U.S. NUCLEAR REGULATORY COMMISSION

STANDARD REVIEW PLAN

OFFICE OF NUCLEAR REACTOR REGULATION

5.4.2.2 STEAM GENERATOR TUBE INSERVICE INSPECTION

REVIEW RESPONSIBILITIES

Primary - Materials and Chemical Engineering Branch (~~MTEB~~EMCB[1])

Secondary - None

I. AREAS OF REVIEW

General Design Criterion 32 of Appendix A of 10 CFR Part 50 requires, in part, that all components which are part of the reactor coolant pressure boundary (RCPB) ~~or other components important to safety~~ be designed to permit periodic inspection and testing of critical areas and features to assess their ~~for~~ structural and leaktight integrity.[2] Review of the~~The~~[3] inservice inspection (ISI)[4] program for steam generator tubes, which constitute part of the reactor coolant pressure boundary, is based on the detailed positions of Regulatory Guide 1.83, "Inservice Inspection of Pressurized Water Reactor Steam Generator Tubes," and the applicable Standard Technical Specifications for each nuclear steam system supplier (~~NUREG-0103, 0212, or 0452~~e.g., References 5 through 7 and 9 through 11[5]). The design of the steam generators as described in the preliminary safety analysis report (PSAR) is reviewed to establish that use of the specified inspection techniques is feasible. The provisions made for baseline inspection prior to startup, the methods to be used for the inspections, and the inservice inspection program are reviewed in the final safety analysis report (FSAR) and plant Technical Specifications.

Review Interfaces[6]

EMCB also performs the following reviews under the SRP Section indicated:

1. The requirement of General Design Criterion 32 concerning the reactor vessel material surveillance program is reviewed ~~by MTEB~~[7] in Standard Review Plan Section 5.3.3, "Reactor Vessel Integrity."

~~The inservice inspection of other areas of the reactor coolant pressure boundary and steam generator are also reviewed by MTEB in Standard Review Plan Sections 5.2.4 and 6.6.~~[8]

In addition, the EMCB will coordinate with other branch evaluations that interface with the overall review of this section as follows:

1. The Mechanical Engineering Branch (EMEB) will verify, under SRP Section 5.2.1.2, "Applicable Code Cases", the acceptability of any ASME Code Cases that the applicant may have invoked in connection with the ISI program.[9]

2. The Civil Engineering and Geosciences Branch (ECGB) reviews the ISI program for other areas of the reactor coolant pressure boundary and steam generator under Standard Review Plan Section 5.2.4.

3. The ECGB also reviews the ISI program for ASME Code Class 2 and 3 components under SRP Section 6.6, "Inservice Inspection of Class 2 and Class 3 Components."[10]

For those areas of review identified above as being part of the review under other SRP sections, the acceptance criteria and their methods of application are contained in the referenced SRP sections.[11]

II. ACCEPTANCE CRITERIA

~~The guidelines for periodic inspection and testing of the steam generator tube portion of the reactor coolant pressure boundary are specified in Regulatory Guide 1.83 and the applicable Standard Technical Specifications, NUREG-0103, 0212, or 0452.~~[12]Acceptability of the steam generator tube ISI program is dependent on (1) compliance with 10 CFR Part 50, §50.55a, "Codes and Standards" as it relates to periodic inspection and testing of the RCPB as detailed in Section XI of the ASME Code, and (2) compliance with the requirements set forth in General Design Criterion GDC 32 as it relates to accessibility of steam generator tubes for periodic testing.[13]

Compliance with the guidelines for inservice inspection in Regulatory Guide 1.83 and the applicable Standard Technical Specification NUREG constitutes an acceptable basis for meeting, in part, the inservice inspection requirements of General Design Criterion 32. Specific acceptance criteria for meeting the inservice inspection requirements of General Design Criterion 32 and 10 CFR 50.55a[14] are listed below:

1. 10 CFR 50.55a(b)(2)(iii) specifically addresses steam generator tubes and states that if the plant Technical Specifications include inspection requirements different than those in Article IWB-2000 in Section XI of the ASME Code, the Technical Specifications govern.[15]

2.[16] The guidelines for periodic inspection and testing of the steam generator tube portion of the reactor coolant pressure boundary are specified in Regulatory Guide 1.83[17] and the applicable Standard Technical Specifications~~, NUREG-0103, 0212, or 0452~~ (References 5 through 7 and 9 through 11).[18] For applicants referencing a certified design, the Standard Technical Specifications associated with the referenced design will specify the guidelines for periodic inspection and testing of the steam generator tube portion of the reactor coolant pressure boundary.[19] The design of the steam generators to provide access for an ~~inservice inspection (~~ISI~~)~~[20] program, and the proposed ISI program should follow the recommendations given in Regulatory Guide 1.83. The steam generators should be designed to permit inspection of every tube. ~~The tube examination equipment and procedures should be capable of detecting and locating defects with a penetration of 20% or more of the wall thickness.~~ [21]A permanent record of test data should be provided. A baseline tube inspection should be scheduled prior to startup. The sample selection and testing of tubes, the inspection intervals, the actions to be taken if defects are identified, and reporting requirements should follow the recommendations in the applicable Standard Technical Specifications.

3. Regulatory Guide RG 1.121 provides guidance on minimum acceptable tube wall thickness and describes a method acceptable to the staff for establishing the limiting safe conditions of degraded steam generator tubing, beyond which defective tubes, as established by inservice inspection, should be removed from service. The steam generator tube ISI program should be consistent with this guidance.[22]

Technical Rationale[23]

The technical rationale for application of the above stated acceptance criteria as required for steam generator tube inservice inspection programs is discussed in the following paragraphs.

1. General Design Criterion 32 requires, in part, that the design of all components which constitute the RCPB be such that inspection and direct examination of the pressure boundary is feasible, for purposes of assessing structural integrity and/or potential degradation. In terms of total surface area, the steam generator tubes in pressurized water reactor plants may comprise well over fifty percent of the area of the total pressure retaining boundary. Meeting General Design Criterion 32 assures that an effective periodic inspection program can be performed, so that steam generator tube degradation can be identified and preventive measures promptly implemented to assure the integrity of the RCPB.

2. 10 CFR 50.55a, "Codes and Standards" incorporates Section XI of the ASME Code by reference and thereby establishes the applicability of Code requirements for ISI programs. The Code defines, for each ASME Code Class, the time interval for the inspection, the scope of the inspection activity, the inspection sample, sample selection

methodology, the method of inspection, the acceptance criteria for various types and sizes of flaws identified during the inspection, and various other related technical details required for properly performing the required inservice inspection activity. The steam generator tubes are accessible for eddy-current testing (ECT). The technical specifications and ASME Code, Section XI, provide requirements for steam generator tube inspection and repair.

Steam generator tube inspection has been considered as a subissue of a number of generic safety issues, including Unresolved Safety Issues A-3, A-4 and A-5, and Generic Issues 67 and 135. Staff recommendations have been developed as part of an integrated program for the resolution of steam generator tube integrity issues. These recommendations, which include recommendations related to steam generator tube inspection programs, are described in Generic Letter 85-02 and in NUREG-0844, "NRC Integrated Program for the Resolution of Unresolved Safety Issues A-3, A-4 and A-5 Regarding Steam Generator Tube Integrity."

Regulatory Guide 1.83 describes methods acceptable to the NRC staff for compliance with 10 CFR 50.55a. This Guide and the Standard Technical Specifications provide a comprehensive outline of ISI guidelines. Regulatory Guide 1.121 provides guidance for plugging of degraded tubes. Following the guidance of Regulatory Guides 1.83 and 1.121, and compliance with the requirements set forth in the technical specifications and 10 CFR 50.55a provide assurance that degradation of steam generator tubes will be detected and the integrity of the RCPB maintained.

III. REVIEW PROCEDURES

The reviewer will select and emphasize material from the procedures described below, as may be appropriate for a particular case.[24]

1. ~~He~~The reviewer[25] determines that the design of the steam generators, as described in the PSAR, will permit access for the specified inspection techniques, as required by General Design Criterion 32.[26] ~~He~~The reviewer[27] also evaluates the design of the steam generator as described in the FSAR and the Technical Specification inservice inspection program to determine the degree to which the recommendations of Regulatory Guide 1.83 have been followed.

2. ~~He~~The reviewer[28] determines that the inspection techniques for the tubes, the selected number of tube samples, the inspection intervals, and the actions to be taken in the event defects are observed are in accordance with the positions stated in ~~the regulatory guide~~Regulatory Guide 1.83 and applicable ~~NUREG~~Standard Technical Specifications.[29] The reviewer determines the extent to which NRC staff recommendations as described in Generic Letter 85-02 (Reference 12, see also Reference 8) have been incorporated in the applicant's (licensee's) steam generator tube inspection program. [30] ~~He~~The reviewer also[31] determines that a baseline inspection will be made prior to startup of the plant.

3. The reviewer should determine that the applicable tube plugging guidance as established in Regulatory Guide RG 1.121 has been appropriately incorporated into the steam

generator tube ISI program, particularly as it applies to determining the acceptable length of run time between steam generator tube inspections.[32]

4. For review of those ISI programs that accommodate a 24 month fuel cycle, the reviewer should consider the applicable staff positions provided in Generic Letter 91-04 (Reference 13).[33]

5. The staff has accepted alternative repair criteria applicable to outside diameter stress corrosion cracking (ODSCC) at the tube-to-tube support (TSP) plate intersections in Westinghouse-designed steam generators having drilled-hole tube support plates and alloy 600 steam generator tubing. Generic Letter 95-05 (Reference 14) provides guidance on the implementation of an alternate repair criterion to be applied to predominantly axially oriented ODSCC at TSP locations. Because of the increased likelihood of through-wall cracks if this criterion is applied, the Generic Letter includes provisions for augmented steam generator tube inspections and more restrictive operational leakage limits. For such applications, the reviewer considers the guidance of Generic Letter 95-05.[34]

For standard design certification reviews under 10 CFR Part 52, the procedures above should be followed, as modified by the procedures in SRP Section 14.3 (proposed), to verify that the design set forth in the standard safety analysis report, including inspections, tests, analysis, and acceptance criteria (ITAAC), site interface requirements and combined license action items, meet the acceptance criteria given in subsection II. SRP Section 14.3 (proposed) contains procedures for the review of certified design material (CDM) for the standard design, including the site parameters, interface criteria, and ITAAC.[35]

IV. EVALUATION FINDINGS

The reviewer verifies that sufficient information has been provided in accordance with the requirements of this SRP section, and that ~~his~~the[36] evaluation supports conclusions of the following type, to be included in the staff's safety evaluation report:

> To ensure that no deleterious defects develop during service, steam generator tubes will be inspected prior to plant startup and periodically throughout the life of the plant. The applicant (licensee) has stated that ~~his~~the[37] inservice inspection program will comply (complies) with the inservice inspection requirements established in 10 CFR 50.55a, Section XI of the ASME Code, and the applicant's (licensee's) Technical Specifications.[38]
>
> The applicant (licensee) has further stated that the recommendations provided[39] in Regulatory Guide 1.83, "Inservice Inspection of Pressurized Water Reactor Steam Generator Tubes", the applicable Standard Technical Specifications, NUREG ( ), and Regulatory Guide 1.121, "Bases for Plugging Degraded PWR Steam Generator Tubes", as applicable, concerning the inspection methods to be used, access for inservice inspection, provisions for a baseline inspection, selection and sampling of tubes, inspection intervals, actions to be taken in the event defects are identified, and reporting requirements, have been followed in developing the inservice inspection program.[40]

The staff concludes that the inservice inspection program of steam generator tubes is acceptable and meets the inspection and testing requirements of General Design Criterion 32 and 10 CFR 50.55a.[41] This conclusion is based, in part, on the applicant's (licensee's) following the recommendations in Regulatory Guide 1.83, "Inservice inspection of Pressurized Water Reactor Steam Generator Tubes", Regulatory Guide 1.121,"Bases for Plugging Degraded PWR Steam Generator Tubes,"[42] and the Standard Technical Specifications, NUREG ( ), as reviewed by the staff and determined to be appropriate for this application.

For design certification reviews, the findings will also summarize, to the extent that the review is not discussed in other safety evaluation report (SER) sections, the staff's evaluation of inspections, tests, analyses, and acceptance criteria (ITAAC), including design acceptance criteria (DAC), site interface requirements, and combined license action items that are relevant to this SRP section.[43]

V. IMPLEMENTATION

The following is intended to provide guidance to applicants and licensees regarding the NRC staff's plans for using this SRP section.

This SRP section will be used by the staff when performing safety evaluations of license applications submitted by applicants pursuant to 10 CFR 50 or 10 CFR 52.[44] Except in those cases in which the applicant proposes an acceptable alternative method for complying with specified portions of the Commission's regulations, the method described herein will be used by the staff in its evaluation of conformance with Commission regulations.

The provisions of this SRP section apply to reviews of applications docketed six months or more after the date of issuance of this SRP section.[45]

Implementation schedules for conformance to parts of the method discussed herein are contained in the referenced regulations, regulatory guides, and NUREGs ~~and in 10 CFR Part 50, Section 50.36~~.[46]

VI. REFERENCES

1. 10 CFR 50.55a, "Codes and Standards."[47]

~~1.~~2.[48] 10 CFR Part 50, Appendix A, General Design Criterion 32, "Inspection of Reactor Coolant Pressure Boundary".

~~2.~~3. Regulatory Guide 1.83, "Inservice Inspection of Pressurized Water Reactor Steam Generator Tubes".

4. Regulatory Guide 1.121, "Bases for Plugging Degraded PWR Steam Generator Tubes".[49]

~~3.~~5. NUREG-0103, "Standard Technical Specifications for Babcock and Wilcox Pressurized Water Reactors".

~~4.~~6. NUREG-0212, "Standard Technical Specifications for Combustion Engineering Pressurized Water Reactors".

~~5.~~7. NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors".

8. NUREG-0844, "NRC Integrated Program for the Resolution of Unresolved Safety Issues A-3, A-4, and A-5 Regarding Steam Generator Tube Integrity."[50]

9. NUREG-1430, "Standard Technical Specifications for Babcock and Wilcox Pressurized Water Reactors".

10. NUREG-1431, "Standard Technical Specifications for Combustion Engineering Pressurized Water Reactors".

11. NUREG-1432, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors".[51]

12. NRC Letter to All PWR Licensees of Operating Reactors, Applicants for Operating Licenses and Holders of Construction Permits, and Ft. St. Vrain, "Staff Recommended Actions Stemming from NRC Integrated Program for the Resolution of Unresolved Safety Issues Regarding Steam Generator Tube Integrity (Generic Letter No. 85-02)," April 17, 1985.[52]

13. NRC Letter to All Holders of Operating Licenses or Construction Permits for Nuclear Power Reactors, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle (Generic Letter No. 91-04)," April 2, 1991.[53]

14. NRC Letter to Holders of Operating Licenses or Construction Permits for Westinghouse PWRs, "Voltage-Based Repair Criteria for Westinghouse Steam Generator Tubes Affected by Outside Diameter Stress Corrosion Cracking (Generic Letter 95-05)," August 3, 1995.[54]

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SRP Draft Section 5.4.2.2
Attachment A - Proposed Changes in Order of Occurrence

Item numbers in the following table correspond to superscript numbers in the redline/strikeout copy of the draft SRP section.

Item	Source	Description
1.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP section 5.4.2.2.
2.	SRP-UDP Format Item, Reference Verification, PRB Comments.	Editorial change made to reflect that "other components important to safety" are not within the scope of GDC 32 and to correct the characterization of GDC 32 as recommended in NRC Memo, Sullivan to Borchart, dated February 5. 1996.
3.	Editorial.	Editorial change made to eliminate ambiguity/inconsistency in description of areas of review.
4.	Editorial.	Relocated definition of acronym "ISI" to the first occurrence of the full term "inservice inspection".
5.	**Integrated Impact # 527**, SRP-UDP Item - Reference Citation	Editorial change made to accommodate the addition of current Standard Technical Specification NUREGs as applicable references.
6.	SRP-UDP format item, Reformat Areas of Review.	Added "Review Interfaces" heading to Areas of Review. Reformatted existing description of review interfaces in numbered format to describe how EMCB reviews aspects of the steam generator tube ISI program under other SRP sections and how other branches support the review.
7.	Editorial.	Deleted PRB designator as redundant to introductory sentence.
8.	PRB designations and abbreviations	Relocated interfaces to SRP Sections 5.2.4 and 6.6 due to change in PRB.
9.	**Potential Impact # 14955**	Added interface to SRP Section 5.2.1.2 which includes Regulatory Guide 1.147 as guidance for Code Case applicability.
10.	PRB designations; editorial	Relocated interfaces to SRP Sections 5.2.4 and 6.6 due to reassignment of PRB responsibilities; split interfaces into two paragraphs.
11.	SRP-UDP format item, Reformat Areas of Review	Added standard final paragraph for a Review Interfaces subsection covering both interfaces with other reviews of the PRB and with other PRBs.
12.	Editorial.	This paragraph was relocated into Item 2 of Acceptance Criteria.
13.	**Integrated Impact # 529.**	Added discussion of 10 CFR 50.55a and ASME Code Section XI to Acceptance Criteria. Wording adapted, in part, from SRP Sections 5.2.4 and 9.3.1 to clearly establish applicable regulations as acceptance criteria.

Item	Source	Description
14.	**Integrated Impact # 529**	Added 10 CFR 50.55a to Acceptance Criteria Subsection.
15.	**Integrated Impact # 529**, PRB Comment	Added discussion to establish that Technical Specifications govern ISI if they are different that ASME Code Section XI. This wording addresses PRB comments in NRC Memo Sullivan to Borchart, dated February 5, 1996.
16.	Editorial.	Numbered specific criteria, consistent with format in other SRP Sections. The former first paragraph of Acceptance Criteria was reformatted here as Criterion 2.
17.	**Integrated Impact # 526**	One of the issues under Generic Issue GI-135, "Steam Generator and Steamline Overfill," is improved steam generator tube eddy current testing methodology. In the CE 80+ FSER, the staff indicated that this subissue was deferred to the development of a revision of Regulatory Guide RG 1.83. IPD 7.0 Form Number 5.4.2.2-1 has been issued in this regard. At this time, no change is proposed to this SRP section.
18.	**Integrated Impact # 527**, SRP-UDP Format Item - Reference Citation	Added current Standard Technical Specification NUREG numbers to list of references. Added parenthetical reference citation, consistent with applicable SRP-UDP formatting requirements.
19.	**Integrated Impact # 527**	Added coverage of certified PWR designs which may include new Standard Technical Specifications (e.g., CE System 80+).
20.	Editorial.	Definition of acronym "ISI" was relocated to the first occurrence of the full term "inservice inspection".
21.	PRB Comment	Deleted sentence regarding defect detection capabilities to address PRB comments in NRC Memo Sullivan to Borchart, dated February 5, 1996 which states that, although quoted from RG 1.83, this is an unrealistic expectation.
22.	**Integrated Impact # 532**	Added discussion of Regulatory Guide RG 1.121, which provides applicable guidance concerning steam generator tube plugging criteria.
23.	SRP-UDP Format Item, Develop Technical Rationale.	Added Technical Rationale for General Design Criterion GDC 32 and for 10 CFR 50.55a. Technical Rationale is a new feature added to the SRP.
24.	Editorial.	Review Procedures reworded, in part, and reformatted as structured sequence of numbered items in order to clearly establish individual items to be addressed by the reviewer. This format is consistent with similar SRP Sections.

Item	Source	Description
25.	Editorial.	Changed wording to make statement more consistent with general SRP-UDP format.
26.	Editorial.	Wording adapted, in part, from other portion of this SRP Section to clearly establish GDC 32 as applicable regulation for this review procedure.
27.	Editorial	Revised to eliminate use of a gender-specific pronoun.
28.	Editorial.	Changed wording to make statement more consistent with general SRP-UDP format.
29.	Editorial.	Added specific reference to RG 1.83 to avoid ambiguity, since more than one Regulatory Guide is now referenced in this Section. Changed "NUREG" to "Standard Technical Specifications" to clarify the Review Procedure Item.
30.	**Integrated Impact # 528.**	Added Generic Letter GL 85-02 and NUREG-0844 to Review Procedures.
31.	Editorial.	Changed wording to make statement more consistent with general SRP-UDP format.
32.	**Integrated Impact # 532,** PRB Comments.	Added Statement to Review Procedures which establishes RG 1.121 as applicable guidance for this Review Procedure. This wording has been modified to address comments in NRC Memo, Sullivan to Borchart, dated February 5, 1996.
33.	**Integrated Impact # 531.**	Added discussion of Generic Letter GL 91-04 for use in review of ISI programs for plants planning on using 24 month fuel cycles.
34.	**Integrated Impact No. 1498**, PRB comment	Incorporated Review Procedure guidance for review of an alternate repair criterion for ODSCC in certain Westinghouse-designed steam generators, in accordance with GL 95-05. Incorporation of this late guidance responds to PRB comments in NRC Memo, Sullivan to Borchart, dated February 5, 1996.
35.	SRP-UDP Guidance, Implementation of 10 CFR 52	Added standard paragraph to address application of Review Procedures in design certification reviews.
36.	Editorial	Revised to eliminate use of a gender-specific pronoun.
37.	Editorial	Revised to eliminate use of a gender-specific pronoun.
38.	**Integrated Impact # 529.**	Added discussion of 10 CFR 50.55a as explicit item for Evaluation Findings.
39.	Editorial.	Reworded this paragraph to accommodate 10 CFR 50.55a (in previous paragraph) versus Regulatory Guide RG 1.83 as separate discussion items under Evaluation Findings.

Item	Source	Description
40.	**Integrated Impacts # 532.**	Reworded Evaluation Findings to add discussion of RG 1.121 as explicit item.
41.	**Integrated Impact # 529.**	Added 10 CFR 50.55a to Evaluation Findings as acceptance criterion met by the applicant.
42.	**Integrated Impact # 532.**	Reworded Evaluation Findings to add discussion of RG 1.121.
43.	SRP-UDP format item, make editorial changes to implement 10 CFR 52 process.	Added discussion of additional items that should be reflected in Evaluation Findings for DC and COL application reviews.
44.	SRP-UDP Guidance, Implementation of 10 CFR 52	Added standard sentence to address application of the SRP section to reviews of applications filed under 10 CFR Part 52, as well as Part 50.
45.	SRP-UDP Guidance	Added standard paragraph to indicate applicability of this section to reviews of future applications.
46.	**Integrated Impact # 529.**	Change made to accommodate addition of 10 CFR 50.55a, implied in "regulations".
47.	**Integrated Impact # 529.**	Added 10 CFR 50.55a as reference.
48.	Editorial - SRP-UDP Format Item.	References renumbered to reflect addition of and reordering of references in accordance with SRP-UDP guidance.
49.	**Integrated Impact # 532.**	Regulatory Guide RG 1.121 added as a reference to this SRP Section.
50.	**Integrated Impact # 528.**	Added NUREG-0844 as reference. This NUREG report contains the final resolution of problems described in Generic Letter GL 85-02 and NRC Bulletin 88-02 (closure of several GSIs).
51.	**Integrated Impact # 527.**	Added Standard Technical Specifications documents NUREG-1430 NUREG-1431, and NUREG-1432 as a references.
52.	**Integrated Impact # 528.**	Added Generic Letter GL 85-02 as a reference.
53.	**Integrated Impact # 531.**	Added Generic Letter GL 91-04 as a reference.
54.	**Integrated Impact No. 1498**, PRB Comment	Incorporated reference to GL 95-05 to address PRB comment in NRC Memo, Sullivan to Borchart, dated February 6, 1996.

SRP Draft Section 5.4.2.2
Attachment B - Cross Reference of Integrated Impacts

Integrated Impact No.	Issue	SRP Subsections Affected
526	Add Review Procedure for improved eddy current testing. Action deferred to development of revision to RG 1.83.	No SRP change: Action tracked by IPD-7.0 Form 5.4.2.2-1
527	Update existing references to Standard Technical Specifications (STSs).	I. Areas of Review (first paragraph), II. Acceptance Criteria (Item 2), and VI. References (Items 9, 10, and 11).
528	Use staff recommended actions (in Enclosure 1 to GL 85-02) to add a Review Procedure for steam generator tube inspection.	III. Review Procedures (Item 2) and VI. References (Items 8 and 12).
529	Add 10 CFR 50.55a to Acceptance Criteria and associated Review Procedure.	II. Acceptance Criteria (first paragraph, second paragraph, and Item 1), IV. Evaluation Findings (second and fourth paragraphs), V. Implementation (third paragraph), and VI. References (Item 1).
530	Add Regulatory Guide 1.147 as a guidance document associated with Acceptance Criteria in 10 CFR 50.55a.	No SRP integration: Integrated Impact 530 was deactivated, because RG 1.147 is covered in SRP Section 5.2.1.2 (see Review Interfaces).
531	Add a Review Procedure related to steam generator tube ISI for 24 month fuel cycle applications (GL 91-04).	III. Review Procedures (Item 4) and VI. References (Item 13).
532	Identify Regulatory Guide 1.121 as a guidance document in the Acceptance Criteria subsection and add associated Review Procedure.	II. Acceptance Criteria (Item 3), III. Review Procedures (Item 3), IV. Evaluation Findings (third and fourth paragraphs), and VI. References (Item 4).
698	ASNT SNT-TC-1A (personnel qualification and certification) is endorsed by RG 1.83.	No SRP change: Action tracked by IPD-7.0 Form 5.4.2.2-2
1498	Consider adding Review Procedure guidance for application of alternate repair criteria for ODSCC at the tube-to-tube support plate intersections in Westinghouse-designed steam generators having drilled-hole TSPs and alloy 600 steam generator tubing.	III. Review Procedures, item 5 VI, References, Item 14.