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CENG
a joint venture of Constellation Energy eDF

CALVERT CLIFFS
NUCLEAR POWER PLANT

October 31, 2013

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Application for Technical Specification Improvement to Adopt TSTF–510-A, Revision 2, "Revision to Steam Generator Program Inspection Frequencies and Tube Sample Selection"

In accordance with 10 CFR 50.90, Calvert Cliffs Nuclear Power Plant, LLC is submitting a request for an amendment to the Technical Specifications for Calvert Cliffs Nuclear Power Plant (Calvert Cliffs) Units 1 and 2. The proposed amendment would modify the Technical Specification requirements regarding steam generator tube inspections and reporting as described in Technical Specification Task Force (TSTF)-510-A, Revision 2, "Revision to Steam Generator Program Inspection Frequencies and Tube Sample Selection."

The changes are consistent with Nuclear Regulatory Commission-approved industry TSTF Standard Technical Specification Change Traveler, TSTF–510-A, Revision 2. The availability of this Technical Specification improvement was announced in the Federal Register on October 27, 2011 (76 FR 66763) as part of the consolidated line item improvement process.

Attachment (1) provides a description and assessment of the proposed changes. Attachment (2) provides the existing Technical Specification pages marked up to show the proposed changes. Attachment (3) provides the existing Technical Specification Bases pages marked up to show the proposed changes. Calvert Cliffs Nuclear Power Plant requests approval of the proposed license amendment by October 31, 2014 with the amendment being implemented within 60 days.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Maryland Official.

There are no regulatory commitments contained in this letter.

A001
NRR

Should you have questions regarding this matter, please contact Mr. Douglas E. Lauver at (410) 495-5219.

I declare under penalty of perjury that the foregoing is true and correct. Executed on October 31, 2013.

Very truly yours,

GHG/PSF/bjd

Attachments: (1) Description and Assessment of Proposed Changes
(2) Marked up Technical Specification Pages
(3) Marked up Technical Specification Bases Pages

cc: N. S. Morgan, NRC
W. M. Dean, NRC
Resident Inspector, NRC
S. Gray, DNR

ATTACHMENT (1)

DESCRIPTION AND ASSESSMENT OF PROPOSED CHANGES

TABLE OF CONTENTS

1.0 DESCRIPTION

This letter is a request for an amendment to Renewed Operating Licenses DPR-53 and DPR-69 for Calvert Cliffs Nuclear Power Plant (Calvert Cliffs), Unit Nos. 1 and 2. The proposed change revises Technical Specification (TS) 5.5.9, "Steam Generator (SG) Program," and TS 5.6.9, "Steam Generator Tube Inspection Report." The proposed changes are needed to address implementation issues associated with the inspection periods, and address other administrative changes and clarifications. For consistency, additional administrative changes are being made to TS 3.4.18, "Steam Generator (SG) Tube Integrity."

This change is consistent with Technical Specification Task Force (TSTF) change traveler TSTF-510-A, Revision 2, "Revision to Steam Generator Program Inspection Frequencies and Tube Sample Selection." The availability of this TS improvement was announced in the Federal Register on October 27, 2011 (76 FR 66763) as part of the Consolidated Line Item Improvement Process (CLIIP).

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

Calvert Cliffs has reviewed TSTF-510-A, Revision 2, "Revision to Steam Generator Program Inspection Frequencies and Tube Sample Selection" and the model safety evaluation dated October 19, 2011 (ADAMS Accession No. ML112101513). As described in the subsequent paragraphs, Calvert Cliffs has concluded that the justifications presented in TSTF-510-A, Revision 2 and the model safety evaluation prepared by the Nuclear Regulatory Commission (NRC) staff are applicable to Calvert Cliffs Unit Nos. 1 and 2 and justify this amendment for the incorporation of the changes to the Calvert Cliffs TSs.

2.2 Optional Change and Variations

Calvert Cliffs is not proposing any technical variations or deviations from the TS changes described in TSTF-510-A, Revision 2 or the applicable parts of the NRC staff's model safety evaluation dated October 19, 2011. However, Calvert Cliffs is proposing the following administrative variations.

1. The proposed change corrects an administrative inconsistency in TSTF-510-A, Revision 2, paragraph d.2 of TS 5.6.9, "Steam Generator Tube Inspection Report." In Section 2.0, "Proposed Change," TSTF-510-A, Revision 2, states that references to "tube repair criteria" in Paragraph d are revised to "tube plugging [or repair] criteria." However, in the following sentence in Paragraph d.2, this change was inadvertently omitted (see 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 <u>tube repair criteria</u>, the minimum number of locations inspected with such a capable inspection technique during the remainder of the inspection period may be prorated" (emphasis added).

   The underlined phrase should state "tube plugging [or repair] criteria" consistent with the other changes made in TSTF-510-A, Revision 2. Calvert Cliffs does not have approved tube repair criteria. Therefore, Calvert Cliffs is revising the phrase to "tube plugging criteria." This change is administrative and should not result in this application being removed from the Consolidated Line Item Improvement Process.

   This administrative error was identified in a February 2012 NRC/TSTF meeting and documented in Reference 1. The NRC accepted the error resolution in Reference 2.

2. Calvert Cliffs uses different numbering than the Improved Standard Technical Specifications in one instance. The Steam Generator Tube Inspection Report is TS 5.6.9 in the Calvert Cliffs TS. It is numbered TS 5.6.6 in the Improved Standard Technical Specifications. This change is administrative and should not result in this application being removed from the Consolidated Line Item Improvement Process.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration

Calvert Cliffs Nuclear Power Plant Unit Nos. 1 and 2 requests adoption of an approved change to the standard technical specifications into the plant specific Technical Specifications (TSs), to revise TS 5.5.9, "Steam Generator Program", TS 5.6.9, "Steam Generator Tube Inspection Report", and TS 3.4.18, "Steam Generator (SG) Tube Integrity" to address inspection periods and other administrative changes and clarifications.

This proposed change has been evaluated against the standards in 10 CFR 50.92 and has been determined to involve no significant hazards considerations, in that operation of the facility in accordance with the proposed amendment would not:

1. *Involve a significant increase in the probability or consequences of an accident previously evaluated; or*

   No.

   The proposed change revises the Steam Generator (SG) Program to modify the frequency of verification of SG tube integrity and SG tube sample selection. A steam generator tube rupture event (SGTR) is one of the design basis accidents that are analyzed as part of a plant's licensing basis. The proposed SG tube inspection frequency and sample selection criteria will continue to ensure that the SG tubes are inspected such that the probability of a SGTR is not increased. The consequences of a SGTR are bounded by the conservative assumptions in the design basis accident analysis. The proposed change will not cause the consequences of a SGTR to exceed these assumptions.

   Therefore, operation of the facility in accordance with the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. *Create the possibility of a new or different type of accident from any accident previously evaluated; or*

   No.

   The proposed changes to the SG Program will not introduce any adverse changes to the plant design basis or postulated accidents resulting from potential tube degradation. The proposed change does not affect the design of the SGs or their method of operation. In addition, the proposed change does not impact any other plant system or component.

   Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. *Involve a significant reduction in a margin of safety.*

   No.

The SG tubes in pressurized water reactors are an integral part of the reactor coolant pressure boundary and, as such, are relied upon to maintain the primary system's pressure and inventory. As part of the reactor coolant pressure boundary, 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. In addition, the SG tubes also isolate the radioactive fission products in the primary coolant from the secondary system. In summary, the safety function of a SG is maintained by ensuring the integrity of its tubes.

Steam generator tube integrity is a function of the design, environment, and the physical condition of the tube. The proposed change does not affect tube design or operating environment. The proposed change will continue to require monitoring of the physical condition of the SG tubes such that there will not be a reduction in the margin of safety compared to the current requirements.

Therefore, the proposed amendment would not involve a significant reduction in a margin of safety.

Based on the above, Calvert Cliffs concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c) and, accordingly, a finding of "no significant hazards consideration" is justified.

4.0 ENVIRONMENTAL EVALUATION

The proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR Part 20, and would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change 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 conjunction with the proposed change.

5.0 REFERENCES

1. Letter from the Technical Specification Task Force to Document Control Desk (NRC), dated March 28, 2012, Correction to TSTF-510-A, Revision 2, "Revision to Steam Generator Program Inspection Frequencies and Tube Sample Selection"
2. Letter from A. J. Mendiola (NRC) to Technical Specification Task Force, dated June 17, 2013, NRC Staff Response to TSTF letter Dated March 28, 2012, Regarding Correction to TSTF-510, Revision 2, "Revision to Steam Generator Program Inspection Frequencies and Tube Sample Selection"

ATTACHMENT (2)

MARKED UP TECHNICAL SPECIFICATION PAGES

Calvert Cliffs Nuclear Power Plant, LLC
October 31, 2013

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.18 Steam Generator (SG) Tube Integrity

LCO 3.4.18 SG tube integrity shall be maintained.

<u>AND</u>

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

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

ACTIONS

------------------------------------ NOTES ------------------------------------

Separate Condition entry is allowed for each SG tube.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more SG tubes satisfying the tube ~~repair~~ 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
	<u>AND</u>	
	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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> SG tube integrity not maintained.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.18.1	Verify SG tube integrity in accordance with the Steam Generator Program.	In accordance with the Steam Generator Program
SR 3.4.18.2	Verify that each inspected SG tube that satisfies the tube ~~repair~~ 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

a. Testing frequencies applicable to the ASME Code for Operation and Maintenance of Nuclear Power Plants (ASME OM Code) and applicable Addenda as follows:

ASME OM Code and applicable Addenda terminology for inservice testing activities	Required Frequencies for performing inservice testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days
Biennially or every 2 years	At least once per 731 days

b. The provisions of SR 3.0.2 are applicable to the above required Frequencies and to other normal and accelerated Frequencies specified as 2 years or less in the Inservice Testing Program for performing inservice testing activities;

c. The provisions of SR 3.0.3 are applicable to inservice testing activities; and

d. Nothing in the ASME OM Code shall be construed to supersede the requirements of any Technical Specification.

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 ~~provisions~~:

5.5 Programs and Manuals

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. Steam generator 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), ~~and~~ 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.

5.5 Programs and Manuals

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 100 gpd per SG.

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

plugging

c. 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.

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 ~~repair~~ criteria. 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~~n 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.

plugging

assessment

installation

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

2. ~~Inspect 100% of the tubes at sequential periods of 144, 108, 72, and, thereafter, 60 effective full power~~

Insert 5.5.9

Insert 5.5.9

After the first refueling outage following SG installation, inspect each SG at least every 72 effective full power months or at least every third 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, c, and d 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 schedule 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 144 effective full power months. This constitutes the first inspection period;
b) During the next 120 effective full power months, inspect 100 % of the tubes. This constitutes the second inspection period;
c) During the next 96 effective full power months, inspection 100% of the tubes. This constitutes the third inspection period; and
d) During the remaining life of the SGs, inspection 100% of the tubes every 72 effective full power months. This constitutes the fourth and subsequent inspection periods.

5.5 Programs and Manuals

~~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 72 effective full power months or three refueling outages (whichever is less) without being inspected.~~

3. If crack indications are found in any SG tube, 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 inspection ~~is less~~). 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.

5.5.10 Secondary Water Chemistry Program

This program provides controls for monitoring secondary water chemistry to inhibit steam generator tube degradation and low pressure turbine disc stress corrosion cracking. The program shall include:

a. Identification of a sampling schedule for the critical variables and control points for these variables;

b. Identification of the procedures used to measure the values of the critical variables;

c. Identification of process sampling points which shall include monitoring the discharge of the condensate pumps for evidence of condenser in leakage;

5.6 Reporting Requirements

a. The scope of inspections performed on each SG,

b. ~~Active d~~ D 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 ~~active~~ degradation mechanism,

f. The ~~Total~~ 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. The effective plugging percentage for all plugging in each SG.~~

ATTACHMENT (3)

MARKED UP TECHNICAL SPECIFICATION BASES PAGES

BASES

LCO

The LCO requires that SG tube integrity be maintained. The LCO also requires that all SG tubes that satisfy the ~~repair~~ plugging criteria be plugged in accordance with the Steam Generator Program.

During an SG inspection, any inspected tube that satisfies the Steam Generator Program ~~repair~~ plugging criteria is removed from service by plugging. If a tube was determined to satisfy the ~~repair~~ plugging criteria but was not plugged, the tube may still have tube integrity.

In the context of this Specification, a SG tube is defined as the entire length of the tube, including the tube wall, between the tube-to-tubesheet weld at the tube inlet and the tube-to-tubesheet weld at the tube outlet. The tube-to-tubesheet weld is not considered part of the tube.

A SG tube has tube integrity when it satisfies the SG performance criteria. The SG performance criteria are defined in Specification 5.5.9, and describe acceptable SG tube performance. The Steam Generator Program also provides the evaluation process for determining conformance with the SG performance criteria.

There are three SG performance criteria: structural integrity, accident induced leakage, and operational LEAKAGE. Failure to meet any one of these criteria is considered failure to meet the LCO.

The structural integrity performance criterion provides a margin of safety against tube burst or collapse under normal and accident conditions, and ensures structural integrity of the SG tubes under all anticipated transients included in the design specification. Tube burst is defined as, "The gross structural failure of the tube wall. The condition typically corresponds to an unstable opening displacement (e.g., opening area increased in response to constant pressure) accompanied by ductile (plastic) tearing of the tube material at the ends of the degradation." Tube collapse is defined as, "For the load displacement curve for a given structure, collapse occurs at the top of the load versus displacement curve where the slope of the curve becomes zero." The structural integrity performance

BASES

a main steam line break. If this amount of LEAKAGE is due to more than one crack, the cracks are very small, and the above assumption is conservative.

APPLICABILITY

Steam generator tube integrity is challenged when the pressure differential across the tubes is large. Large differential pressures across SG tubes can only be experienced in MODE 1, 2, 3, or 4.

Reactor Coolant System conditions are far less challenging in MODES 5 and 6 than during MODES 1, 2, 3, and 4. In MODES 5 and 6, primary to secondary differential pressure is low, resulting in lower stresses and reduced potential for LEAKAGE.

ACTIONS

The ACTIONS are modified by a Note clarifying that the Conditions may be entered independently for each SG tube. This is acceptable because the Required Actions provide appropriate compensatory actions for each affected SG tube. Complying with the Required Actions may allow for continued operation, and subsequent affected SG tubes are governed by subsequent Condition entry and application of associated Required Actions.

A.1 and A.2

Condition A applies if it is discovered that one or more SG tubes examined in an inservice inspection satisfy the tube ~~repair~~ plugging criteria but were not plugged in accordance with the Steam Generator Program as required by SR 3.4.18.2. An evaluation of SG tube integrity of the affected tube(s) must be made. Steam generator tube integrity is based on meeting the SG performance criteria described in the Steam Generator Program. The SG ~~repair~~ criteria define limits on SG tube degradation that allow for flaw growth between inspections while still providing assurance that the SG performance criteria will continue to be met. In order to determine if a SG tube that should have been plugged has tube integrity, an evaluation must be completed that demonstrates that the SG performance criteria will continue to be met until the next refueling outage or SG tube inspection. The tube integrity determination is based on the estimated condition of the tube at the time the situation is discovered and the estimated growth of the degradation prior to the next SG

BASES

is to ensure that the SG performance criteria have been met for the previous operating period.

The Steam Generator Program determines the scope of the inspection and the methods used to determine whether the tubes contain flaws satisfying the tube ~~repair~~ plugging criteria. Inspection scope (i.e., which tubes or areas of tubing within the SG are to be inspected) is a function of existing and potential degradation locations. The Steam Generator Program also specifies the inspection methods to be used to find potential degradation. Inspection methods are a function of degradation morphology, non-destructive examination technique capabilities, and inspection locations.

The Steam Generator Program defines the Frequency of SR 3.4.18.1. The Frequency is determined by the operational assessment and other limits in the SG examination guidelines (Reference 6). The Steam Generator Program uses information on existing degradation and growth rates to determine an inspection Frequency that provides reasonable assurance that the tubing will meet the SG performance criteria at the next scheduled inspection. In addition, Specification 5.5.9 contains prescriptive requirements concerning inspection intervals to provide added assurance that the SG performance criteria will be met between scheduled inspections. Insert B 3.4.18

<u>SR 3.4.18.2</u>

During an SG inspection, any inspected tube that satisfies the Steam Generator Program ~~repair~~ plugging criteria is removed from service by plugging. The tube ~~repair~~ plugging criteria delineated in Specification 5.5.9 are intended to ensure that tubes accepted for continued service satisfy the SG performance criteria with allowance for error in the flaw size measurement and for future flaw growth. In addition, the tube ~~repair~~ plugging criteria, in conjunction with other elements of the Steam Generator Program, ensure that the SG performance criteria will continue to be met util the next inspection of the subject tube(s). Reference 1 provides guidance for performing operational assessment to verify that the tubes remaining in service will continue to meet the SG performance criteria.

Insert B 3.4.18

If crack indications are found in any SG tube, the maximum inspection interval for all affected and potentially affected SGs is restricted by Specification 5.5.9 until subsequent inspections support extending the inspection interval.

BASES

plugging

The Frequency of prior to entering MODE 4 following a SG inspection ensures that the Surveillance has been completed and all tubes meeting the ~~repair~~ criteria are plugged prior to subjecting the SG tubes to significant primary to secondary pressure differential.

REFERENCES

1. NEI 97-06, Steam Generator Program Guidelines
2. 10 CFR Part 50, Appendix A, GDC 19
3. 10 CFR 50.67
4. ASME Boiler and Pressure Vessel Code, Section III, Subsection NB
5. Draft Regulatory Guide 1.121, Basis for Plugging Degraded Steam Generator Tubes, August 1976
6. EPRI, Pressurized Water Reactor Steam Generator Examination Guidelines
7. Regulatory Guide 1.183, Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors, July 2000