



U.S. NUCLEAR REGULATORY COMMISSION
STANDARD REVIEW PLAN
OFFICE OF NUCLEAR REACTOR REGULATION

9.3.3 EQUIPMENT AND FLOOR DRAINAGE SYSTEM

REVIEW RESPONSIBILITIES

Primary - ~~Auxiliary Systems Branch (ASB)~~ Plant Systems Branch (SPLB)¹

Secondary - None

I. AREAS OF REVIEW

The equipment and floor drainage system (EFDS) is designed to assure that waste liquids, valve and pump leakoffs, and tank drains are directed to the proper area for processing or disposal. The ~~ASBSPLB~~² reviews the equipment and floor drainage system, including the collection and disposal of liquid effluents outside containment. This includes piping and pumps from equipment or floor drains to the sumps, and any additional equipment that may be necessary to route effluents to the drain tanks and then to the radwaste system.

~~1.~~³ The ~~ASBSPLB~~⁴ reviews the EFDS capability to collect and dispose of all waste liquid effluents so that they will be processed in a controlled and safe manner. ~~ASBSPLB~~⁵ will determine that:

- 1.a.⁶ The system is capable of handling the volume of leakage expected, including the capacities of the sumps, drain tanks, and sump pumps.
- 2.b. The system is capable of preventing a backflow of water that might result from maximum flood levels to areas of the plant containing safety-related equipment.
- 3.c. There is no potential for inadvertent transfer of contaminated fluids to a non-contaminated drainage system.

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USNRC STANDARD REVIEW PLAN

Standard review plans are prepared for the guidance of the Office of Nuclear Reactor Regulation staff responsible for the review of applications to construct and operate nuclear power plants. These documents are made available to the public as part of the Commission's policy to inform the nuclear industry and the general public of regulatory procedures and policies. Standard review plans are not substitutes for regulatory guides or the Commission's regulations and compliance with them is not required. The standard review plan sections are keyed to the Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants. Not all sections of the Standard Format have a corresponding review plan.

Published standard review plans will be revised periodically, as appropriate, to accommodate comments and to reflect new information and experience.

Comments and suggestions for improvement will be considered and should be sent to the U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, Washington, D.C. 20555.

Review Interfaces:⁷

2.⁸ ASBSPLB⁹ also performs the following reviews under the SRP sections¹⁰ indicated:

- 1.a.¹¹ Review of flood protection is performed under SRP Section 3.4.1;
- 2.b. Review of the protection against internally generated missiles is performed under SRP Sections 3.5.1.1 and 3.5.1.2¹²;
- 3.c. Review of the structures, systems, and components (SSCs)¹³ to be protected against externally generated missiles is performed under SRP Section 3.5.2, and
- 4.d. Review of high and moderate energy pipe breaks is performed under SRP Section 3.6.1.
5. Review for fire protection is performed under SRP Section 9.5.1.¹⁴ The fire protection review includes consideration of drain system design features to: 1) accommodate actuation of installed fire suppression systems (gas and water), 2) accommodate fire fighting water, and 3) prevent backflow of combustible liquids to safety-related areas.¹⁵
6. Review of the liquid radioactive waste collection system is performed under SRP Section 11.2. The Effluent Treatment Systems Branch (ETSB)SPLB¹⁶ will provide verification that the radwaste system is capable of collecting, sampling, analyzing, and processing the effluents from the EFDS consistent with the requirements for disposal of radwaste material as part of its primary review responsibility for SRP Section 11.2.¹⁷

In addition, the ASBSPLB¹⁸ will coordinate with other branch evaluations that interface with the overall review of the system as follows:-

1. The Containment Systems and Severe Accident Branch (CSBSCSB)¹⁹ will verify that portions of the drain system penetrating the containment barrier are designed with acceptable isolation features to maintain containment integrity for all operating conditions including accidents as part of its primary review responsibility for SRP Section 6.2.4.
2. The Radiological Assessment Emergency Preparedness and Radiation Protection Branch (RABPERB)²⁰ will verify that the system will meet occupational radiation protection criteria as part of its primary review responsibility for SRP Section 12.3.
3. The Power Systems Electrical Engineering Branch (PSBEELB)²¹ verifies that power supplies for safety-related portions of the EFDS meet criteria appropriate to its safety function as part of its primary review responsibility for SRP Sections 8.3.1 and 8.3.2²².
4. The Structural Civil Engineering and Geosciences Branch (SEBECGB)²³ determines the acceptability of the design analyses, procedures, and criteria used to establish the ability of seismic Category I structures housing the system and supporting systems to withstand

the effects of natural phenomena such as the safe shutdown earthquake (SSE), the probable maximum flood (PMF), and tornado missiles as part of its primary review responsibility for SRP Sections 3.3.1, 3.3.2, 3.5.3, 3.7.1 through 3.7.4, 3.8.4, and 3.8.5. The ECGB also verifies that inservice inspection requirements are met for system components as part of its primary review responsibility for SRP Section 6.6.²⁴

5. The Mechanical Engineering Branch (~~MEB~~MEB)²⁵ determines that the components, piping, and structures are designed in accordance with applicable codes and standards as part of its primary review responsibility for SRP Sections 3.9.1 through 3.9.3. The ~~MEB~~MEB²⁶ also determines the acceptability of the seismic and quality group classifications for system components as part of its primary review responsibility for SRP Sections 3.2.1 and 3.2.2. The ~~MEB~~MEB²⁷ also reviews the adequacy of the inservice testing program of pumps and valves as part of its primary review responsibility for SRP Section 3.9.6.
6. The Materials and Chemical Engineering Branch (~~MCEB~~MECB)²⁸ ~~verifies that inservice inspection requirements are met for system components as part of its primary review responsibility for SRP Section 6.6, and~~²⁹, upon request, verifies the compatibility of the materials of construction with services conditions.
- 7.³⁰ The review for ~~fire protection, technical specifications, and quality assurance are~~ is coordinated and performed by the ~~Chemical Engineering Branch, Licensing Guidance Branch~~ Technical Specifications Branch (TSB)³¹, and ~~Quality Assurance Branch~~ as part of ~~their~~its primary review responsibility for SRP Sections ~~9.5.1, 16.0, and 17.0, respectively.~~
8. The review for quality assurance is coordinated and performed by the Quality Assurance and Maintenance Branch (HQMB) as part of its primary review responsibility for SRP Chapter 17.³²
9. For new plant applicants, the equipment and floor drainage system may be included in the systematic assessment of shutdown risks as a feature that can minimize the risk of flooding during shutdown conditions. The Probabilistic Safety Assessment Branch (SPSB) coordinates and performs the shutdown risk assessment reviews as part of its primary review responsibility for SRP Section 19.1 (proposed).³³

For those areas of review identified above as being ~~the responsibility of~~ part of the review under other SRP sections ~~branches~~, the acceptance criteria and their methods of application are contained in the referenced SRP sections ~~identified as the primary review responsibility of those branches.~~³⁴

II. ACCEPTANCE CRITERIA

Acceptability of the design of the equipment and floor drainage system, as described in the applicant's safety analysis report (SAR) is based on the system meeting the following criteria:

1. General Design Criterion 2 as related to safety-related portions of the system being capable of withstanding the effects of earthquakes. Acceptance is based on meeting the guidance of Regulatory Guide 1.29, Position C-1, if any portion is deemed to be safety-related, and Position C-2, for nonsafety-related functions. The ASBSPLB³⁵ uses the following to determine if portions of the EFDS are safety-related³⁶:
 - a. If the system is capable of detecting leaks in safety systems that utilize the drainage system sumps, and is the only means for such leakage detection, it is considered safety-related in this regard.
 - b. If the system can cause the inundation of safety-related areas due to drain backflow that may result from malfunction of active components, blockage or the probable maximum flood, it is considered safety-related in this area.
 - c. If the system is connected so that an inadvertent transfer of contaminated fluids to non-contaminated drainage systems can occur, it is considered safety-related in this area.
 - d. If a failure or malfunction in a portion of the system could result in adverse effects on ~~essential systems or components~~SSCs important to safety³⁷ (i.e., necessary for safe shutdown, accident prevention, or accident mitigation) it is considered safety-related in this area.

If none of the above safety-related criteria apply, then the EFDS need not meet General Design Criterion 2.

2. General Design Criterion 4 with respect to the capability of withstanding the effects of and to be compatible with the environmental conditions (flooding) associated with normal operation, maintenance, testing, and postulated accidents (pipe break, tank ruptures). Acceptance is based on the system being designed to prevent flooding which could result in adverse effects on ~~essential systems or components~~SSCs important to safety³⁸ (i.e., necessary for safe shutdown, accident prevention, or accident mitigation).
3. General Design Criterion 60 as related to providing a means to control suitably the release of radioactive materials in liquid effluent, including anticipated operational occurrences. This criterion applies since the EFDS usually consists of two subsystems, radioactive and nonradioactive and the inadvertent transfer of radioactive wastes to the nonradioactive portion of the system could result in radioactive releases to the environs. Acceptance is based on the system being designed to prevent the inadvertent transfer of contaminated fluids to a non-contaminated drainage system for disposal.

Technical Rationale³⁹

The technical rationale for application of the above acceptance criteria to the equipment and floor drainage system is discussed in the following paragraphs.

1. GDC 2 requires that SSCs important to safety be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, and floods without loss of capability to perform their safety functions. The safety-related functions of the EFDS have both active and passive aspects, e.g., preventing flooding by means of components such as check valves, and also providing adequate drainage capacity to accommodate unplanned water intrusion in plant areas where SSCs important to safety are located. In regard to performance of the EFDS during the SSE, both direct and indirect safety impacts are attributed to the EFDS. Direct effects to safety-related equipment due to inundation have to be averted by the EFDS by providing adequate drainage capacity. Additionally, nonsafety-related equipment has to be protected if failure of such equipment may, in a consequential manner, reduce the functional reliability of safety-related equipment to unacceptable safety levels, or if equipment would be affected, the failure of which may cause incapacitating injury to occupants of the control room or render the control room uninhabitable.

Regulatory Guide 1.29 describes a methodology acceptable to the staff for identifying and classifying those features of light-water cooled nuclear power plants that should be designed to withstand the effects of the SSE. With the information provided in Regulatory Guide 1.29, safety-related plant areas can be delineated, where the EFDS must perform safety-related functions and thus is required to be designed to Seismic Category I performance criteria.

Compliance with GDC 2 will assure that all safety-related portions of the EFDS will continue to provide adequate drainage capacity during and following seismic events, so that postulated flooding events may be accommodated without water accumulation in areas where continued operability of safety-related equipment could be jeopardized by such accumulations. In addition, compliance with these regulatory requirements will assure that no failures of system components will jeopardize the integrity of the reactor coolant pressure boundary, the capability to shut down the reactor and maintain it in a safe shutdown condition, or the capability to prevent and/or mitigate the consequences of accidents that could result in potential offsite radiation exposures.

2. GDC 4 requires that SSCs important to safety be designed to accommodate the effects of and be compatible with the environmental conditions associated with normal operation, maintenance, surveillance testing, and postulated accidents. In regards to the EFDS, the purpose of GDC 4 is to assure the capability of the EFDS to provide the required drainage capacity to accommodate unanticipated flooding from pipe breaks, tank leaks, discharge from fire suppression systems, and other potential flooding sources. GDC 4 thus requires that in defining the design basis of the EFDS, consideration be given to the entire spectrum of flooding events, from relatively minor, operations related or testing related events to postulated accidents. Compliance with GDC 4 will assure that functions of safety-related equipment will not be impacted by undue water accumulations within the plant.

3. GDC 60 requires that the plant be designed to include means to control the release of radioactive materials in gaseous and liquid effluents. The EFDS must have sufficient capability and margin to collect and dispose of radioactive and non-radioactive liquid effluents in such a way that they may be processed in a controlled and safe manner. Since radioactive liquid effluents require a different treatment compared to non-radioactive effluents, the design of the EFDS typically provides for two separate systems: one for collecting radioactive effluents and the other one for collecting non-radioactive effluents. Compliance with the requirements in GDC 60 will assure containment of radioactive liquid effluents by controlled collection and transfer to the appropriate treatment system.

III. REVIEW PROCEDURES

The procedures below are used during the construction permit (CP) review to determine that the design criteria and bases and the preliminary design as set forth in the preliminary safety analysis report meet the acceptance criteria given in subsection II. For review of operating license (OL) applications, the procedures are utilized to verify that the initial design criteria and bases have been appropriately implemented in the final design as set forth in the final safety analysis report.

Upon request from the primary reviewer, the coordinating review branches will provide input for the areas of review stated in subsection I. The primary reviewer obtains and uses such input as required to assure that this review procedure⁴⁰ is complete.

The reviewer will select and emphasize material from this SRP section, as may be appropriate for a particular case.

1. The SAR is reviewed to see that the EFDS description section, layout drawings, and piping and instrumentation diagrams (P&IDs) show the EFDS layout and equipment, including pumps and valves necessary for routing effluents, the minimum drain tank capacity system flow requirements, connections to areas containing safety-related equipment or to non-contaminated drain systems, and any use made of the EFDS for leakage detection for safety-related systems. The reviewer determines which portions of the EFDS have safety functions or can adversely affect safety-related systems, using the criteria of subsection II, above. These "essential safety-related"⁴¹ portions of the EFDS are then reviewed on the basis of the criteria of subsection II, as is described in the paragraphs that follow.
2. The EFDS performance requirements section of the SAR is reviewed to confirm that it describes component allowable operational degradation (e.g., drain blockage, sump pump leakage, or failures) for safety-related portions of the system and describes the procedures that will be followed to detect and correct these conditions if they become excessive. The reviewer determines that essential safety-related⁴² portions of the system can sustain the loss of any active component and meet minimum system requirements. The system P&IDs, layout drawings, and component descriptions and characteristics are then reviewed for the following points:

- a. EssentialSafety-related⁴³ portions of the EFDS are correctly identified and are isolable from the nonessential~~safety-related~~⁴⁴ portions of the system to the extent required by system performance requirements.
 - b. EssentialSafety-related⁴⁵ portions of the EFDS are classified Quality Group C or higher and seismic Category I. Components and system descriptions in the SAR are reviewed by ASBSPLB⁴⁶ to verify that the seismic and safety classifications have been included, and that the P&IDs indicate any points of change in piping quality group classification. The review for seismic design is performed by the SEBECGB⁴⁷ and the review for seismic and quality classification is performed by the MEBEMEB⁴⁸ as indicated in subsection I of this SRP section.
3. The reviewer verifies that the system safety functions will be maintained, as required, in the event of adverse environmental phenomena such as earthquakes, or in the event of certain pipe breaks. The reviewer evaluates the system, using engineering judgment, failure modes and effects analyses, and the results of reviews performed under other SRP sections, to determine that:
- a. Failure of nonessential~~nonsafety-related~~⁴⁹ portions of the system, or of other systems not designed to seismic Category I Standards and located close to essential~~safety-related~~⁵⁰ portions of the system, or of nonseismic Category I structures that house, support, or are close to essential~~safety-related~~⁵¹ portions of the EFDS, will not preclude operation of the essential~~safety-related~~⁵² portions of the EFDS. Reference to SAR Chapter 2 (which describes site features) and the general arrangement and layout drawings will be necessary. Statements in the SAR to the effect that the above conditions are met are acceptable.
 - b. System capability to prevent drain or flood water from backing up in the drainage system into areas housing safety-related equipment has been incorporated. Statements in the SAR that this capability is provided are acceptable.
 - c. Provisions are made in the system to control and direct the flow of radioactive waste fluids to the radwaste area. It will be acceptable if the system P&IDs and design criteria show that the potential for inadvertent transfer of contaminated fluids to noncontaminated drainage system for disposal has been precluded.
 - d. EssentialSafety-related⁵³ portions of the system are protected from the effects of high and moderate energy line breaks. Layout drawings are reviewed to assure that no high or moderate energy piping systems are close to essential~~safety-related~~⁵⁴ portions of the EFDS, or that protection from the effects of failure will be provided. The means of providing such protection will be given in Section 3.6 of the SAR, and the procedures for reviewing this information are given in the corresponding SRP sections.
4. The descriptive information, P&IDs, EFDS drawings, and failure modes and effects analyses in the SAR are reviewed to assure that essential~~safety-related~~⁵⁵ portions of the system can function as required following design basis accidents, assuming a concurrent

failure of a single active component. The reviewer evaluates the analyses presented in the SAR to assure function of required components, traces the availability of these components on system drawings, and checks that the SAR contains verification that minimum system flow requirements are met for each accident situation for the required time spans. For each case, the design will be acceptable if minimum system requirements are met.

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.⁵⁶

IV. EVALUATION FINDINGS

The reviewer verifies that sufficient information has been provided and his review supports conclusions of the following type, to be included in the staff's safety evaluation report:

The equipment and floor drainage system includes all piping from equipment or floor drains to the sump, the sump pumps, and the associated pumps and piping network necessary to route effluents to the drain tanks and then to the radwaste system. Portions of the EFDS which are safety-related as determined by the following criteria are classified Seismic Category⁵⁷ I and Quality Group C.

- a. If the system is capable of detecting leaks in ~~safety systems~~SSCs important to safety⁵⁸ that utilize the drainage system sumps, and is the only means for such leakage detection, it is considered safety-related in this regard.
- b. If the system can cause the inundation of safety-related areas due to drain backflow that may result from malfunction of active components, blockage or the probable maximum flood, it is considered safety-related in this area.
- c. If the system is connected so that an inadvertent transfer of contaminated fluids to non-contaminated drainage can occur, it is considered safety-related in this area.
- d. If a failure or malfunction in a portion of the system could result in adverse effects on ~~essential systems or components~~SSCs important to safety⁵⁹ (i.e., necessary for safe shutdown, accident prevention or accident mitigation) it is considered safety-related in this area.

The basis for acceptance in the staff review has been conformance of the applicant's designs and design criteria for the ~~essential~~safety-related⁶⁰ portions of the equipment and floor drainage system and necessary auxiliary supporting systems to the Commission's regulations as set forth in the general design criteria, and to applicable regulatory guides, staff technical positions, and industry standards.

The staff concludes that the design of the equipment and floor drainage system is acceptable and conforms to the requirements of General Design Criteria 2, 4, and 60 with respect to seismic design, environmental conditions, and control release of radioactive materials. This conclusion is based on the following:

1. The applicant has met the requirements of General Design Criterion 2 with respect to seismic design by
 - a. meeting Regulatory⁶¹ Position C-1 or C-2 in Regulatory Guide 1.29 or
 - b. providing and meeting an alternative method to the Regulatory⁶² Position C-1 or C-2 in Regulatory Guide 1.29 that the staff has reviewed and found to be acceptable.
2. The applicant has met the requirements of General Design Criterion 4 with respect to environmental conditions by preventing flooding which could result in adverse effects on ~~essential systems or components~~SSCs important to safety⁶³.
3. The applicant has met the requirements of General Design Criterion 60 with respect to controlling release of radioactive materials by preventing the inadvertent transfer of contaminated fluids to portions of the systems for non-contaminated drainage.

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.⁶⁴

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 52.⁶⁵ 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.⁶⁶

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

VI. REFERENCES

1. 10 CFR Part 50, Appendix A, General Design Criterion 2, "Design Bases for Protection Against Natural Phenomena."
2. 10 CFR Part 50, Appendix A, General Design Criterion 4, "Environmental and ~~Missile~~Dynamic Effects⁶⁷ Design Bases."
3. 10 CFR Part 50, Appendix A, General Design Criterion 60, "Control of Releases of Radioactive Materials to the Environment."
4. Regulatory Guide 1.29, "Seismic Design Classification."

SRP Draft Section 9.3.3
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 9.3.3.
2.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 9.3.3.
3.	Editorial.	Removed paragraph number as unnecessary since paragraph 2 has been moved to new Review Interfaces subsection.
4.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 9.3.3.
5.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 9.3.3.
6.	Editorial.	Changed numbering of Review Items from a through c to 1 through 3 to preserve hierarchy of paragraph numbers.
7.	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 SPLB reviews aspects of the EFDS under other SRP Sections and how other branches support the review.
8.	Editorial.	Removed paragraph number as unnecessary since this paragraph has been moved to the new Review Interfaces subsection.
9.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 9.3.3.
10.	Editorial	Added plural for "sections" since there are several sections subsequently discussed.
11.	Editorial.	Changed numbering of Review Items from a through d to 1 through 4 to preserve hierarchy of paragraph numbers.
12.	Editorial	Added reference to SRP Section 3.5.1.2 under which protection against internally generated missiles is also reviewed.
13.	Editorial.	Consistent with other SRP Sections, added the acronym SSCs for "structures, systems, and components".
14.	Current PRB Assignments.	Moved this Review Interface from secondary interfaces to primary interfaces, since SPLB now has primary review responsibility for SRP Section 9.5.1.

SRP Draft Section 9.3.3
Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
15.	Integrated Impact # 849.	Added definitions for areas of review for SRP Section 9.5.1.
16.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 9.3.3.
17.	Current PRB Assignments, Editorial.	Added introductory sentence consistent with other SPLB interfaces and included description of review under SRP Section 11.2 previously assigned to another branch.
18.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 9.3.3.
19.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 6.2.4.
20.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 12.3.
21.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 8.3.1.
22.	Editorial	Revised to reflect review of dc power arrangements under SRP Section 8.3.2, if/where applicable.
23.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Sections 3.3.1, 3.3.2, 3.5.3, 3.7.1 through 3.7.4, 3.8.4, and 3.8.5.
24.	PRB Assignments	Relocated interface to SRP 6.6 to reflect change in assignment.
25.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Sections 3.9.1, through 3.9.3.
26.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Sections 3.2.1, and 3.2.2.
27.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 3.9.6.
28.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for review of material compatibility.
29.	PRB Assignments	Relocated interface to SRP 6.6 to reflect change in assignment.
30.	Editorial, Current PRB Assignments.	Relocated interface for fire protection to SPLB interfaces and separated remaining interfaces into separate paragraphs for separate PRBs.
31.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 16.

SRP Draft Section 9.3.3
Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
32.	Current PRB names and abbreviations, Editorial.	Revised PRB name and abbreviation for Quality Assurance Branch and changed SRP Section 17.0 to SRP Chapter 17 to reflect current SRP structure.
33.	SRP-UDP Guidance, inter-SRP technical issue resolution.	This review interface identifies reviews conducted to satisfy SECY 93-087 and ABWR FSER Staff 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. The Equipment and Floor Drainage System may be included in the risk assessment as a system that can mitigate the effects of flooding during shutdown operations. Consideration of the Equipment and Floor Drainage System 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.
34.	Editorial.	Changed sentence such that it also applies to interfaces to other SPLB Sections.
35.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 9.3.3.
36.	Editorial	To provide consistency throughout this SRP section, added hyphen globally, wherever the term "safety-related" was used without the hyphen.
37.	Editorial.	Use of the term "essential systems or components" was replaced with the term "SSCs important to safety". Use of the term "SSCs important to safety" is consistent with the terminology used in the remainder of the section to identify those SSCs that have a safety concern involving protection from flooding.
38.	Editorial.	Use of the term "essential systems or components" was replaced with the term "SSCs important to safety". Use of the term "SSCs important to safety" is consistent with the terminology used in the remainder of the section to identify those SSCs that have a safety concern involving protection from flooding.
39.	SRP-UDP Format Item, Develop Technical Rationale.	Added Technical Rationale for General Design Criteria GDC 2, GDC 4, and GDC 60. Technical Rationale is a new feature added to the SRP.
40.	Editorial.	Change made to clarify that the reviewer completes the review, not the review procedure.

SRP Draft Section 9.3.3
Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
41.	Editorial.	Use of the term "essential portions" was replaced with the term "safety-related portions". Use of the term "safety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced in this SRP section earlier.
42.	Editorial.	Use of the term "essential portions" was replaced with the term "safety-related portions". Use of the term "safety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced in this SRP section earlier.
43.	Editorial.	Use of the term "essential portions" was replaced with the term "safety-related portions". Use of the term "safety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced in this SRP section earlier.
44.	Editorial.	Use of the term "nonessential portions" was replaced with the term "nonsafety-related portions". Use of the term "nonsafety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced earlier in this SRP section.
45.	Editorial.	Use of the term "essential portions" was replaced with the term "safety-related portions". Use of the term "safety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced in this SRP section earlier.
46.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Section 9.3.3.
47.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Sections 3.7.1 through 3.7.3.
48.	Current PRB names and abbreviations.	Editorial change made to reflect current PRB name and responsibility for SRP Sections 3.2.1 and 3.2.2.
49.	Editorial.	Use of the term "nonessential portions" was replaced with the term "nonsafety-related portions". Use of the term "nonsafety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced earlier in this SRP section.
50.	Editorial.	Use of the term "essential portions" was replaced with the term "safety-related portions". Use of the term "safety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced in this SRP section earlier.

SRP Draft Section 9.3.3
Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
51.	Editorial.	Use of the term "essential portions" was replaced with the term "safety-related portions". Use of the term "safety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced earlier in this SRP section.
52.	Editorial.	Use of the term "essential portions" was replaced with the term "safety-related portions". Use of the term "safety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced in this SRP section earlier.
53.	Editorial.	Use of the term "essential portions" was replaced with the term "safety-related portions". Use of the term "safety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced in this SRP section earlier.
54.	Editorial.	Use of the term "essential portions" was replaced with the term "safety-related portions". Use of the term "safety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced in this SRP section earlier.
55.	Editorial.	Use of the term "essential portions" was replaced with the term "safety-related portions". Use of the term "safety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced in this SRP section earlier.
56.	SRP-UDP Guidance, Implementation of 10 CFR 52	Added standard paragraph to address application of Review Procedures in design certification reviews.
57.	Editorial.	Inserted missing technical term and corrected spelling of "seismic" to lower case.
58.	Editorial.	Use of the term "safety systems" was replaced with the term "SSCs important to safety". Use of the term "SSCs important to safety" is consistent with the terminology used in the remainder of the section to identify those SSCs that have a safety concern involving protection from flooding.
59.	Editorial.	Use of the term "essential systems and components" was replaced with the term "SSCs important to safety". Use of the term "SSCs important to safety" is consistent with the terminology used in the remainder of the section to identify those SSCs that have a safety concern involving protection from flooding.
60.	Editorial.	Use of the term "essential portions" was replaced with the term "safety-related portions". Use of the term "safety-related" is consistent with the terminology used in this and other, similar SRP sections and was introduced earlier in this SRP section.

SRP Draft Section 9.3.3
Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
61.	Editorial	Capitalized to reflect title of Section C of the Regulatory Guide.
62.	Editorial	Capitalized to reflect title of Section C of the Regulatory Guide.
63.	Editorial.	Use of the term "essential systems and components" was replaced with the term "SSCs important to safety". Use of the term "SSCs important to safety" is consistent with the terminology used in the remainder of the section to identify those SSCs that have a safety concern involving protection from flooding.
64.	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.
65.	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.
66.	SRP-UDP Guidance	Added standard paragraph to indicate applicability of this section to reviews of future applications.
67.	Potential Impact # 21767.	Updated reference title for General Design Criterion 4.

SRP Draft Section 9.3.3
Attachment B - Cross Reference of Integrated Impacts

Integrated Impact No.	Issue	SRP Subsections Affected
849	Add a discussion of drain requirements with regard to the removal of fire suppression water to SRP Section 9.3.3.	I. AREAS OF REVIEW, Review Interfaces.
850	Add a Review Interface to address review guidance related to internal flooding and water intrusion events.	<u>No SRP change.</u> This Integrated Impact was not processed because a review interface to SRP Section 3.4.1 already exists.