspection period may be prorated. The fraction of locations to be inspected for this potential type of degradation at this location at the end of the inspection period shall be no less than the ratio of the number of times the SG is scheduled to be inspected in the inspection period after the determination that a new form of degradation could potentially be occurring at this location divided by the total number of times the SG is scheduled to be inspected in the inspection period. Each inspection period defined below may be extended up to 3 effective full power months to include a SG inspection outage in an inspection period and the subsequent inspection period begins at the conclusion of the included SG inspection outage.

a) After the first refueling outage following SG installation, inspect 100% of the tubes during the next 120 effective full power months. This constitutes the first inspection period.

b) During the next 96 effective full power months, inspect 100% of the tubes. This constitutes the second inspection period; and

c) During the remaining life of the SGs, inspect 100% of the tubes every 72 effective full power months. This constitutes the third and subsequent inspection periods.

3. If crack indications are found in any portion of the SG tube not excluded above, then the next inspection for each affected and potentially affected SG for the degradation mechanism that caused the crack indication shall not exceed 24 effective full power months or one refueling outage (whichever results in more frequent inspections). If definitive information, such as from examination of a pulled tube, diagnostic non-destructive testing, or engineering evaluation indicates that a crack-like indication is not associated with a crack(s), then the indication need not be treated as a crack.

e. Provisions for monitoring operational primary to secondary LEAKAGE.

(continued)

5.6 Reporting Requirements

5.6.10 Steam Generator Tube Inspection Report

A report shall be submitted within 180 days after the initial entry into MODE 4 following completion of an inspection performed in accordance with the Specification 5.5.9, Steam Generator (SG) Program. The report shall include:

a. The scope of inspections performed on each SG;

b. Degradation mechanisms found;

c. Nondestructive examination techniques utilized for each degradation mechanism;

d. Location, orientation (if linear), and measured sizes (if available) of service induced indications;

e. Number of tubes plugged during the inspection outage for each degradation mechanism;

f. The number and percentage of tubes plugged to date, and the effective plugging percentage in each steam generator;

g. The results of condition monitoring, including the results of tube pulls and in-situ testing;

h. Following completion of an inspection performed in Refueling Outage 18 (and any inspections performed in the subsequent operating cycle) the primary to secondary LEAKAGE rate observed in each SG (if it is not practical to assign the LEAKAGE to an individual SG, the entire primary to secondary LEAKAGE should be conservatively assumed to be from one SG) during the cycle preceding the inspection which is the subject of the report;

i. Following completion of an inspection performed in Refueling Outage 18 (and any inspections performed in the subsequent operating cycle) the calculated accident induced leakage rate from the portion of the tubes below 15.2 inches from the top of the tubesheet for the most limiting accident in the most limiting SG. In addition, if the calculated accident induced leakage rate from the most limiting accident is less than 2.50 times the maximum operational primary to secondary leak rate, the report should describe how it was determined; and

j. Following completion of an inspection performed in Refueling Outage 18 (and any inspections performed in the subsequent operating cycle) the results of monitoring for the tube axial displacement (slippage). If slippage is discovered, the implications of discovery and corrective action shall be provided.

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 199 TO

RENEWED FACILITY OPERATING LICENSE NO. NPF-42

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

1.0 INTRODUCTION

By letter dated April 26, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12124A339), Wolf Creek Nuclear Operating Corporation (WCNOC, the licensee) proposed changes to the Technical Specifications (TSs) for Wolf Creek Generating Station (WCGS) to adopt U.S. Nuclear Regulatory Commission (NRC)-approved Revision 2 to Technical Specifications Task Force (TSTF) Standard Technical Specifications (STS) Change Traveler TSTF-510, "Revision to Steam Generator Program Inspection Frequencies and Tube Sample Selection" (ADAMS No. ML110610350). The proposed changes revise TS 3.4.17, "Steam Generator (SG) Tube Integrity," TS 5.5.9, "Steam Generator (SG) Program," and TS 5.6.10, "Steam Generator Tube Inspection Report," and include TS Bases changes that summarize and clarify the purpose of the TS. The specific changes concern SG inspection periods, and address applicable administrative changes and clarifications.

The licensee stated that the license amendment request (LAR) is consistent with the Notice of Availability of TSTF-510, Revision 2, announced in the *Federal Register* on October 27, 2011 (76 FR 66763), as part of the consolidated line item improvement process.

The current STS requirements in the above specifications were established in May 2005, with the NRC staff's approval of TSTF-449, Revision 4, "Steam Generator Tube Integrity" (NRC Notice of Availability (70 FR 24126; May 6, 2005)). The TSTF-449 changes to the STS incorporated a new, largely performance-based approach for ensuring the integrity of the SG tubes is maintained. The performance-based requirements were supplemented by prescriptive requirements relating to tube inspections and tube repair limits to ensure that conditions adverse to quality are detected and corrected on a timely basis. As of September 2007, the TSTF-449, Revision 4, changes were adopted in the plant TS for all pressurized-water reactors (PWRs).

The proposed changes in TSTF-510, Revision 2, reflect licensees' early implementation experience with respect to the TSTF-449, Revision 4. TSTF-510 characterizes the changes as

editorial corrections, changes, and clarifications intended to improve internal consistency, consistency with implementing industry documents, and usability without changing the intent of the requirements. The proposed changes are an improvement to the existing SG inspection requirements and continue to provide assurance that the plant licensing basis will be maintained between SG inspections.

2.0 REGULATORY EVALUATION

The SG tubes in PWRs have a number of important safety functions. These tubes are an integral part of the reactor coolant pressure boundary (RCPB) and, as such, are relied upon to maintain primary system pressure and inventory. As part of the RCPB, the SG tubes are unique in that they are also relied upon as a heat transfer surface between the primary and secondary systems such that residual heat can be removed from the primary system and are relied upon to isolate the radioactive fission products in the primary coolant from the secondary system. In addition, the SG tubes are relied upon to maintain their integrity to be consistent with the containment objectives of preventing uncontrolled fission product release under conditions resulting from core damage during severe accidents.

Title 10 of the *Code of Federal Regulations* (10 CFR) establishes the requirements with respect to the integrity of the SG tubing. Specifically, the General Design Criteria (GDC) in Appendix A to 10 CFR Part 50 state that the RCPB:

- "shall be designed, fabricated, erected, and tested so as to have an extremely low probability of abnormal leakage, of propagating failure, and of gross rupture" (GDC 14),

- "shall be designed with sufficient margin to assure that the design conditions of the [RCPB] are not exceeded during any condition of normal operation, including anticipated operational occurrences" (GDC 15),

- "shall be designed with sufficient margin to assure that when stressed under operating, maintenance, testing and postulated accident conditions (1) the boundary behaves in a nonbrittle manner and (2) the probability of rapidly propagating fracture is minimized" (GDC 31), and

- "shall be designed, fabricated, erected, and tested to the highest quality standards practical" (GDC 30), and shall be designed to permit "periodic inspection and testing of important areas and features to assess their structural and leaktight integrity" (GDC 32).

WCGS demonstrates conformance to these GDCs in the WCGS Updated Safety Analysis Report (USAR), Revision 24. USAR Section 3.1.4, "Protection by Multiple Fission Product Barriers," discusses GDCs 14 and 15, and Section 3.1.6, "Fluid Systems," discusses GDCs 30, 31, and 32.

To this end, 10 CFR 50.55a specifies that components which are part of the RCPB must meet the requirements for Class 1 components in Section III of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code). Section 50.55a further requires, in part, that throughout the service life of a PWR facility, ASME Code Class 1 components meet

the requirements, except design and access provisions and pre-service examination requirements, in Section XI, "Rules for Inservice Inspection [(ISI)] of Nuclear Power Plant Components," of the ASME Code, to the extent practical. This requirement includes the inspection and repair criteria of Section XI of the ASME Code.

The regulations in 10 CFR 50.36, "Technical specifications," establish the requirements related to the content of the TS. Pursuant to 10 CFR 50.36, TSs are required to include items in the following five categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls. LCOs and accompanying action statements and SRs in the STS relevant to SG tube integrity are in Specification 3.4.13, "RCS [reactor coolant system] Operational Leakage," and Specification 3.4.20, "Steam Generator (SG) Tube Integrity." The SRs in the "Steam Generator (SG) Tube Integrity" specification reference the SG Program which is defined in the STS administrative controls.

The regulations in 10 CFR 50.36(c)(5) define administrative controls as "the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner." Programs established by the licensee to operate the facility in a safe manner, including the SG Program, are listed in the administrative controls section of the TS. The SG Program is defined in Specification 5.5.9, while the reporting requirements relating to implementation of the SG Program are in Specification 5.6.10.

Specification 5.5.9 requires that an SG Program be established and implemented to ensure that SG tube integrity is maintained. SG tube integrity is maintained by meeting the performance criteria specified in TS 5.5.9.b for structural and leakage integrity, consistent with the plant design and licensing basis. Specification 5.5.9.a requires that a condition monitoring assessment be performed during each outage in which the SG tubes are inspected, to confirm that the performance criteria are being met. Specification 5.5.9.d includes provisions regarding the scope, frequency, and methods of SG tube inspections. These provisions require that the inspections be performed with the objective of detecting flaws of any type that (1) may be present along the length of a tube, from the tube-to-tubesheet weld at the tube inlet to the tube-to-tubesheet weld at the tube outlet (the portion of the tube greater than 15.2 inches below the top of the tubesheet are excluded from this requirement), and (2) may satisfy the applicable tube repair criteria. The applicable tube repair criteria, specified in TS 5.5.9.c, are that tubes found during ISI to contain flaws with a depth equal to or exceeding 40 percent of the nominal tube wall thickness shall be plugged, unless the tubes are permitted to remain in service through application of the alternate repair criteria provided in TS 5.5.9.c.1.

3.0 TECHNICAL EVALUATION

3.1 Proposed TS Changes

Current LCO 3.4.17 states, in part, that:

> All SG tubes satisfying the tube repair criteria shall be plugged in accordance with the Steam Generator Program.

Revised LCO 3.4.17 would state, in part, that:

> All SG tubes satisfying the tube plugging criteria shall be plugged in accordance with the Steam Generator Program.

Current LCO 3.4.17 Condition A states that:

> One or more SG tubes satisfying the tube repair criteria and not plugged in accordance with the Steam Generator Program.

Revised LCO 3.4.17 Condition A would state that:

> One or more SG tubes satisfying the tube plugging criteria and not plugged in accordance with the Steam Generator Program.

Current SR 3.4.17.2 states that:

> Verify that each inspected SG tube that satisfies the tube repair criteria is plugged in accordance with the Steam Generator Program.

Revised SR 3.4.17.2 would state that:

> Verify that each inspected SG tube that satisfies the tube plugging criteria is plugged in accordance with the Steam Generator Program.

Current introductory paragraph of TS 5.5.9 states, in part, that:

> In addition, the Steam Generator Program shall include the following provisions:

Revised introductory paragraph of TS 5.5.9 would state, in part, that:

> In addition, the Steam Generator Program shall include the following:

Current TS 5.5.9.b.1 states, in part, that:

> All in-service steam generator tubes shall retain structural integrity over the full range of normal operating conditions (including startup, operation in the power range, hot standby, and cool down and all anticipated transients included in the design specification) and design basis accidents.

Revised TS 5.5.9.b.1 would state, in part, that:

> All in-service steam generator tubes shall retain structural integrity over the full range of normal operating conditions (including startup, operation in the power range, hot standby, and cool down), all anticipated transients included in the design specification, and design basis accidents.

Current TS 5.5.9.c states, in part, that:

> Provisions for SG tube repair criteria. Tubes found by inservice inspection to contain flaws with a depth equal to or exceeding 40% of the nominal tube wall thickness shall be plugged.
>
> The following alternate tube repair criteria shall be applied as an alternative to the 40% depth-based criteria:

Revised TS 5.5.9.c would state, in part, that:

> Provisions for SG tube plugging criteria. Tubes found by inservice inspection to contain flaws with a depth equal to or exceeding 40% of the nominal tube wall thickness shall be plugged.
>
> The following alternate tube plugging criteria shall be applied as an alternative to the 40% depth-based criteria:

Current TS 5.5.9.d states, in part, that:

> The number and portions of the tubes inspected and methods of inspection shall be performed with the objective of detecting flaws of any type (e.g., volumetric flaws, axial and circumferential cracks) that may be present along the length of the tube, from the tube-to-tubesheet weld at the tube inlet to the tube-to-tubesheet weld at the tube outlet, and that may satisfy the applicable tube repair criteria.... An assessment of degradation shall be performed to determine the type and location of flaws to which the tubes may be susceptible and, based on this assessment, to determine which inspection methods need to be employed and at what locations.

Revised TS 5.5.9.d would state, in part, that:

> The number and portions of the tubes inspected and methods of inspection shall be performed with the objective of detecting flaws of any type (e.g., volumetric flaws, axial and circumferential cracks) that may be present along the length of the tube, from the tube-to-tubesheet weld at the tube inlet to the tube-to-tubesheet weld at the tube outlet, and that may satisfy the applicable tube plugging criteria.... A degradation assessment shall be performed to determine the type and location of flaws to which the tubes may be susceptible and, based

on this assessment, to determine which inspection methods need to be employed and at what locations.

Current TS 5.5.9.d.1 states that:

> Inspect 100% of the tubes in each SG during the first refueling outage following SG replacement.

Revised TS 5.5.9.d.1 would state that:

> Inspect 100% of the tubes in each SG during the first refueling outage following SG installation.

Current TS 5.5.9.d.2 states that:

> Inspect 100% of the tubes at sequential periods of 120, 90, and, thereafter, 60 effective full power months. The first sequential period shall be considered to begin after the first inservice inspection of the SGs. In addition, inspect 50% of the tubes by the refueling outage nearest the midpoint of the period and the remaining 50% by the refueling outage nearest the end of the period. No SG shall operate for more than 48 effective full power months or two refueling outages (whichever is less) without being inspected.

Revised TS 5.5.9.d.2 would state that:

> After the first refueling outage following SG installation, inspect each SG at least every 48 effective full power months or at least every other refueling outage (whichever results in more frequent inspections). In addition, the minimum number of tubes inspected at each scheduled inspection shall be the number of tubes in all SGs divided by the number of SG inspection outages scheduled in each inspection period as defined in a, b, and c below. If a degradation assessment indicates the potential for a type of degradation to occur at a location not previously inspected with a technique capable of detecting this type of degradation at this location and that may satisfy the applicable tube plugging criteria, the minimum number of locations inspected with such a capable inspection technique during the remainder of the inspection period may be prorated. The fraction of locations to be inspected for this potential type of degradation at this location at the end of the inspection period shall be no less than the ratio of the number of times the SG is scheduled to be inspected in the inspection period after the determination that a new form of degradation could potentially be occurring at this location divided by the total number of times the SG is scheduled to be inspected in the inspection period. Each inspection period defined below may be extended up to 3 effective full power months to include a SG inspection outage in an inspection period and the subsequent inspection period begins at the conclusion of the included SG inspection outage.

a) After the first refueling outage following SG installation, inspect 100% of the tubes during the next 120 effective full power months. This constitutes the first inspection period.

b) During the next 96 effective full power months, inspect 100% of the tubes. This constitutes the second inspection period; and

c) During the remaining life of the SGs, inspect 100% of the tubes every 72 effective full power months. This constitutes the third and subsequent inspection periods.

Current TS 5.5.9.d.3 states, in part, that:

> If crack indications are found in any portion of the SG tube not excluded above, then the next inspection for each SG for the degradation mechanism that caused the crack indication shall not exceed 24 effective full power months or one refueling outage (whichever is less).

Revised TS 5.5.9.d.3 would state, in part, that:

> If crack indications are found in any portion of the SG tube not excluded above, then the next inspection for each affected and potentially affected SG for the degradation mechanism that caused the crack indication shall not exceed 24 effective full power months or one refueling outage (whichever results in more frequent inspections).

Current TS 5.6.10.b states that:

> Active degradation mechanisms found;

Revised TS 5.6.10.b would state that:

> Degradation mechanisms found;

Current TS 5.6.10.e states that:

> Number of tubes plugged during the inspection outage for each active degradation mechanism;

Revised TS 5.6.10.e would state that:

> Number of tubes plugged during the inspection outage for each degradation mechanism;

Current TS 5.6.10.f states that:

> Total number and percentage of tubes plugged to date;

Revised TS 5.6.10.f would state that:

> The number and percentage of tubes plugged to date, and the effective plugging percentage in each steam generator;

3.2 NRC Staff Evaluation

3.2.1 Specification 5.5.9, "Steam Generator (SG) Program"

Proposed Change: The last sentence of the introductory paragraph currently states: "In addition, the Steam Generator Program shall include the following provisions:". The change would delete the word "provisions" such that the sentence would state: "In addition, the Steam Generator Program shall include the following:". The basis for this change is that subsequent paragraphs in Specification 5.5.9 start with "Provisions for ..." and the word "provisions" in the introductory paragraph is duplicative.

Assessment: The NRC staff has reviewed Specification 5.5.9 and agrees that the word "provisions" in the introductory paragraph is duplicative. The NRC staff agrees that the change is editorial in nature and, therefore, is acceptable.

3.2.2 Paragraph 5.5.9.b.1, "Structural integrity performance criterion"

The first sentence currently states:

> All in-service steam generator tubes shall retain structural integrity over the full range of normal operating conditions (including startup, operation in the power range, hot standby, and cool down and all anticipated transients included in the design specification) and design basis accidents.

Proposed Change: Revise the sentence as follows:

> All in-service steam generator tubes shall retain structural integrity over the full range of normal operating conditions (including startup, operation in the power range, hot standby, and cool down), all anticipated transients included in the design specification, and design basis accidents.

The basis for the change is that this sentence inappropriately includes anticipated transients in the description of normal operating conditions.

Assessment: The NRC staff agrees the current wording is incorrect and that anticipated transients should be differentiated from normal operating conditions. Therefore, the NRC staff agrees that the change is editorial in nature and, therefore, is acceptable.

3.2.3. Paragraph 5.5.9.c, "Provisions for SG tube repair criteria," Paragraph 5.5.9.d, "Provisions for SG tube inspections," LCO 3.4.17, "Steam Generator (SG) Tube Integrity," SR 3.4.17.2, "Steam Generator (SG) Tube Integrity"

Proposed Change: Change all references to "tube repair criteria" to "tube plugging criteria." This change is intended to be consistent with the treatment of SG tube repair throughout Specification 5.5.9.

Assessment: The NRC staff concludes that the proposed change provides a more accurate label of the criteria and, therefore, adds clarity to the specification. This is because one of two actions must be taken when the criteria are exceeded. One action is to remove the tube from service by plugging the tube at both tube ends. The alternative action is to repair the tube, but only if such a repair is permitted by paragraph 5.5.9.c. Therefore, the NRC staff agrees that the change is editorial in nature and, therefore, is acceptable.

3.2.4 Paragraph 5.5.9.d, "Provisions for SG tube inspections"

Proposed Change: Change the term "an assessment of degradation" to "a degradation assessment" to be consistent with the terminology used in industry program documents.

Assessment: The NRC staff agrees that the terminology should be consistent, that the change is editorial in nature and, therefore, is acceptable.

3.2.5 Paragraph 5.5.9.d.1

Proposed Change: The paragraph currently states: "Inspect 100% of the tubes in each SG during the first refueling outage following SG replacement." The change would replace "SG replacement" with "SG installation." The basis for the change is that it will allow the SG Program to apply to both existing plants and new plants.

Assessment: The NRC staff agrees the SG Program can apply to both existing and new plants and that the change clarifies the wording to that effect . Therefore, the NRC staff concludes that the change is acceptable.

3.2.6 Paragraph 5.5.9.d.2 for Plants with SGs with Alloy 600 Thermally Treated (TT) tubes

NOTE: For background information to this evaluation, USAR Section 5.4.2.3.1, "Selection and Fabrication of [SG] Materials," describes the WCGS steam generator tubing material as Inconel-600, a nickel-chromium-iron alloy which has been subjected to a thermal treatment process.

The paragraph currently states:

> Inspect 100% of the tubes at sequential periods of 120, 90, and, thereafter, 60 effective full power months. The first sequential period shall be considered to begin after the first inservice inspection of the SGs. In addition, inspect 50% of the tubes by the refueling outage nearest the midpoint of the period and the

remaining 50% by the refueling outage nearest the end of the period. No SG shall operate for more than 48 effective full power months or two refueling outages (whichever is less) without being inspected.

Proposed Change: Revise paragraph 5.5.9.d.2 as follows:

After the first refueling outage following SG installation, inspect each SG at least every 48 effective full power months or at least every other refueling outage (whichever results in more frequent inspections). In addition, the minimum number of tubes inspected at each scheduled inspection shall be the number of tubes in all SGs divided by the number of SG inspection outages scheduled in each inspection period as defined in a, b, and c below. If a degradation assessment indicates the potential for a type of degradation to occur at a location not previously inspected with a technique capable of detecting this type of degradation at this location and that may satisfy the applicable tube plugging criteria, the minimum number of locations inspected with such a capable inspection technique during the remainder of the inspection period may be prorated. The fraction of locations to be inspected for this potential type of degradation at this location at the end of the inspection period shall be no less than the ratio of the number of times the SG is scheduled to be inspected in the inspection period after the determination that a new form of degradation could potentially be occurring at this location divided by the total number of times the SG is scheduled to be inspected in the inspection period. Each inspection period defined below may be extended up to 3 effective full power months to include a SG inspection outage in an inspection period and the subsequent inspection period begins at the conclusion of the included SG inspection outage.

a) After the first refueling outage following SG installation, inspect 100% of the tubes during the next 120 effective full power months. This constitutes the first inspection period.

b) During the next 96 effective full power months, inspect 100% of the tubes. This constitutes the second inspection period; and

c) During the remaining life of the SGs, inspect 100% of the tubes every 72 effective full power months. This constitutes the third and subsequent inspection periods.

Assessment: Paragraph 5.5.9.d.2 in its current form and with the proposed changes is similar for each of the tube alloy types, but with differences that reflect the improved resistance of alloy 600 TT (thermally treated) to stress-corrosion cracking relative to alloy 600 MA (mill annealed) and the improved resistance of alloy 690 TT relative to both alloy 600 MA and alloy 600 TT. These differences include progressively larger maximum inspection interval requirements and sequential inspection periods (during which 100 percent of the tubes must be inspected) for alloy 600 MA, 600 TT, and alloy 690 TT tubes, respectively. In addition, because of the longer maximum inspection intervals allowed for alloy 600 TT and 690 TT tubes, paragraph 5.5.9.d.2

includes a restriction on the distribution of sampling over each sequential inspection period for alloy 600 TT and 690 TT tubes that is not included for alloy 600 MA tubes.

The licensee proposes to move the first two sentences of paragraph 5.5.9.d.2 to the end of the paragraph and make editorial changes to improve clarity. The NRC staff concludes that these changes to be of a clarifying nature, not changing the current intent of these two sentences. However, the LAR also includes two changes to when inspections are performed as follows:

- The second inspection period would be revised from 90 to 96 effective full power months (EFPMs).

- The third and subsequent inspection periods would be revised from 60 to 72 EFPMs.

The licensee characterizes these changes as marginal increases for consistency with typical fuel cycle lengths that better accommodate the scheduling of inspections. The NRC staff notes that plants with alloy 600 TT SG tubes typically inspect at 18- or 36-month intervals (one or two fuel cycles, respectively) depending on whether stress corrosion crack activity was observed during the most recent inspection. With these intervals, the last scheduled inspection during the first inspection period would occur at 108 months after the first refueling outage following SG installation. This is 12 months before the end of the first 120-EFPM inspection period. However, with the proposed changes to the length of the second and subsequent inspection periods, the NRC staff concludes that the last scheduled inspections in the second and subsequent inspection periods will coincide exactly with the end of these periods.

The proposed changes would generally increase the number of inspections in each of the second and subsequent inspection periods by up to one additional inspection. This could reduce the required average minimum sample size during these periods. However, inspection sample sizes will continue to be subject to paragraph 5.5.9.d which states that in addition to meeting the requirements of paragraphs 5.5.9.d.1, d.2, and d.3, the inspection scope, inspection methods, and inspection intervals shall be such as to ensure SG tube integrity is maintained until the next scheduled inspection. Therefore, the NRC staff concludes that with the proposed changes to the length of the second and subsequent inspection periods, compliance with the SG program requirements in Specification 5.5.9 will continue to ensure both adequate inspection scopes and tube integrity.

For each inspection period, paragraph 5.5.9.d.2 currently requires that at least 50 percent of the tubes be inspected by the refueling outage nearest to the mid-point of the inspection period and the remaining 50 percent by the refueling outage nearest the end of the inspection period. The NRC staff notes that if there are not an equal number of inspections in the first half and second half of the inspection period, the average minimum sampling requirement may be markedly different for inspections in the first half of the inspection period compared to those in the second half, even when there are uniform intervals between each inspection. For example, a plant in the first (120 EFPM) inspection period with a scheduled 36-month interval (two fuel cycles) between each inspection would currently be required to inspect 50 percent of the tubes by the refueling outage nearest the midpoint of the inspection, which would be the third refueling outage in the period, 6 months before the mid-point. However, since no inspection is scheduled

for that outage, then the full 50 percent sample must be performed during the inspection scheduled for the second refueling outage in the period. Two inspections would be scheduled to occur in the second half of the inspection period, at 72 and 108 months into the inspection period. Thus, the current sampling requirement could be satisfied by performing a 25 percent sample during each of these inspections or other combinations of sampling (e.g., 10 percent during one and 40 percent in the other) totaling 50 percent. The NRC staff concludes that there is no basis to require the minimum initial sample size to vary so much from inspection to inspection. The licensee proposes to revise this requirement such that the minimum sample size for a given inspection in a given inspection period is 100 percent divided by the number of scheduled inspections during that inspection period. For the above example, the proposed change would result in a uniform initial minimum sample size of 33.3 percent for each of the three scheduled inspections during the inspection period. The NRC staff concludes this proposed revision to be an improvement to the existing requirement since it provides a more consistent minimum initial sampling requirement.

The proposed changes to paragraph 5.5.9.d.2 include two new sentences addressing the prorating of required tube sample sizes if a degradation assessment indicates the potential for a type of degradation to occur at a location not previously inspected with a technique capable of detecting this type of degradation at this location and that may satisfy the applicable tube plugging criteria. For example, new information from another similar plant becomes available indicating the potential for circumferential cracking at a specific location on the tube. Previous degradation assessments had not identified the potential for this type of degradation at this location. Thus, previous inspections of this location had not been performed with a technique capable of detecting circumferential cracks. However, now that the potential for circumferential cracking has been identified at this location, paragraph 5.5.9.d requires a method of inspection to be performed with the objective of detecting circumferential cracks which may be present at this location and that may satisfy the applicable tube plugging criteria. Suppose this inspection is performed for the first time during the third of four SG inspections scheduled for one of the inspection periods. Paragraph 5.5.9.d.2 currently does not specify whether this location needs to be 100 percent inspected by the end of the inspection period, or whether a prorated approach may be taken. The NRC staff addressed this question in Issue 1 of NRC Regulatory Information Summary (RIS) 2009-04, "Steam Generator Tube Inspection Requirements," dated April 3, 2009 (ADAMS Accession No. ML083470557), as follows:

> Issue 1: *A licensee may identify a new potential degradation mechanism after the first inspection in a sequential period. If this occurs, what are the expectations concerning the scope of examinations for this new potential degradation mechanism for the remainder of the period (e.g., do 100 percent of the tubes have to be inspected by the end of the period or can the sample be prorated for the remaining part of the period)?*
>
> [NRC Staff Position:] The TS contain requirements that are a mixture of prescriptive and performance-based elements. Paragraph "d" of these requirements indicates that the inspection scope, inspection methods, and inspection intervals shall be sufficient to ensure that SG tube integrity is maintained until the next SG inspection. Paragraph "d" is a performance-based element because it describes the goal of the inspections but does not specify

how to achieve the goal. However, paragraph "d.2" is a prescriptive element because it specifies that the licensee must inspect 100 percent of the tubes at specified periods.

If an assessment of degradation performed after the first inspection in a sequential period results in a licensee concluding that a new degradation mechanism (not anticipated during the prior inspections in that period) may potentially occur, the scope of inspections in the remaining portion of the period should be sufficient to ensure SG tube integrity for the period between inspections.

In addition, to satisfy the prescriptive requirements of paragraph "d.2" that the licensee must inspect 100 percent of the tubes within a specified period, a prorated sample for the remaining portion of the period is appropriate for this potentially new degradation mechanism. This prorated sample should be such that if the licensee had implemented it at the beginning of the period, the TS requirement for the 100 percent inspection in the entire period (for this degradation mechanism) would have been met. A prorated sample is appropriate because (1) the licensee would have performed the prior inspections in this sequential period consistently with the requirements, and (2) the scope of inspections must be sufficient to ensure that the licensee maintains SG tube integrity for the period between inspections.

The NRC staff concludes that proposed sentences 3 and 4 clarify the existing requirement consistent with the NRC staff's position from RIS 2009-04 quoted above and are, therefore, acceptable.

The proposed fifth sentence in paragraph 5.5.9.d.2 states, "Each inspection period defined below may be extended up to 3 effective full power months to include a SG inspection outage in an inspection period and the subsequent inspection period begins at the conclusion of the included SG inspection outage." Allowing extension of the inspection periods by up to an additional 3 EFPMs potentially impacts the average tube inspection sample size to be implemented during a given inspection in that period. For example, if three SG inspections are scheduled to occur within the nominal 60-EFPM period, the minimum sample size for each of the three inspections could average as little as 33.3 percent of the tube population. If a fourth inspection can be included within the period by extending the period by 3 EFPMs, then the minimum sample size for each of the four inspections could average as little as 25 percent of the tube population. Since the subsequent period begins at the end of the included SG inspection outage, the proposed change does not impact the required frequency of SG inspection.

Required tube inspection sample sizes are also subject to the performance-based requirement in paragraph 5.5.9.d, which states, in part, that in addition to meeting the requirements of paragraph 5.5.9.d.1, d.2, and d.3, "the inspection scope, inspection methods, and inspection intervals shall be such as to ensure that SG tube integrity is maintained until the next SG inspection." This requirement remains unchanged under the proposal. The NRC staff concludes the proposed fifth sentence, by allowing the potential for smaller sample sizes,

involves only a relatively minor relaxation to the existing sampling requirements in paragraph 5.5.9.d.2. However, the performance-based requirements in 5.5.9.d ensure that adequate inspection sampling will be performed to ensure tube integrity is maintained. Thus, the NRC staff concludes that the proposed change is acceptable.

Finally, the first sentence of the proposed revision to paragraph 5.5.9.d.2 replaces the last sentence of the current paragraph 5.5.9.d.2. This sentence establishes the minimum allowable SG inspection frequency as at least every 48 EFPMs or at least every other refueling outage (whichever results in more frequent inspections). This minimum inspection frequency is unchanged from the current sentence. The NRC staff concludes that the wording changes in the sentence are of an editorial and clarifying nature and are not material, such that the current intent of the requirement is unchanged. Thus, the NRC staff concludes the first sentence of proposed paragraph 5.5.9.d.2 is acceptable.

3.2.7 Paragraph 5.5.9.d.3 (for plants with SG tubing fabricated from alloy 600 TT)

The first sentence of paragraph 5.5.9.d.3 currently states:

> If crack indications are found in any portion of the SG tube not excluded above, then the next inspection for each SG for the degradation mechanism that caused the crack indication shall not exceed 24 effective full power months or one refueling outage (whichever is less).

Proposed Change: Revise this sentence as follows:

> If crack indications are found in any portion of the SG tube not excluded above, then the next inspection for each affected and potentially affected SG for the degradation mechanism that caused the crack indication shall not exceed 24 effective full power months or one refueling outage (whichever results in more frequent inspections).

The proposed change is replacing the words "for each SG" with the words "for each affected and potentially affected SG." The licensee states that the existing wording can be misinterpreted. The licensee further states that the intention is that those SGs that are affected and those SGs that are potentially affected must be inspected for the degradation mechanism that caused the crack indication. However, some licensees have questioned whether the current reference to "each SG" requires only the SGs that are affected to be inspected for the degradation mechanism. The proposed revision is intended to clarify the intent of the requirement.

Assessment: Paragraph 5.5.9.d.2 permits SG inspection intervals to extend over multiple fuel cycles for SGs with alloy 600 TT tubing, assuming that such intervals can be implemented while ensuring tube integrity is maintained in accordance with paragraph 5.5.9.d. However, stress-corrosion cracks may not become detectable by inspection until the crack depth approaches the tube repair limit. In addition, stress-corrosion cracks may exhibit high growth rates. For these reasons, once cracks have been found in any SG tube, paragraph 5.5.9.d.3 restricts the allowable interval to the next scheduled inspection to 24 EFPMs or one refueling outage

(whichever is less). The intent of this requirement is that it applies to the affected SG and to any other SG that may be potentially affected by the degradation mechanism that caused the known crack(s). For example, a root-cause analysis in response to the initial finding of one or more cracks might reveal that the crack(s) are associated with a manufacturing anomaly which causes locally high-residual stress which in turn caused the early initiation of cracks at the affected locations. If it can be established that the extent of condition of the manufacturing anomaly applies only to one SG and not the others, then the NRC staff agrees that only the affected SG needs to be inspected within 24 EFPMs or one refueling cycle in accordance with paragraph 5.5.9.d.2. The next scheduled inspections of the other SGs will continue to be subject to all other provisions of paragraph 5.5.9.d. The NRC staff concludes that the proposed change to paragraph 5.5.9.d.3 acceptable, because it clarifies the intent the paragraph.

3.2.8 Specification 5.6.10, "Steam Generator Tube Inspection Report"

This specification lists items a. through j. to be included in a report, which shall be submitted within 180 days after the initial entry into MODE 4 following completion of an inspection performed in accordance with the Specification 5.5.9, "Steam Generator (SG) Program."

Proposed Change: Item b. currently reads: "Active degradation mechanisms found..." to be revised to read: "Degradation mechanisms found..."

Item e. currently reads: "Number of tubes plugged during the inspection outage for each active degradation mechanism..." to be revised to read: "Number of tubes plugged during the inspection outage for each degradation mechanism..."

Item f. currently reads, "Total number and percentage of tubes plugged to date..." to be revised to read: "The number and percentage of tubes plugged to date, and the effective plugging percentage in each steam generator..."

The proposed change to item f. is the combination of STS optional item h., "The effective plugging percentage for all plugging [and tube repairs] in each SG..." with current item f. WCGS does not currently implement option item h. in TS 5.6.10.

Assessment: This proposal would delete the word "active" in items b. and e. above. Thus, all degradation mechanisms found, whether deemed to be active or not, would now be reportable. The proposed change to item f. would add to the WCGS SG reporting requirements in order to align with TSTF-510. The NRC staff concludes that the proposed changes are acceptable since they are more conservative than the current requirements.

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 published in the *Federal Register* on September 4, 2012 (77 FR 53931). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and (c)(10)(v). 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) the amendment does not (a) involve a significant increase in the probability or consequences of an accident previously evaluated; or (b) create the possibility of a new or different kind of accident from any accident previously evaluated; or (c) involve a significant reduction in a margin of safety; (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (3) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (4) 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 Contributors: K. Hemphill and R. Grover

Date: November 19, 2012

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,

/RA/

Carl F. Lyon, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-482

Enclosures:
1. Amendment No. 199 to NPF-42
2. Safety Evaluation

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