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U.S. NUCLEAR REGULATORY COMMISSION

STANDARD REVIEW PLAN

OFFICE OF NUCLEAR REACTOR REGULATION

15.6.5 RADIOLOGICAL CONSEQUENCES OF A DESIGN BASIS LOSS-OF-COOLANT Appendix A ACCIDENT INCLUDING CONTAINMENT LEAKAGE CONTRIBUTION

REVIEW RESPONSIBILITIES

Primary - ~~Accident Evaluation Branch (AEB)~~Emergency Preparedness and Radiation Protection Branch (PERB)[1]

Secondary - ~~Effluent Treatment Systems Branch (ETSB)~~Plant Systems Branch (SPLB)[2]

I. AREAS OF REVIEW

Postulated radiological consequences from a loss-of-coolant accident (LOCA), assuming contributions from various release paths to the atmosphere are treated in separate appendices to Standard Review Plan (SRP) Section 15.6.5, as follows:

Appendix A: Containment leakage, including the contribution from containment purge valves during closure.

Appendix B: Post-LOCA leakage from engineering safety feature (ESF) systems outside containment.

Appendix C: Post-LOCA hydrogen purge from containment. This appendix has been deleted.

Appendix D: Main steam isolation valve leakage (for boiling water reactor (BWR) plants only).[3]

The review under SRP Section 15.6.5, Appendix A, consists of two parts: a summary review of the~~ total calculated~~ doses from the hypothetical design basis ~~loss-of-coolant accident (~~LOCA~~)~~ and~~ the~~ a specific review of the~~ containment leakage~~ doses from containment leakage that contribute to the total LOCA doses~~ as described below~~.[4]

The PERB review of this SRP appendix covers the following areas:[5]

1. The meteorological characteristics of the plant site are established by a meteorologist assigned in accordance with SRP Section 2.3.4.[6]

~~1~~2. The calculated doses from all postulated release paths from the containment to the atmosphere are combined and the calculated doses are compared with appropriate exposure guidelines to confirm the acceptability of the nearest exclusion area boundary (EAB) and low population zone (LPZ) outer boundary and to confirm the adequacy of the engineered safety features (ESF) provided for the purpose of mitigating potential accident doses.

~~The individual contributions to the total radiological consequences from a hypothetical LOCA from the various release paths to the atmosphere are treated in separate appendices to this SRP Section 15.6.5, as follows:~~

~~Appendix A: Containment leakage, including the contribution from containment purge valves during closure.~~

~~Appendix B: Post-LOCA leakage from ESF systems outside containment.~~

~~Appendix C: Post-LOCA hydrogen purge from containment. This appendix has been deleted.~~

~~Appendix D: MSIV Leakage (for BWR plants only).~~[7]

~~2~~3. The review encompasses the applicant's methodology and results of calculations of the radiological consequences resulting from containment leakage following a hypothetical LOCA as contributing to the total radiological consequences of the LOCA. The review includes an assessment of the containment with respect to the assumptions and the input parameters for the dose calculations.

~~3~~4. The staff performs an independent analysis of the radiological consequences, including the modeling of the containment system. The analysis is based on pertinent information in the safety analysis report (SAR)[8] and considers the staff's evaluation of dose mitigating engineered safety features, for example, the effectiveness of the containment spray system as evaluated in SRP Section 6.5.2 and pressure suppression pool decontamination factors specified in SRP Section 6.5.5.[9]

The SPLB review of this SRP appendix covers the following area:[10]

A secondary review is performed by the ~~Effluent Treatment Systems Branch (ETSB)~~SPLB[11] and the results are used by ~~AEB~~PERB[12] in the overall evaluation of the radiological consequences of the LOCA. ~~ETSB~~SPLB[13] reviews the ESF atmosphere filtration system as part of its review responsibility for SRP Section 6.5.1[14] to determine the iodine removal efficiency of the system and the results are transmitted to ~~AEB~~PERB[15] for use in the independent analysis.

Review Interfaces[16]

The PERB will coordinate, as required and by request, other branch evaluations that interface with the overall review of this SRP appendix, as follows:[17]

1. The review of the functional design of the primary containment and the secondary containment under SRP Sections 6.2.1 and 6.2.3, respectively, is coordinated with Containment Systems and Severe Accident Branch (SCSB).[18]

2. The review of the design characteristics of a dual containment system is coordinated with SCSB under SRP Section 6.2.3.[19]

3. The review of the primary containment leakage rate, the secondary containment bypass leakage rate, and the containment vent/purge system release rate during the closure of the system following a LOCA is coordinated with the ~~Containment Systems Branch (CSB)~~SCSB[20] under SRP Sections 6.2.6, 6.2.3, and 6.2.4, respectively. The acceptance criteria necessary for the review and their methods of application are contained in the referenced SRP sections.

4. The Civil Engineering and Geosciences Branch (ECGB) review under SRP Sections 2.1.2 and 2.1.3 includes determination of the distances to the exclusion area boundary and to the LPZ outer boundary. The ECGB verifies these distances on request from PERB.[21]

5. The responsibilities of the Materials and Chemical Engineering Branch (EMCB) for SRP Sections 6.5.2, 6,5,4, and 6.5.5 include evaluation of fission product removal by containment spray, ice condensers, and BWR pressure suppression pools, respectively. The EMCB will verify the acceptability of decontamination factors on request from the PERB.[22]

II. ACCEPTANCE CRITERIA

The acceptance criteria are based on the requirements of 10 CFR Part 100 as related to mitigating the radiological consequences of an accident. Specific acceptance criteria for the total calculated doses and for the containment leakage contribution are as follows:

1. The distances to the exclusion area boundary and to the low population zone outer boundary are acceptable if the total calculated radiological consequences (i.e., thyroid and whole body doses) for the hypothetical LOCA fall within the appropriate exposure

guideline values specified in 10 CFR ~~Part 100,~~ 100.11(a)[23] ~~(Ref. 1)~~.[24] The total dose is the combined dose from all release paths from the containment to the atmosphere. At the construction permit (CP) review stage, the staff applies exposure guideline values of 1.5 Sv (150 rem)[25] to the thyroid and 0.2 Sv (20 rem)[26] to the whole body in accordance with Regulatory Guides 1.3 and 1.4, SRP Section 2.3.4,[27] SRP Section 6.5.5[28]. This is to allow for uncertainties in meteorology and other site-related data and to allow for system design changes that might influence the final design of engineered safety features or the dose reduction factors of these features. These lower values are applied at the CP stage to provide reasonable assurance that the 10 CFR Part 100 guideline values can be met at the operating license (OL) review stage. For reviews leading to an early site permit or a combined license (COL), the radiation dose guidelines specified in 10 CFR Part 100 are used: 3.0 Sv (300 rem) to the thyroid and 0.25 Sv (25 rem) to the whole body.[29]

2. The model for and the calculation of the post-LOCA leakage contribution to the total whole body and thyroid doses of a hypothetical LOCA are acceptable if they incorporate the appropriate conservative design basis assumptions outlined in the regulatory positions of Regulatory Guide 1.3[30] ~~(Ref. 2)~~[31] for a BWR facility and of Regulatory Guide 1.4 ~~(Ref. 3)~~[32] for a pressurized water reactor (PWR)[33] facility, with the following exceptions: ~~of~~ (a) the acceptability of[34] guidelines for ~~the~~ atmospheric dispersion ~~fusion~~[35] factors (χ/Q values)~~. The acceptability of the χ/Q values~~[36] is determined under SRP Section 2.3.4.

<u>Technical Rationale</u>[37]

The technical rationale for application of this acceptance criterion is discussed in the following paragraphs:[38]

Compliance with 10 CFR 100.11(a) requires that radiation dose calculations be performed at the exclusion area and low population zone. These calculations shall assume a given fission product release from the core, an expected leak rate from the containment, and meteorological conditions pertinent to the site.

The identification of an exclusion area, a low population zone, and a population center distance is an integral part of the siting criteria for new nuclear power plants. Radiation dose guidelines of 0.25 Sv (25 rem) to the whole body or 3 Sv (300 rem) to the thyroid from iodine exposure are associated with the exclusion area (2-hour exposure) and the low population zone (30-day exposure). Expected offsite radiation doses are calculated to verify that the proposed plant design meets established guidelines using a radioactive source term that is based on reactor parameters immediately preceding the LOCA, the leakage rate of the containment, and site-specific atmospheric dispersion characteristics.

Meeting the requirements of 10 CFR 100.11(a) provides assurance that offsite radiation doses from postulated accidents will not result in undue risk to the health and safety of the public.[39]

III. REVIEW PROCEDURES

The reviewer selects and emphasizes aspects of the areas covered by this appendix as may be appropriate for a particular case. The decision as to which areas need to be given attention and emphasis in the review is based on a determination of whether the material presented is similar to that recently reviewed on other plants and whether items of special safety significance are involved. Review steps (1) through (8) below apply to the containment leakage contribution, and step (9) applies to the total radiological consequences.

1. The design (stretch) power level of the core is taken from the applicant's ~~safety analysis report (~~SAR~~)~~.[40] The core is assumed to have operated at this power level for a sufficiently extended period (typically about 3 years) such that the maximum equilibrium fission product inventory is present. At the time of the accident, 25% of all the equilibrium iodine fission products and 100% of the noble gas fission products are assumed available for release from the containment within a very short time (effectively instantaneously) after the accident. The iodine is assumed to be composed of 91% elemental iodine, 4% organic iodides, and 5% particulate iodine.

2. The reviewer ascertains the type of containment system used based on information in SAR Sections 6.2.1 and 6.2.3. The primary containment leakage rate for the LOCA dose analysis is obtained from SAR Section 6.2.6, which is reviewed by the ~~CSB~~SCSB.[41] If the leakage rate is revised as a result of ~~CSB~~SCSB[42] review, the ~~CSB~~SCSB[43] will inform ~~AEB~~PERB[44] of the change. A check is made of the LOCA assumptions listed in Chapter 15 of the SAR to verify that the primary containment leakage rate has been assumed to remain constant over the course of the accident for a BWR and to remain constant at one-half of the initial leak rate after 24 hours for a PWR. Leak rates of less than O.1% per day have not been accepted by the staff because of integrated containment leakage test sensitivity limitations. The leakage rate used should correspond to that given in the technical specifications.

3. Where credit for a dual containment system is claimed, the reviewer verifies, based on SRP Sections 6.2.3 and 6.5.3, that the system meets requirements such as existence of separate primary and secondary containments, adequate separation of the two, and ability to test the negative pressure capability of the secondary containment. Where dilution credit for a secondary containment with recirculation is claimed, adequate mixing in the secondary containment volume should be demonstrated in addition to meeting the above requirements for a dual containment system. For dual containment systems, the bypass leakage is evaluated. This leakage, usually expressed as a fraction or percentage of the primary containment leak rate, is assumed to pass from the primary containment directly to the environment, bypassing the secondary containment. The secondary containment bypass leakage rate and any positive pressure characteristics in the secondary containment are obtained from SAR Section 6.2.3, which is reviewed by ~~CSB~~SCSB.[45] If the bypass leakage rate or secondary containment positive pressure characteristics are revised as a result of ~~CSB~~SCSB[46] review, ~~CSB~~SCSB[47] will inform ~~AEB~~PERB[48] of the change.

4. The operation of the normal containment vent/purge system is reviewed by ~~CSB~~SCSB[49] under SRP Section 6.2.4. If the proposed system operation does not meet the ~~CSB~~SCSB[50] positions, the ~~CSB~~SCSB[51] will request the ~~AEB~~PERB[52] to perform an analysis of the radiological consequences using this release path as an additional contributor to the total LOCA doses.

5. Credit for any engineered safety features such as atmosphere filtration systems, spray systems, BWR pressure suppression systems,[53] or ice condenser is determined in the review of Section 6.5 of the SAR. These features operate during the LOCA to mitigate the consequences by reducing the amount of iodine fission products released to the environment. Noble gas releases to the environment are unaffected by the presence of filters or sprays. Typically, single containments employ spray systems with a chemical additive (e.g., sodium hydroxide, sodium tetraborate) to scavenge iodine from the containment atmosphere. The iodine removal rates of an ice condenser, BWR pressure suppression system,[54] or a chemical additive spray system are determined. For atmosphere filtration systems, verification of acceptability of design and efficiencies is provided by the ~~ETSB~~SPLB[55] under SRP Section 6.5.1. For BWR pressure suppression systems, the acceptability of the decontamination factors is provided by EMCB under SRP Section 6.5.5.[56] In dual containment systems, a determination must be made by the ~~AEB~~PERB[57] of the operational modes of the ESF with respect to the accident sequence in order for proper credit to be given.

6. The distances to the exclusion area boundary and to the LPZ outer boundary are determined from Sections 2.1.2 and 2.1.3 of the applicant's SAR and are verified by the reviewer with the ~~Siting Analysis Branch (SAB)~~ECGB.[58]

7. The appropriate χ/Q values to be used in calculating the consequences of the accident are provided by the assigned meteorologist in accordance with SRP Section 2.3.4.

8. A dose computation model appropriate for the containment system and ESF systems is selected which conservatively represents the transfer of radioactivity from the containment to the environment. The reviewer may find it convenient to sketch a schematic arrangement to illustrate the compartments where radioactivity is located, with arrows drawn from one compartment to another indicating transport paths. The leak rates, spray removal rates, ice condenser efficiencies, BWR pressure suppression pool decontamination factors,[59] atmosphere filtration system efficiencies, and flow rates are used to indicate the rates at which the activity moves from one compartment to another. ~~Digital computer codes~~Computer programs[60] have been written to perform the actual dose calculation. The analyst selects the ~~code~~program[61] with capabilities that most closely fit the schematic model obtained above. The ~~codes~~programs[62] contain a basic library of data which enter into the dose calculation, such as isotopic fission yields, half-lives, energies, and dose conversion factors.

9. The containment leakage doses are combined with the calculated dose contributions from all other appropriate post-LOCA transport paths and the total thyroid and whole body LOCA doses are compared with the exposure guideline values of 10 CFR ~~Part 100,~~ 100.11(a),[63] as discussed in item II.2 of this appendix. If the calculated total doses

exceed these guidelines, alternatives which would reduce the doses to an acceptable level are explored with the applicant. Such alternatives may include increased distance, a different containment type, and more efficient atmosphere filtration or spray systems.

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.[64]

IV. EVALUATION FINDINGS

The reviewer prepares a table for inclusion into the evaluation findings that lists the 2-hour and 30-day thyroid and whole body doses from the various fission product release paths to the atmosphere as calculated by the staff under SRP Section 15.6.5, Appendices A, B, and D. The table also lists the total doses calculated by the staff. A conclusion of the following type for the total doses will be included in the section "LOCA Radiological Consequences" of the safety evaluation report (SER):[65]

The applicant has selected and analyzed a hypothetical design basis loss-of-coolant accident (LOCA) and has determined that the total postulated[66] radiological consequences of such an accident meet the exposure guidelines of 10 CFR ~~Part 100,~~ 100.11(a)[67] with respect to the adequacy of the distances to the exclusion area boundary and the low population zone outer boundary. The analysis included the following sources and radioactivity transport paths from the containment to the atmosphere (note: cite each of the following, as applicable):

(1) contribution from containment leakage,

(2) contribution through containment purge/vent valves during closure,

(3) contribution from post-LOCA leakage from ESF systems outside containment, and

(4) contribution from main steam isolation valve leakage.

The staff has reviewed the applicant's analysis and has performed an independent analysis of the radiological consequences from each of these transport paths. Details of the staff's analyses are presented in Sections 15._____ to 15._____ of this report and the results are listed in Table 15._____. The total calculated thyroid and whole body doses from the hypothetical LOCA are also listed in the table.

In the SER for an application for an ~~operating license (~~OL~~)~~[68] or COL,[69] the following paragraph shall be added:

> The staff concludes that the distances to the exclusion area boundary and to the low population zone boundary of the (Name) site, in conjunction with the engineered safety features of the (Name) plant, are sufficient to provide reasonable assurance that the total radiological consequences of such an accident will be within the exposure guidelines set forth at 10 CFR ~~Part 100,~~ 100.11(a).[70] This conclusion is based on the staff review of the applicant's analysis and on the independent analysis by the staff which confirms that the calculated total doses are within these guidelines.

In the SER for an application for a construction permit (CP), the following paragraph shall be added:

> The staff concludes that the distances to the exclusion area[71] boundary and to the low population zone boundary of the (Name) site, in conjunction with the proposed engineered safety features of the (Name) plant, are sufficient to provide reasonable assurance that the total radiological consequences of such an accident will be within the guidelines set forth at 10 CFR ~~Part 100,~~ 100.11(a).[72] This conclusion is based on the staff review of the applicant's analysis and on the independent analysis by the staff which confirms that the calculated total doses ~~meet the exposure guidelines set forth in Regulatory Guide 1.__. (Use Regulatory Guide 1.3 for a BWR plant, and Regulatory Guide 1.4 for a PWR plant.)~~are well within these guidelines.[73]

In the SER for an application for an early site permit, the following paragraph shall be added:

> The staff concludes that the distances to the exclusion area boundary of the (Name) site, in conjunction with the thermal power levels of the facilities for which the site may be used, site meteorological parameters, and anticipated maximum levels of radiological effluents of the facilities for which the site may be used, are sufficient to provide reasonable assurance that the total radiological consequences of such an accident at the exclusion area boundary will be within the exposure guidelines set forth at 10 CFR 100.11(a). This conclusion is based on a review of the applicant's analysis and on an independent analysis by the staff to confirm that the calculated total doses are within these guidelines.[74]

For CP, OL, and COL reviews, ~~F~~following[75] the conclusion on the total radiological consequences, there will be separate sections discussing the plant specific fission product release paths from the containment to the atmosphere and the corresponding doses in accordance with SRP Section 15.6.5, Appendices A, B, and D. Each section will include an EVALUATION FINDING regarding the staff's independent analysis of the dose contribution and a reference to the table for all the LOCA doses calculated by the staff.

The first section will be for the dose contribution from containment leakage in accordance with ~~Appendix A of~~ SRP Section 15.6.5 Appendix A.[76] An EVALUATION FINDING of the following type should be included in the section:

> The radiological consequences from containment leakage following a hypothetical design basis loss-of-coolant accident were evaluated. The staff reviewed the applicant's analysis and performed an independent calculation. The staff's calculation incorporates the appropriate conservative assumptions of the regulatory positions in Regulatory Guide 1. (use Regulatory Guide 1.3 for a BWR facility, Regulatory Guide 1.4 for a PWR facility). The atmospheric dispersion characteristics (χ/Q values) stated in Section 2.3.4 of this report were used in the calculations. The results of the staff's calculation are presented in Table 15.___, and the contribution to the total radiological consequences is evaluated in Section 15.___.

For design certification reviews, the findings will also summarize, to the extent that the review is not discussed in other safety evaluation report 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.[77]

V. IMPLEMENTATION

The following provides guidance to applicants and licensees regarding the 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.[78] 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.[79]

Implementation schedules for conformance to parts of the method discussed herein are contained in the referenced regulatory guides.

VI. REFERENCES

1. 10 CFR ~~Part 100,~~[80] 100.11, "Determination of Exclusion Area, Low Population Zone, and Population Center Distance."

2. Regulatory Guide 1.3, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss-of-Coolant Accident for Boiling Water Reactors."[81]

3. Regulatory Guide 1.4, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss-of-Coolant Accident for Pressurized Water Reactors."[82]

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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 name and abbreviation	Changed PRB to Emergency Preparedness and Radiation Protection Branch (PERB).
2.	Current SRB name and abbreviation	Changed SRB to Plant Systems Branch (SPLB).
3.	Editorial	Moved paragraph on contents of the appendices to SRP Section 15.6.5 to a more appropriate location.
4.	Editorial	Revised sentence for clarity and to conform to SRP-UDP format.
5.	SRP-UDP format item	Added lead-in sentence to paragraphs describing PERB review responsibilities for this SRP appendix.
6.	SRP-UDP format item	Identified PERB review responsibility for site meteorology under SRP Section 2.3.4.
7.	Editorial	Moved paragraph on contents of the appendices to SRP Section 15.6.5 to a more appropriate location.
8.	Editorial	Defined "SAR" as "safety analysis report."
9.	Integrated Impact No. 631	Added reference to decontamination factors that may be used for BWR pressure suppression pools.
10.	SRP-UDP format item	Added lead-in sentence to paragraphs describing SPLB review responsibilities under this SRP appendix.
11.	Current SRB abbreviation	Changed SRB to SPLB. The full name of the branch was identified under REVIEW RESPONSIBILITIES.
12.	Current PRB abbreviation	Changed PRB to PERB.
13.	Current SRB abbreviation	Changed SRB to SPLB.
14.	SRP-UDP format item	Specified SPLB review responsibility for SRP Section 6.5.1.
15.	Current PRB abbreviation	Changed PRB to PERB.
16.	SRP-UDP format item	Added "Review Interfaces" to AREAS OF REVIEW and put in numbered paragraph form to describe how other branches support the PERB review.
17.	SRP-UDP format item	Added lead-in sentence to paragraphs describing review responsibilities for other branches for this SRP appendix and put in numbered paragraph form.
18.	SRP-UDP format item	Specified SCSB review responsibility for functional design of primary and secondary containments under SRP Sections 6.2.1 and 6.2.3, respectively.
19.	SRP-UDP format item	Specified SCSB review responsibility for design characteristics of dual containment.

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Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
20.	Current review branch abbreviation	Changed review branch to Containment Systems and Severe Accident Branch (SCSB).
21.	SRP-UDP format item	Added interface requirement with ECGB to conform with REVIEW PROCEDURES.
22.	Integrated Impact No. 631	Added responsibility of EMCB for review of containment spray, ice condenser, and BWR pressure suppression pool decontamination factors.
23.	Editorial	Corrected citation format for 10 CFR 100.11(a) and added reference to (a).
24.	SRP-UDP format item	Deleted Ref. 1.
25.	SRP-UDP format item	Added SI units.
26.	SRP-UDP format item	Added SI units.
27.	SRP-UDP format item	Added SRP Section 2.3.4 because it prescribes atmospheric dispersion factors superseding those in RG 1.3 or 1.4.
28.	Integrated Impact No. 631	Added reference to SRP Section 6.5.5, which provides decontamination factors that may be used for BWR pressure suppression pools.
29.	SRP-UDP format item	Added acceptance criteria for early site and COL reviews.
30.	Integrated Impact No. 631	Consideration should be given to modifying RG 1.3 to reflect credit for suppression pool decontamination. An IDP 7.0 Form has been prepared to track the modification.
31.	SRP-UDP format item	Deleted Ref. 2.
32.	SRP-UDP format item	Deleted Ref. 3.
33.	Editorial	Defined "PWR" as "pressurized water reactor."
34.	Editorial	Revised sentence to specify two acceptance criteria identified as (a) and (b).
35.	Editorial	Corrected identification of χ/Q.
36.	Editorial	Combined two sentences into a single sentence.
37.	SRP-UDP format item	Added "Technical Rationale" to ACCEPTANCE CRITERIA to describe the basis for referencing 10 CFR 100.11(a).
38.	SRP-UDP format item	Added lead-in sentence for "Technical Rationale."
39.	SRP-UDP format item	Added technical rational for 10 CFR 100.11(a).

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Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
40.	Editorial	Acronym for safety analysis report has already been provided (see 9 above).
41.	Current review branch abbreviation	Changed review branch to SCSB.
42.	Current review branch abbreviation	Changed review branch to SCSB.
43.	Current review branch abbreviation	Changed review branch to SCSB.
44.	Current PRB abbreviation	Changed PRB to PERB.
45.	Current review branch abbreviation	Changed review branch to SCSB.
46.	Current review branch abbreviation	Changed review branch to SCSB.
47.	Current review branch abbreviation	Changed review branch to SCSB.
48.	Current PRB abbreviation	Changed PRB to PERB.
49.	Current review branch abbreviation	Changed review branch to SCSB.
50.	Current review branch abbreviation	Changed review branch to SCSB.
51.	Current review branch abbreviation	Changed review branch to SCSB.
52.	Current PRB abbreviation	Changed PRB to PERB.
53.	Integrated Impact No. 631	Added BWR pressure suppression containment as an engineered safety feature to remove radioiodine fission products.
54.	Integrated Impact No. 631	Added BWR pressure suppression containment as an engineered safety feature to remove radioiodine fission products.
55.	Current SRB abbreviation	Changed SRB to SPLB.
56.	Integrated Impact No. 631	Added EMCB review responsibility for SRP 6.5.5.
57.	Current PRB abbreviation	Changed PRB to PERB.
58.	Current review abbreviation	Changed review branch to ECGB.
59.	Integrated Impact No. 631	Added BWR pressure suppression systems as a component that must be considered in the evaluation of the movement of fission products.
60.	Editorial	Revised designation of computer codes to computer programs.
61.	Editorial	Revised designation of computer codes to computer programs.
62.	Editorial	Revised designation of computer codes to computer programs.
63.	Editorial	Corrected citation format for 10 CFR 100.11 and added reference to (a).

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Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
64.	SRP-UDP Guidance, Implementation of 10 CFR 52	Added standard paragraph to address application of Review Procedures in design certification reviews.
65.	Editorial	Defined "SER" as "safety evaluation report."
66.	Editorial	Added "postulated" for consistency.
67.	Editorial	Corrected citation format for 10 CFR 100.11 and added reference to (a).
68.	Editorial	Deleted the words "operating license." The definition of OL was provided in ACCEPTANCE CRITERIA.
69.	SRP-UDP format item	Added reference to COL per 10 CFR Part 52.
70.	Editorial	Corrected citation format for 10 CFR 100.11 and added reference to (a).
71.	Editorial	Changed "are" to "area" to correct a typographical error.
72.	Editorial	Corrected citation format for 10 CFR 100.11 and added reference to (a).
73.	Editorial	Revised concluding sentence because RG 1.3 and RG 1.4 do not specify exposure guidelines.
74.	SRP-UDP format item	Added paragraph specifying findings for an early site permit per 10 CFR Part 52.
75.	SRP-UDP format item	Added reference to CP, OL, and COL per 10 CFR Part 52.
76.	Editorial	Corrected format for SRP Section 15.6.5, Appendix A.
77.	SRP-UDP Format Item, Implement 10 CFR 52 Related Changes	To address design certification reviews a new paragraph was added to the end of the Evaluation Findings. This paragraph addresses design certification specific items including ITAAC, DAC, site interface requirements, and combined license action items.
78.	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.
79.	SRP-UDP Guidance	Added standard paragraph to indicate applicability of this section to reviews of future applications.
80.	Editorial	Corrected citation format for 10 CFR 100.11.
81.	Integrated Impact No. 703	Consideration should be given to revising RG 1.3 to reference ICRP 30 1990. An IDP 7.0 Form has been prepared to recommend the revision.

Item	Source	Description
82.	Integrated Impact No. 736	Consideration should be given to revising RG 1.4 to reference ICRP-30-1990. An IDP 7.0 Form has been prepared to recommend the revision.

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Attachment B - Cross Reference of Integrated Impacts

Integrated Impact No.	Issue	SRP Subsections Affected
631	Revise SRP Section 15.6.5A to indicate that the current approach for reviewing suppression pool decontamination factors is given in SRP Section 6.5.5.	Subsection I, AREAS OF REVIEW Subsection II, ACCEPTANCE CRITERIA Subsection III, REVIEW PROCEDURES
703	Revise Regulatory Guide 1.3 to incorporate ICRP-30-1990, pending completion of a side-by-side comparison of ICRP-2-1959 and ICRP-30-1990.	No changes to 15.6.5A
736	Revise Regulatory Guide 1.4 to incorporate ICRP-30-1990, pending completion of a side-by-side comparison of ICRP-2-1959 and ICRP-30-1990.	No changes to 15.6.5A