NUREG-0800
(Formerly NUREG-75/087)

U.S. NUCLEAR REGULATORY COMMISSION

STANDARD REVIEW PLAN

OFFICE OF NUCLEAR REACTOR REGULATION

6.2.1.1.A PWR DRY CONTAINMENTS, INCLUDING SUBATMOSPHERIC CONTAINMENTS

REVIEW RESPONSIBILITIES

Primary - Containment Systems and Severe Accident Branch (SCSB)[1]

Secondary - None

I. AREAS OF REVIEW

For pressurized water reactor (PWR) plants with dry containments, the SCSB[2] review covers the following areas:

1. The temperature and pressure conditions in the containment due to a spectrum (including break size and location) of postulated loss-of-coolant accidents (i.e., reactor coolant system pipe breaks) and secondary system steam and feedwater line breaks.

2. The maximum expected external pressure to which the containment may be subjected.

3. The minimum containment pressure that is used in analyses of emergency core cooling system capability.

4. The effectiveness of static and active heat removal mechanisms.

5. The pressure conditions within subcompartments that act on system components and supports due to high energy line breaks.

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6. The range and accuracy of instrumentation that is provided to monitor and record containment conditions during and following an accident.

Review Interfaces:[3]

SCSB will coordinate the primary review responsibilities of other branches that interface with the SCSB[4] evaluation of the containment functional design. These interfaces include the following:

1. The Instrumentation &~~and~~ Controls ~~Systems~~ Branch (HIC~~S~~B)[5], under SRP Section 7.5, evaluates (1) the electrical design of the instrumentation provided to monitor and record containment conditions during and following an accident; and (2) the effectiveness of the administrative controls and the instrumentation and control provisions to prevent inadvertent operation of the containment heat removal systems or system trains.

2. The ~~Structural~~Civil Engineering and Geosciences Branch (~~S~~ECGB)[6], under SRP Section 3.8.3, evaluates the design adequacy of the containment and its internal structures.

3. The Mechanical Engineering Branch (EMEB)[7], under SRP Section 3.9.3, evaluates the design adequacy of mechanical components and their supports.

4. The ~~Licensing Guidance~~Technical Specifications Branch (~~LG~~TSB)[8], under SRP Section 16.0, reviews proposed technical specifications ~~at the operating license stage of review~~ [9]that pertain~~s~~[10] to the surveillance requirements for spring or weight loaded check valves used in subatmospheric containments and vacuum relief devices.

5. The Plant Systems Branch (SPLB), under SRP Section 3.11, reviews the environmental qualification of the containment system.[11]

6. For new plant applicants, the Probabilistic Safety Assessment Branch (SPSB) coordinates and performs shutdown risk assessment reviews, including containment analysis issues, as part of its primary review responsibility for SRP Section 19.1 (Proposed).[12]

For those areas of review identified above as being reviewed as part of the primary review responsibility of other branches, the acceptance criteria necessary for the review and their methods of application are contained in the referenced SRP section of the corresponding primary branch.

II. ACCEPTANCE CRITERIA

SCSB[13] acceptance criteria are based on meeting the following regulations:

1. General Design Criterion (GDC) 16, as it relates to the reactor containment and associated systems being designed to assure that containment design conditions important to safety are not exceeded for as long as postulated accident conditions require. Since the primary reactor containment is the final barrier of the defense-in-depth concept to protect against the uncontrolled release of radioactivity to the environs, preserving containment

integrity under the dynamic conditions imposed by postulated loss of coolant accidents is essential.

2. General Design Criterion 50, as it relates to the reactor containment structure and associated heat removal system(s) being designed so that the containment structure and its internal compartments can accommodate the calculated pressure and temperature conditions resulting from any loss-of-coolant accident without exceeding the design leakage rate and with sufficient margin.

3. General Design Criterion 38, as it relates to the containment heat removal system(s) function to rapidly reduce the containment pressure and temperature following any loss-of-coolant accident and maintain them at acceptably low levels.

4. General Design Criterion 13, as it relates to instrumentation and control, requires instrumentation be provided to monitor variables and systems over their anticipated ranges for normal operation and for accident conditions as appropriate to assure adequate safety.

5. General Design Criterion 64, as it relates to monitoring radioactivity releases, requires means be provided for monitoring the reactor containment atmosphere for radioactivity that may be released from normal operations and from postulated accidents.

6. For those applicants subject to 10 CFR 50, § 50.34(f):

   a. 10 CFR 50, §50.34(f)(3)(v)(A)(1) as it relates to containment integrity being maintained during an accident that releases hydrogen generated from a 100-percent fuel clad metal-water reaction accompanied by either hydrogen burning or the added pressure from post accident inerting.[14]

   b. 10 CFR 50, §50.34(f)(3)(v)(B)(1) as it relates to containment integrity being maintained during inadvertent full actuation of the post-accident inerting system, if installed.[15]

Specific criterion or criteria that pertain to design and functional capability of PWR dry containment, including subatmospheric containments that are used to meet the relevant requirements of the regulations are as follows:

a. To satisfy the requirements of GDC 16 and 50 regarding sufficient design margin, for plants at the construction permit (CP) stage of review, the containment design pressure should provide at least a 10% margin above the accepted peak calculated containment pressure following a loss-of-coolant accident, or a steam or feedwater line break. For plants at the operating license (OL) stage of review, the peak calculated containment pressure following a loss-of-coolant accident, or a steam or feedwater line break, should be less than the containment design pressure. In general, the peak calculated containment pressure should be approximately the same as at the construction permit or design certification[16] stage of review. However, revised or upgraded analytical models or minor changes in the as-built design of the plant may result in a decrease in the margin.

b. To satisfy the requirements of GDC 38 to rapidly reduce the containment pressure, the containment pressure should be reduced to less than 50% of the peak calculated pressure for the design basis loss-of-coolant accident within 24 hours after the postulated accident. If analysis shows that the calculated containment pressure may not be reduced to 50% of the peak calculated pressure within 24 hours, the Emergency Preparedness and Radiation Protection Branch (PERB)~~Accident Evaluation Branch (AEB)~~[17] should be notified.

c. To satisfy the requirement of GDC 38 to rapidly reduce the containment pressure, the containment pressure for subatmospheric containments should be reduced to below atmospheric pressure within one hour after the postulated accident, and the subatmospheric condition maintained for at least 30 days.

d. To satisfy the requirements of GDC 38 and 50 with respect to the containment heat removal capability and design margin, the loss-of- coolant accident analysis should be based on the assumption of loss of offsite power and the most severe single failure in the emergency power system (e.g., a diesel generator failure), the containment heat removal systems (e.g., a fan, pump, or valve failure), or the core cooling systems (e.g., a pump or valve failure). The selection made should result in the highest calculated containment pressure.

e. To satisfy the requirements of GDC 38 and 50 with respect to the containment heat removal capability and design margin, the containment response analysis for postulated secondary system pipe ruptures should be based on the most severe single active failure in the containment heat removal systems (e.g., a fan, pump, or valve failure) or the secondary system isolation provisions (e.g., a fan, pump, or valve failure) or the secondary system isolation provisions (e.g., main steam isolation valve failure or feedwater line isolation valve failure). The analysis should also be based on a spectrum of pipe break sizes and reactor power levels. The accident conditions selected should result in the highest calculated containment pressure or temperature depending on the purpose of the analysis. Acceptable methods for the calculation of the containment environmental response to main steam line break accidents are found in NUREG-0588 (Reference~~.~~ ~~35~~29)[18].

f. To satisfy the requirements of GDC 38 and 50 with respect to the functional capability of the containment heat removal systems and containment structure under loss-of-coolant accident conditions, provisions should be made to protect the containment structure against possible damage from external pressure conditions that may result, for example, from inadvertent operation of containment heat removal systems. The provisions made should include conservative structural design to assure that the containment structure is capable of withstanding the maximum expected external pressure; or interlocks in the plant protection system and administrative controls to preclude inadvertent operation of the systems. If the containment is designed to withstand the maximum expected external pressure, the external design pressure of the containment should provide an adequate margin above the maximum expected external pressure to account for uncertainties in the analysis of the postulated event.

g. In accordance with the requirements of GDC 13 and 64, and 10 CFR 50.34(f)(2)(xvii) (for those applicants subject to 10 CFR 50.34(f)),[19] instrumentation capable of operating in the post-accident environment should be provided to monitor the containment atmosphere pressure and temperature and the sump water level and temperature following an accident. The instrumentation should have adequate range, accuracy, and response to assure that the above parameters can be tracked and recorded throughout the course of an accident. Item II.F.1 of NUREG-0737 and NUREG-0718 (References 24 and 25)[20], and Regulatory Guide 1.97, "Instrumentation For Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and Following An Accident," should be followed.

h. The minimum calculated containment pressure should not be less than that used in the analysis of the emergency core cooling system capability (See SRP Section 6.2.1.5, "Minimum Containment Pressure Analysis for Emergency Core Cooling System Performance Capability Studies").

i. Containment internal structures and system components (e.g., reactor vessel, pressurizer, steam generators) and supports should be designed to withstand the differential pressure loadings that may be imposed as a result of pipe breaks within the containment subcompartments (See SRP Section 6.2.1.2, "Subcompartment Analysis").

j. In meeting the requirements of 10 CFR 50, §50.34(f)(3)(v)(A)(1), applicants subject to this article should evaluate an accident that releases hydrogen generated from a 100% fuel clad metal-water reaction. The evaluation should demonstrate that the appropriate article for service level C limits (considering pressure and dead load only), for either concrete or steel containments, from ASME Boiler Pressure Vessel Code, Section III, are met. In addition to the containment pressurization caused directly by this accident, the increase in pressure from either hydrogen burning in containment or initiation of the post-accident inerting system, if installed, should be analyzed. Unless specifically known, the post-accident inerting gas should be assumed to be carbon dioxide.[21]

k. In meeting the requirements of 10 CFR 50, §50.34(f)(3)(v)(B)(1), applicants subject to this article should evaluate the containment design's capability to withstand full actuation of the post-accident inerting system, if installed. The peak pressure caused by inadvertent actuation of the post-accident inerting system should be less than the containment design pressure.[22]

Technical Rationale:[23]

The technical rationale for application of the above acceptance criteria to PWR dry containments is discussed in the following paragraphs:

1. GDC 16 requires containment to be designed as a leak tight barrier that will withstand the most extreme accident conditions for the duration of any postulated accident. This SRP Section evaluates the peak pressure and temperature conditions for which the containment must be designed. Containment must be leak tight and withstand accidents because it is the final barrier against the release of radioactivity to the environment.

Meeting GDC 16 provides assurance that radioactivity will not be released to the environment.

2. GDC 50 requires the containment structure and associated heat removal system to be designed with margin to accommodate any loss-of-coolant accident such that the containment design leak rate is not exceeded. A loss-of-coolant accident potentially causes the greatest pressure surge and release of fission products when compared to any other accident. Since it is the most severe challenge expected, containment must be designed to definitively withstand this accident. Following GDC 50 will ensure that containment integrity is maintained under the most severe accident conditions thus precluding the release of radioactivity to the environment.

3. GDC 38 requires the establishment of a containment heat removal system that will rapidly reduce containment pressure and temperature following any loss-of-coolant accident. The containment heat removal system supports the containment function by minimizing the duration and intensity of the pressure and temperature increase following a loss-of-coolant accident thus lessening the challenge to containment integrity. Meeting GDC 38 will help ensure that containment can fulfill its role as the final barrier against the release of radioactivity to the environment.

4. GDC 13 requires that instrumentation be provided to monitor all expected parameters of normal operation, anticipated operational occurrences, and accidents to assure adequate reactor safety is maintained. Since containment plays a vital safety role, appropriate instrumentation, such as temperature and pressure, must be provided so that operators can verify containment is properly fulfilling its function. Regulatory Guide 1.97 provides specific criteria for the design of containment instrumentation which have been found acceptable by the NRC as fulfilling GDC 13. Meeting GDC 13 and the specific requirements of Regulatory Guide 1.97 will help ensure that containment accomplishes its mission of precluding the release of radioactivity to the environment.

5. GDC 64 requires that the containment atmosphere be monitored for the release of radioactivity from normal operations, anticipated operational occurrences, and accidents. In order to ensure that containment functions properly, operators must be aware of any radioactive releases within containment so that they can take appropriate manual action or monitor automatic action. Regulatory Guide 1.97 provides specific criteria for the design of containment instrumentation which have been found acceptable by the NRC as fulfilling GDC 64. Meeting GDC 64 and the specific requirements of Regulatory Guide 1.97 will assist operators in ensuring that containment meets its safety function of preventing the release of radioactivity to the environment.

6. 10 CFR 50, §50.34(f)(3)(v)(A)(1) requires that the containment be designed to withstand either hydrogen burning or initiation of the post-accident inerting system, if installed, during an accident that releases hydrogen from a 100% fuel clad metal-water reaction. During the accident at TMI-2, metal-water reactions generated hydrogen in excess of the amounts originally anticipated. As a result of this finding, the Commission issued requirements on hydrogen control in 10 CFR 50.34(f). Other criteria require the containment to be designed to withstand postulated accidents. If such a postulated

accident releases or generates hydrogen, an added containment pressurization effect beyond the initial accident may be experienced due to burning of hydrogen or initiation of the post-accident inerting system, if installed. The containment must be designed to withstand this additional pressure to ensure that its integrity is maintained, thus precluding the release of radioactivity to the environment.

7. 10 CFR 50, §50.34(f)(3)(v)(B)(1) requires that the containment be designed to withstand inadvertent actuation of the post-accident inerting system, if installed. 10 CFR 50.34(f) promulgates hydrogen control requirements which include the option of a post-accident inerting system. A post-accident inerting system floods containment with an inert gas, such as carbon dioxide, during a hydrogen releasing accident. If inadvertently actuated during normal operation, containment could potentially be pressurized by the inerting system. The containment must be designed to withstand this potential inadvertent pressurization to ensure that its integrity is maintained, thus precluding the release of radioactivity to the environment.

III. REVIEW PROCEDURES

The following procedures are for the review of PWR dry containments. The reviewer selects and emphasizes material from these procedures as may be appropriate for a particular case. Portions of the review may be carried out on a generic basis for aspects of functional design common to a class of dry containments or by adopting the results of previous reviews of plants with essentially the same containment functional design.

Upon request from the primary reviewer, the coordinated review branches will provide input for the areas of review stated in subsection I of this SRP section. The primary reviewer obtains and uses such input as required to assure that this review ~~procedure~~[24] is complete.

The SCSB reviews the containment response analyses to determine the acceptability of the calculated containment design pressure and temperature, and in addition, the containment depressurization time. The PERB~~AEB~~[25] must be notified if the containment depressurization time does not meet the acceptance criterion. The SCSB reviews the assumptions made in the analyses to maximize the calculated containment pressure and temperature. The SCSB determines the conservatism of the respective containment response analyses by comparing the analytical models, and the assumptions made, with the acceptance criteria in subsection II of this SRP section and by performing appropriate confirmatory analyses. It is not necessary to perform accident pressure calculations for every plant. The SCSB will ascertain, however, that the adequacy of the applicant's calculational model has been demonstrated. The SCSB determines that the applicant has identified the pipe break(s) resulting in the highest containment pressure and temperature. Hot leg, cold leg (pump suction), and cold leg (pump discharge) pipe breaks of the reactor coolant system, and secondary system steam and feedwater line breaks, should be analyzed by the applicant. The SCSB[26] reviews the assumptions used to determine that the analyses are acceptably conservative. Design Certification applicants should meet the CP containment design pressure margin criterion in subsection II.a.[27]

The SCSB verifies that the containment is designed to withstand either hydrogen burning or initiation of the post-accident inerting system, if installed, during an accident that releases

hydrogen from a 100% fuel clad metal-water reaction as described in specific criterion II.j of this SRP section.[28]

If a post-accident inerting system is utilized, the SCSB verifies the containment is designed to withstand inadvertent actuation of this system.[29]

The SCSB performs confirmatory containment response analyses when necessary using the CONTEMPT-LT computer code (References 5 and 6~~6 and 7~~[30]). The purpose of these analyses is to confirm the applicant's predictions of the response of the containment to loss-of-coolant accidents and main steam and feedwater line breaks. In general, only the limiting pipe breaks, i.e., the pipe breaks which establish the containment design pressure and containment depressurization time, are analyzed. However, if in the judgment of the SCSB[31] the worst break has not been identified, other pipe breaks will be analyzed.

The SCSB reviews analyses of the external pressure of the containment structure caused by pressure and temperature changes inside the containment due to inadvertent operation of containment heat removal systems. The SCSB determines whether the most severe condition has been identified and whether the analysis was done in a conservative manner. For plants at the construction permit (CP) or design certification (DC) stage of review the external design pressure margin should be at least 10%. For plants at the operating license (OL) stage of review, the maximum expected external pressure should be less than the containment external design pressure. In general, the maximum expected external pressure should be approximately the same as at the construction permit or design certification stage of review. However, revised or upgraded analytical models or minor changes in the as-built design of the plant may result in a decrease in the margin.[32] If the primary containment is not designed to withstand the maximum external pressure, the SCSB[33] will evaluate the acceptability of the provisions made in the plant design to mitigate or withstand the consequences of the above postulated events, and will evaluate in conjunction with the HIC~~S~~B[34], the administrative controls and instrumentation and control provisions to preclude these events.

The SCSB[35] reviews the accuracy and range of the instrumentation provided to monitor the post-accident environment. The HIC~~S~~B[36], under SRP Section 7.5, and the SPLB~~EQB~~[37], under SRP Section 3.11, have review responsibility for the acceptability of, and the qualification test program for the sensing and actuation instrumentation of the plant protection system and the post-accident monitoring instrumentation and recording equipment.

For new plant applicants and those PWRs subject to Generic Letter 88-17 (Reference 45), the containment analyses should also consider shutdown conditions, when appropriate, to ensure that a basis is provided for procedures, instrumentation, operator response, equipment interactions and equipment response during shutdown operations. The analyses should encompass shutdown thermodynamic states and physical configurations to which the plant can be subjected during shutdown conditions (such as containment closure time, temperature and time to uncover the core during loss of decay heat removal).[38]

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.[39]

IV. EVALUATION FINDINGS

The conclusions reached on completion of the review of this SRP section are presented in SRP Section 6.2.1.

V. IMPLEMENTATION

The following is intended to provide guidance to applicants and licensees regarding the NRC staff's plan 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.[40] 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.[41]

Implementation schedules for conformance to parts of the method discussed herein are contained in the referenced regulatory guides, regulations,[42] and NUREGs.

VI. REFERENCES

The references for this SRP section are listed in SRP Section 6.2.1.

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SRP Draft Section 6.2.1.1.A

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 this SRP Section.
2.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for this SRP Section.
3.	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 SCSB reviews aspects of PWR Dry Containments under other SRP Sections and how other branches support the review.
4.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for this SRP Section (2 identical changes in this paragraph).
5.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for SRP Section 7.5.
6.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for SRP Section 3.8.3.
7.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for SRP Section 3.9.3.
8.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for SRP Section 16.0.
9.	10 CFR 52 applicability related change	The phrase "at the operating license stage of review" was deleted so that this item will encompass reviewing technical specifications during design certification reviews.
10.	Editorial	Changed "pertains" to "pertain" to reflect the plural subject of this phrase.
11.	Editorial	Added an interface item for SPLB for SRP Section 3.11 on environmental qualification. This branch and SRP Section are referenced in the Review Procedures section of this SRP.

Item	Source	Description
12.	**Integrated Impact 1487**	This review interface identifies reviews conducted to satisfy SECY 93-087 guidance on Shutdown and Low Power Operations. The staff requested that design certification applicants complete an assessment of shutdown and low-power risk. The shutdown and low-power risk assessment must identify design-specific vulnerabilities and weaknesses and document consideration and incorporation of design features that minimize such vulnerabilities. Containment analysis issues related to containment integrity during shutdown conditions are included in the shutdown risk assessments. Consideration of this issue in the shutdown and low-power risk assessment is the responsibility of the SPSB and will be included in the proposed SRP Section 19.1 on risk assessments.
13.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for this SRP Section.
14.	**Integrated Impact 886**	Added a general criterion for 10CFR50.34(f)(3)(v)(A)(1) regarding designing containment to meet hydrogen burning or post-accident inerting system actuation during an accident.
15.	**Integrated Impact 844**	Added a general criterion for 10CFR50.34(f)(3)(v)(B)(1) regarding designing containment to withstand inadvertent actuation of the post-accident inerting system, if installed.
16.	**Integrated Impact 286**	Added "or design certification" to specific acceptance criterion a. regarding internal design pressure margin.
17.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for the Emergency Preparedness and Radiation Protection Branch.
18.	SRP-UDP format item	Format change to make the citation of references consistent with the SRP-UDP format requirements. Also, the reference number was changed due to changes in SRP 6.2.1 Reference section.
19.	**Integrated Impact 998**	Added citation of 10 CFR 50.34(f)(2)(xvii) related to the existing citation of II.F.1 of NUREG 0737/NUREG 0718.
20.	SRP-UDP format item	Format change to make the citation of references consistent with the SRP-UDP format requirements.
21.	**Integrated Impact 886**	Added a specific criterion for 10CFR50.34(f)(3)(v)(A)(1) regarding designing containment to meet hydrogen burning or post-accident inerting system actuation during an accident.

Item	Source	Description
22.	**Integrated Impact 844**	Added a specific criterion for 10CFR50.34(f)(3)(v)(B)(1) regarding designing containment to meet inadvertent actuation of the post-accident inerting system if installed.
23.	SRP-UDP format item, Develop Technical Rationales	Added Technical Rationale for GDCs 16, 50, 38, 13, and 64 and 10 CFR 50.34(f)(3)(v), articles (A)(1) and (B)(1). Technical Rationale is a new SRP-UDP format item.
24.	Editorial	The word "procedure" was deleted since the reviewer completes a review, not a procedure.
25.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for the Emergency Preparedness and Radiation Protection Branch.
26.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for this SRP Section (6 identical changes in this paragraph).
27.	**Integrated Impact 286**	Added a sentence to Review Procedures that DC applicants are reviewed for incorporation of the CP containment design pressure margin.
28.	**Integrated Impact 886**	Added a Review Procedure for 10CFR50.34(f)(3)(v)(A)(1) regarding designing containment to meet hydrogen burning or post-accident inerting system actuation during an accident.
29.	**Integrated Impact 844**	Added a Review Procedure for 10CFR50.34(f)(3)(v)(B)(1) regarding evaluation of containment design pressure against inadvertent actuation of the post-accident inerting system if such a system is installed.
30.	Editorial, Unverified references	Reference numbers were changed due to changes in SRP 6.2.1 Reference section. Additionally, these two references are not verified as being the most current references approved by the NRC.
31.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for this SRP Section (2 identical changes in this paragraph).
32.	**Integrated Impact 286**	Added a section to Review Procedures that CP and DC applicants should meet a 10% external design pressure margin.
33.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for this SRP Section (3 identical changes in this paragraph).
34.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for SRP Section 7.5.

Item	Source	Description
35.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for this SRP Section.
36.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for SRP Section 7.5.
37.	Current PRB names and abbreviations	Editorial change made to reflect current PRB name and responsibility for SRP Section 3.11.
38.	**Integrated Impact 1487**	This paragraph describes the type of containment analyses required during shutdown conditions. Containment interaction and response (including containment closure times for PWRs) will be dependent upon the results of analyses to develop a bases for critical thermodynamic events such as containment temperatures and postulated times to core uncovery during a loss of shutdown decay heat removal.
39.	SRP-UDP Guidance, Implementation of 10 CFR 52	Added standard paragraph to address application of Review Procedures in design certification reviews.
40.	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.
41.	SRP-UDP Guidance	Added standard paragraph to indicate applicability of this section to reviews of future applications.
42.	Editorial	Added "regulations" to indicate that a 10 CFR regulation is now part of the acceptance criteria.

Integrated Impact No.	Issue	SRP Subsections Affected
286	Consider revising the SRP to incorporate 10% design margin for containment internal and external design pressures at the design certification stage.	SRP 6.2.1.1.A, Section II. Acceptance Criteria, items a. and f.
844	Consider revising the SRP to incorporate 10 CFR 50.34 requirements concerning designing the containment to accommodate inadvertent actuation of the post-accident inerting system if such a system is installed.	SRP Section 6.2.1.1.A, Section II, Acceptance Criteria, general criterion 6.b, specific criterion k. Section III, Review Procedures, fifth paragraph.
886	Consider revising the SRP to discuss that the containment must be designed to withstand either burning of hydrogen or actuation of the post-accident inerting system (if installed) during an accident that releases hydrogen.	SRP Section 6.2.1.1.A, Section II, Acceptance Criteria, general criterion 6.a, specific criterion j. Section III, Review Procedures, fourth paragraph.
998	Consider revising the SRP to cite 10 CFR 50.34(f)(2)(xvii) related to TMI action plan item II.F.1 regarding accident monitoring instrumentation.	SRP Section 6.2.1.1.A, Section II, Acceptance Citeria, new specific criterion g.
1487	Consider revising the SRP to incorporate staff guidance on containment analyses for shutdown operations.	SRP Section 6.2.1.1.A, Section I, Areas of Review, new paragraph Section III, Review Procedures, new paragraph