



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

9.4.2 SPENT FUEL POOL AREA VENTILATION SYSTEM

REVIEW RESPONSIBILITIES

Primary - ~~Auxiliary~~ Plant Systems Branch (ASBSPLB)¹

Secondary - ~~Non~~ Emergency Preparedness and Radiation Protection Branch (PERB)²

I. AREAS OF REVIEW

The function of the spent fuel pool area ventilation system (SFPAVS) is to maintain ventilation in the spent fuel pool equipment areas, to permit personnel access, and to control airborne radioactivity in the area during normal operation, anticipated operational ~~transients~~ occurrences,³ and following postulated fuel handling accidents.

The ASBSPLB⁴ reviews the SFPAVS from air intake to the point of discharge where the system connects to the gaseous cleanup and treatment system or the station vents to ~~assure~~ ensure⁵ conformance with the requirements of General Design Criteria 2, 5,⁶ 60, and 61. The review includes components such as air intakes, ducts, air conditioning units, filters, blowers, isolation dampers, and exhaust fans. The review of the SFPAVS covers all areas containing or adjacent to the spent fuel pool, including the spent fuel pool⁷ cooling pump room.

1. The ASBSPLB⁸ reviews the SFPAVS to determine the safety significance of the system. Based on this determination, the safety-related ~~part~~ portions of the system ~~is~~ are reviewed with respect to functional performance requirements during normal operation, ~~during~~ adverse environmental occurrences,⁹ and subsequent to postulated accidents, including

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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.

the loss of offsite power. The ASBSPLB¹⁰ reviews safety-related portions of the system to assure ensure that:

- a. A single active failure cannot result in loss of the system functional performance capability.
 - b. Failures of nonseismic Category I equipment or components will not affect the SFPAVS.
2. The ASBSPLB¹¹ also reviews safety-related portions of the SFPAVS with respect to the following:
- a. The capability to direct ventilation air from areas of low radioactivity to areas of potentially higher radioactivity.
 - b. The capability to detect the need for isolation and to isolate portions of the system in the event of failures or malfunctions.
 - c. The capability to actuate components not normally operating that are required to operate during accident conditions, and to provide necessary isolation.
3. The ASBSPLB¹² also performs the following reviews as part of its primary review responsibility¹³ under the Standard Review Plan (SRP),¹⁴ sections indicated:
- a. Review of flood protection is performed under SRP Section 3.4.1.
 - b. Review of the protection against internally-generated missiles is performed under SRP Section 3.5.1.1.
 - c. Review of the structures, systems, and components to be protected against externally-generated missiles is performed under SRP Section 3.5.2.
 - d. Review of high and moderate energy pipe breaks is performed under SRP Section 3.6.1.
 - e. Review of the environmental qualification of mechanical and electrical equipment is performed under SRP Section 3.11.¹⁵
 - f. ~~The ETSB evaluates~~ Review of the effectiveness of the SFPAVS filters to remove airborne contaminants prior to discharge to the environment ~~in~~ is performed under¹⁶ SRP Section 6.5.1.
 - g. The review of fire protection is performed under SRP Section 9.5.1.¹⁷
 - h. ~~The Effluent Treatment Systems Branch (ETSB) evaluates~~ Review of the system functional performance to assure ensure that the system meets acceptable limits

for radioactive releases during normal operations as part of its primary review responsibility for is performed under¹⁸ SRP Section 11.3.

Review Interfaces¹⁹

1. The ~~ASBSPLB~~²⁰ will coordinate evaluations performed by other branches that interface with ~~ASBSPLB~~²¹ to complete the overall evaluation of the system as follows:
 - a. The Instrumentation and Controls ~~Systems Branch (ICSBHICB)~~²² and the ~~Power Systems Branch (PSB)~~ Electrical Engineering Branch (EELB)²³ determine the adequacy of the design, installation, inspection, and testing of all essential electrical components (sensing, control and power) required for proper operation as part of their primary review responsibility for SRP Sections 7.7 and 8.3.1, respectively.
 - b. The ~~Structural Engineering Branch (SEB)~~ Civil Engineering and Geosciences Branch (ECGB)²⁴ 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.
 - c. The Mechanical Engineering Branch ~~MEB~~(EMEB)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.
 - d. The ~~MEB~~EMEB²⁶ 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.
 - e. The ~~MEB~~EMEB²⁷ 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.
 - f. The ~~Materials~~Civil Engineering and Geosciences Branch (~~MTEB~~ECGB)²⁸ verifies that inservice inspection requirements are met for system components as part of its primary review responsibility for SRP Section 6.6.
 - g. The ~~Radiological Assessment Branch (RAB)~~ PERB²⁹ evaluates the radiation protection criteria as part of its primary review responsibility for SRP Section 12.3-4.

~~The Equipment Qualification Branch (EQB) reviews the seismic qualification of Category I instrumentation and electrical equipment, and the environmental qualification of mechanical equipment as part of its primary responsibility for SRP Sections 3.10 and 3.11, respectively.~~³⁰

- h. The EMEB and the HICB review the seismic qualification of Category I instrumentation and electrical equipment as part of their primary and secondary review responsibilities, respectively, for SRP Section 3.10.³¹
- i. The Accident Evaluation Branch (AEB) PERB³² evaluates the radiological consequences of airborne contaminants resulting from a fuel handling accident as part of its primary review responsibility for SRP Section 15.7.4.
- j. The Instrumentation and Controls Branch (HICB) review the environmental qualification of mechanical and electrical equipment as part of its secondary review responsibility for SRP Section 3.11.³³
- k. The ETSB PERB and SPLB reviews and evaluates the capability of the SFPAVS to detect and control leakage of radioactive contamination from the system as part of their primary and secondary review responsibilities, respectively, for SRP Section 11.5.³⁴

The review for fire protection, technical specifications, and quality assurance are coordinated and performed by the Chemical Engineering Branch, Licensing Guidance Branch, and Quality Assurance Branch as part of their primary review responsibility for SRP Sections 9.5.1, 16.0, and 17.0 respectively.³⁵

- l. The Technical Specifications Branch (TSB) coordinates and performs reviews of the proposed technical specifications as part of its primary review responsibility for SRP Section 16.0.³⁶
- m. The Quality Assurance and Maintenance Branch (HQMB) coordinates and performs reviews of quality assurance programs as part of its primary review responsibility for SRP Chapter 17.³⁷

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

Acceptability of the SFPAVS design, as described in the applicant's safety analysis report (SAR), is based on specific general design criteria and regulatory guides.

The design of safety-related portions of the SFPAVS is acceptable if the integrated design of the system is in accordance with the following criteria:

- 1. General Design Criterion 2 (GDC 2), "Design Bases for Protection Against Natural Phenomena,"³⁸ as related to 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 for safety-related portions and Position C.2 for nonsafety-related portions.

2. General Design Criterion 5 (GDC 5), "Sharing of Structures, Systems, and Components,"³⁹ as related to shared systems and components important to safety.
3. General Design Criterion 60 (GDC 60), "Control of Release of Radioactive Materials to the Environment,"⁴⁰ as related to the system's capability to suitably control release of gaseous radioactive effluents to the environment. Acceptance is based on meeting the guidance of Regulatory Guides 1.52 and 1.140, as related to design, testing, and maintenance criteria for atmosphere cleanup system and normal ventilation exhaust system air filtration and adsorption units of light-water-cooled nuclear power plants, Position C.2, and Positions C.1 and C.2, respectively.
4. General Design Criterion 61 (GDC 61), "Fuel Storage and Handling and radioactivity Control,"⁴¹ as related to the system's capability to provide appropriate containment, confinement, and filtering to limit releases of airborne radioactivity to the environment from the fuel storage facility under normal and postulated accident conditions. Acceptance is based on meeting the guidance of Regulatory Guide 1.13, as related to the design of the ventilation system for the spent fuel storage facility, Position C.4.

Technical Rationale⁴²

The technical rationale for application of these acceptance criteria to reviewing the SFPAVS is discussed in the following paragraphs:⁴³

1. Compliance with GDC 2, as related to the system being capable of withstanding the effects of earthquakes, requires that structures, systems, and components important to safety be designed to withstand the effects of a design basis earthquake without loss of capability to perform their safety functions.

The function of the SFPAVS is to provide ventilation in the spent fuel pool equipment areas, to permit personnel access, and to control the concentration of airborne radioactive material in the area during normal operation, during anticipated operational occurrences, and after postulated fuel handling accidents. The requirement specified in GDC 2 is imposed to ensure that, during and after a design basis earthquake, the SFPAVS will remain functional so that any fuel damage will not result in potential offsite doses in excess of 5 mSv (0.5 rem)⁴⁴ to the whole body or its equivalent to any part of the body.

Meeting the requirement of GDC 2 provides assurance that the SFPAVS will not fail to operate as designed, thus protecting against the uncontrolled release of airborne radioactive materials in the event of a design basis earthquake.⁴⁵

2. Compliance with GDC 5 requires that structures, systems, and components important to safety shall not be shared among nuclear power units unless it can be shown that such sharing will not significantly impair their ability to perform their safety functions, including, in the event of an accident in one unit, an orderly shutdown and cooldown of the remaining units.

With regard to the SFPAVS, GDC 5 requires that the component parts of the SFPAVS be essentially independent in order to ensure that an accident in one unit of a multiple-unit facility will not propagate to other units. Therefore the SFPAVS needs to be designed to accommodate loss of services from any one unit without affecting operation of the overall system.

Meeting the requirements of GDC 5 provides assurance that a failure or accident in one unit will not affect additional units of a multiple-unit site.⁴⁶

3. Compliance with GDC 60 requires that provisions be included in the nuclear power unit design to ensure suitable controls on the release of radioactive materials in gaseous effluents during normal reactor operation, including anticipated operational occurrences.

During transfer or movement of spent fuel in the fuel storage pool, damage to the fuel cladding could result in potential releases of radioactive gases and aerosols to the atmosphere. Thus, GDC 60 is applicable to spent fuel storage areas. Atmosphere cleanup systems are included in the design of SFPAVS to reduce the quantities of radioactive materials in gaseous effluents released to the environment. Regulatory Guides 1.140 and 1.52 offer design, testing, and maintenance criteria acceptable to the staff for air filtration and adsorption units of normal ventilation exhaust systems and for engineered safety feature atmosphere cleanup systems in light-water-cooled nuclear power plants.

Meeting the requirements of GDC 60 provides assurance that the release of radioactive materials entrained in gaseous effluents will not exceed the limits specified in 10 CFR Part 20 for normal operation and anticipated operational occurrences.⁴⁷

4. Compliance with GDC 61 requires that the fuel storage and handling, radioactive waste, and other systems that may contain radioactive materials be designed to ensure adequate safety under normal and postulated accident conditions. This criterion specifies that such facilities be designed to include appropriate containment, confinement, and filtering systems.

Because it is necessary to move spent fuel within the spent fuel pool, and because damage to the fuel cladding could result in potential releases of radioactive gases and aerosols to the atmosphere, the SFPAVS design must include provisions for isolating the normal ventilation system and actuating the emergency filtration and adsorption system before radioactive airborne particles and gases reach the ventilation exhaust ducts. Guidance on the acceptable design of such systems is provided by Regulatory Guide 1.13, Position C.4, and Regulatory Guide 1.25 (which is referenced in Position C.4.)

Meeting the requirements of GDC 61 provides assurance that releases of radioactive materials during normal operation, anticipated operational occurrences, and postulated accidents will not result in radiation doses in excess of the limits specified in 10 CFR Part 20.⁴⁸

III. REVIEW PROCEDURES

The procedures below are used during the construction permit (CP) or standard design certification⁴⁹ 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 of this SRP section.

For the review of operating license (OL) or combined license (COL)⁵⁰ applications, the procedures are used 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~~ SAR.⁵¹

The procedures for OL or COL reviews include a determination that the proposed technical specifications prepared are in agreement with the requirements for system testing, minimum performance, and surveillance developed as a result of the staff's review.⁵²

The primary reviewer will coordinate this review with the other areas of review as stated in subsection I of this SRP section. The primary reviewer obtains and uses such inputs as required to ~~assure~~ ensure that this review procedure is complete.

As a result of various SFPAVS designs proposed by applicants, there will be variations in system requirements. For the purpose of this SRP section, a typical system is assumed which has fully redundant subsystems, each having an identical essential (safety features) portion. For cases where there are variations from this typical arrangement, the reviewer would adjust the review procedures given below. However, the system design would be required to meet the acceptance criteria given in subsection II ~~of this SRP section~~.⁵³ 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 verify that the system description section and piping and instrumentation diagrams (P&IDs) show the SFPAVS equipment used for normal operation and the ambient temperature limits for the area serviced. The system performance requirements section is reviewed to determine that it describes allowable component operational degradation (e.g., loss of cooling function, damper leakage) and describes the procedures that will be followed to detect and correct these conditions. The reviewer, using results from failure modes and effects analyses as appropriate, determines that the safety-related portion of the system is capable of functioning in spite of the loss of any active component.

The system review should also demonstrate conformance with applicable industry standards: ANSI/ANS-59.2-1985, "Safety Criteria for Nuclear Power Plant HVAC Systems Located Outside Primary Containment," and ANSI/ASME AG-1-1985, "Code on Nuclear Air and Gas Treatment."⁵⁴

2. The system P&IDs, layout drawings, and component descriptions and characteristics are then reviewed to determine that:
 - a. Essential portions of the SFPAVS are correctly identified and are isolable from nonessential portions of the system. The P&IDs are reviewed to verify that they

clearly indicate the physical divisions between such portions and indicate design classification changes. System drawings are also reviewed to verify that they show the means for accomplishing isolation, and the system description is reviewed to identify minimum performance requirements for the isolation dampers.

For the typical system, the drawings and description are reviewed to verify that two automatically operated isolation dampers in series separate nonessential portions and components from the essential portions. ~~The review for seismic design is performed by SEB and the review for quality group and seismic classification is performed by MEB as indicated in subsection I of this SRP section.~~⁵⁵

- b. Essential portions of the SFPAVS, including the isolation dampers separating essential from nonessential portions, are classified seismic Category I. Component and system descriptions in the SAR that identify mechanical and performance characteristics are reviewed to verify that the above classifications have been included, and that the P&IDs indicate any points of change in design classification.
 - c. Design provisions have been made that permit appropriate inservice inspection and functional testing of system components important to safety. Conformance with the industry standard ASTM D3803-89, "Standard Test Methods for Radiological Testing of Nuclear-Grade Gas-Phase Adsorbers," should be demonstrated.⁵⁶ It is acceptable if the SAR information delineates a testing and inspection program and if the system drawings show the necessary test recirculation loops around fans or isolation dampers that would be required by this program.
3. The reviewer verifies that the system has been designed so that system function will be maintained as required in the event of adverse environmental phenomena or loss of offsite power. The reviewer evaluates the system, using engineering judgment and failure modes and effects analyses, to determine that:
- a. The failure of nonessential portions of the systems or of other systems not designed to seismic Category I standards and located close to essential portions of the system, or of nonseismic Category I structures that house, support, or are close to essential portions of the SFPAVS, will not preclude operation of the essential portions of the SFPAVS. Reference to SAR sections describing site features and the general arrangement and layout drawings will be necessary, as well as the SAR tabulation of seismic design classifications for structures and systems. Statements in the SAR that verify that the above conditions are met are acceptable.⁵⁷
 - b. The essential portions of the SFPAVS are protected from the effects of floods, hurricanes, tornadoes, and internally and externally generated missiles. Flood protection and missile protection criteria are discussed and evaluated in detail in

~~the Section 3 series of the SRP Chapter 3.~~⁵⁸ The location and the design of the system, structures, and fan rooms (cubicles) are reviewed to determine that the degree of protection is adequate. A statement to the effect that the system is located in a seismic Category I structure that is tornado missile and flood protected, or that components of the system will be located in individual cubicles or rooms that will withstand the effects of both flooding and missiles, is acceptable.

- c. The total system has the capability to detect and control leakage of radioactive contamination from the system. It is acceptable if the following conditions are met:
 - (1) The capability for isolating nonessential portions of the SFPAVS by two automatically actuated dampers in series is shown in the P&IDs.
 - (2) The SFPAVS has provisions to filter radioactive contaminants from the spent fuel area by automatically isolating the normal ventilation system and actuating the emergency exhaust system before the first contaminated airborne particles and gases reach the normal ventilation exhaust ducts.
 - d. Components and subsystems necessary for preventing the release of radioactive contaminants can function as required in the event of loss of offsite power. The system design will be acceptable if the SFPAVS meets minimum system requirements as stated in the SAR assuming a failure of a single active component, within the system itself or in the auxiliary electric power source which supplies the system. The SAR is reviewed to see that for each SFPAVS component or subsystem affected by the loss of offsite power, the resulting system flow capacity will not cause the loss of preferred direction of⁵⁹ air flow from areas of low potential radioactivity to areas of higher potential radioactivity. Statements in the SAR and the results of failure modes and effects analyses are considered in verifying that the system meets these requirements. This will be an acceptable verification of system functional reliability.
4. The descriptive information, P&IDs, SFPAVS drawings, and failure modes and effects analyses in the SAR are reviewed to ~~assure~~ ensure that essential portions of the system can function following design basis accidents assuming a concurrent single active failure. The reviewer evaluates the analyses presented in the SAR to ~~assure~~ ensure function of required components, traces the availability of these components on system drawings, and checks that the SAR contains verification that minimum system isolation or filtration 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.⁶⁰

IV. EVALUATION FINDINGS

The reviewer verifies that sufficient information has been provided and that the⁶¹ review supports conclusions of the following type, to be included in the staff's safety evaluation report (SER):⁶²

The spent fuel pool area ventilation system (SFPavs) includes all components and ductwork from air intake to the point of discharge where the system connects to the gaseous cleanup and treatment system or station vents. All portions of the system whose failure may result in release of radioactivity which causes an offsite dose of more than 5 mSv (0.5 rem)⁶³ to the whole body or its equivalent to any part of the body shall be classified seismic Category I and safety related. Based on the review of the applicant's proposed design criteria, the design bases, and safety classification for the spent fuel pool area ventilation system and the requirements for system performance to prevent an unacceptable release of contaminants to the environment during normal, abnormal, and accident conditions, the staff concludes that the design of the spent fuel pool area ventilation system and supporting systems is acceptable and meets the Commission's regulations as set forth in General Design Criteria 2, 5, 60, and 61.

This conclusion is based on the following:

1. The applicant has met the requirements of GDC 2 with respect to the system being capable of withstanding the effects of earthquakes by meeting the guidelines of Regulatory Guide 1.29, "Seismic Design Classification,"⁶⁴ Position C.1 for safety-related portions of the system and Position C.2 for nonsafety-related portions of the system.
2. The applicant has met the requirements of GDC 5 with respect to the capability of shared systems and components important to safety to perform required safety functions since a single failure of any shared portion of the system will not affect the system's safety function for either unit.
3. The applicant has met the requirements of GDC 60 with respect to the capability of the system to suitably control release of gaseous radioactive effluents to the environment by meeting the guidelines of Regulatory Guide 1.52, Position C.2; and Regulatory Guide 1.140, Positions C.1 and C.2.
4. The applicant has met the requirements of GDC 61 with respect to the system's capability to provide appropriate containment, confinement, and filtering to limit releases of airborne radioactivity to the environment from the fuel storage facility under normal and postulated accident conditions by meeting the guidelines of Regulatory Guide 1.13, Position C.4.

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.⁶⁵

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 52.⁶⁶ 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.⁶⁷

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

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 5, "Sharing of Structures, Systems, and Components."
3. 10 CFR Part 50, Appendix A, General Design Criterion 60, "Control of Releases of Radioactive Materials to the Environment."
4. 10 CFR Part 50, Appendix A, General Design Criterion 61, "Fuel Storage and Handling and Radioactivity Control."
5. Regulatory Guide 1.13, "Fuel Storage Facility Design Basis."
6. Regulatory Guide 1.25, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors."⁶⁸
7. Regulatory Guide 1.29, "Seismic Design Classification."

8. Regulatory Guide 1.52, "Design, Testing, and Maintenance Criteria for Atmosphere Cleanup System Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants."
9. Regulatory Guide 1.140, "Design, Testing, and Maintenance Criteria for Normal Ventilation Exhaust System Air Filtration and Adsorption Units of Light-Water Cooled Nuclear Power Plants."

SRP Draft Section 9.4.2
Attachment A - Proposed Changes in Order of Occurrence

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

Item	Source	Description
1.	Current PRB name and abbreviation	Changed PRB to Plant Systems Branch (SPLB).
2.	Current SRB name and abbreviation	Added SRB, Emergency Preparedness and Radiation Protection Branch (PERB).
3.	SRP-UDP format item	Implemented Generic Issue B-3, "Event Categorization."
4.	Current PRB abbreviation	Changed PRB to SPLB.
5.	Editorial	Changed assure to ensure. (Global change for this section.)
6.	Editorial	Added reference to GDC 5 to be consistent with subsection II, ACCEPTANCE CRITERIA.
7.	Editorial	Added word for clarification.
8.	Current PRB abbreviation	Changed PRB to SPLB.
9.	Editorial	Changed to conform to SRP Section 9.4.1.
10.	Current PRB abbreviation	Changed PRB to SPLB.
11.	Current PRB abbreviation	Changed PRB to SPLB.
12.	Current PRB abbreviation	Changed PRB to SPLB.
13.	Editorial	Added clarifying phrase.
14.	Editorial	Defined "SRP" as "Standard Review Plan."
15.	Current PRB responsibility	Changed to reflect SPLB review responsibility for SRP Section 3.11.
16.	Current PRB responsibility	Changed to reflect SPLB review responsibility for SRP Section 6.5.1.
17.	Current PRB responsibility	Changed to reflect SPLB review responsibility for SRP Section 9.5.1.
18.	Current PRB responsibility	Changed to reflect SPLB review responsibility for SRP Section 11.3.
19.	SRP-UDP format item	Added "Review Interfaces" to AREAS OF REVIEW and organized in numbered paragraph form to describe how other SRP sections interface with SRP Section 9.4.2 and how other branches support the SPLB review.
20.	Current PRB abbreviation	Changed PRB to SPLB.
21.	Current PRB abbreviation	Changed PRB to SPLB.

SRP Draft Section 9.4.2
Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
22.	Current review branch responsibility	Changed to reflect HICB review responsibility for SRP Section 7.7.
23.	Current review branch responsibility	Changed to reflect EELB review responsibility for SRP Section 8.3.1.
24.	Current review branch responsibility	Changed to reflect ECGB 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.
25.	Current review branch responsibility	Changed to reflect EMEB review responsibility for SRP Sections 3.9.1 through 3.9.3.
26.	Current review branch responsibility	Changed to reflect EMEB review responsibility for SRP Sections 3.2.1 and 3.2.2.
27.	Current review branch responsibility	Changed to reflect EMEB review responsibility for SRP Section 3.9.6.
28.	Current review branch responsibility	Changed to reflect ECGB review responsibility for SRP Section 6.6.
29.	Current SRB review responsibility	Changed to reflect PERB review responsibility for SRP Section 12.3.
30.	Current PRB and review branch review responsibility	Deleted to move review responsibility of EMEB for SRP Section 3.10 and SPLB for SRP Sections 3.11 elsewhere.
31.	Current review branch responsibility	Changed to reflect EMEB review responsibility for SRP Section 3.10.
32.	Current review branch responsibility	Changed to reflect PERB review responsibility for SRP Section 15.7.4.
33.	Current SRB review responsibility	The HICB is currently responsible (secondary) for SRP Section 3.11. Reordered subsequent paragraphs.
34.	Current SRB review responsibility	Changed to reflect PERB review responsibility for SRP Section 11.5.
35.	Current review branch names and responsibilities	Deleted to move review responsibility of SPLB for SRP Section 9.5.1, TSB for SRP Section 16.0, and HQMB for SRP Chapter 17.0 elsewhere.
36.	Current review branch responsibility	Changed to reflect TSB review responsibility for SRP Section 16.0.
37.	Current review branch responsibility	Changed to reflect HQMB review responsibility for SRP Section 17.0.
38.	Editorial	Added title and abbreviation of GDC 2.
39.	Editorial	Added title and abbreviation of GDC 5.
40.	Editorial	Added title and abbreviation of GDC 60.

SRP Draft Section 9.4.2
Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
41.	Editorial	Added title and abbreviation of GDC 61.
42.	SRP-UDP format item	Added "Technical Rationale" to ACCEPTANCE CRITERIA to describe the bases for referencing the General Design Criteria.
43.	SRP-UDP format item	Added lead-in sentence for "Technical Rationale."
44.	Conversion to SI units	Added metric units for 0.5 rem.
45.	SRP-UDP format item	Added technical rationale for GDC 2.
46.	SRP-UDP format item	Added technical rationale for GDC 5.
47.	SRP-UDP format item	Added technical rationale for GDC 60.
48.	SRP-UDP format item	Added technical rationale for GDC 61.
49.	SRP-UDP format item	Added reference to standard design certification review per 10 CFR Part 52.
50.	SRP-UDP format item	Added reference to combined license (COL) review per 10 CFR Part 52.
51.	Editorial	Changed "safety analysis report" to "SAR," which had previously been defined.
52.	Editorial	Added reference to technical specifications to conform with SRP Sections 9.4.3 and 9.4.4.
53.	Editorial	Revised to conform to SRP Sections 9.4.1, 9.4.3, and 9.4.4.
54.	Integrated Impact # 1405	Added reference to industry standards ANSI/ANS 59.2 and ASME Code AG-1 to REVIEW PROCEDURES.
55.	Editorial	Deleted sentence. Reference to review branch review responsibilities is covered under AREAS OF REVIEW.
56.	Integrated Impact # 1405	Added reference to industry standard ASTM D3803 to REVIEW PROCEDURES.
57.	Editorial	Added to conform to SRP Sections 9.4.1, 9.4.3 and 9.4.4.
58.	Editorial	Modified to improve clarity.
59.	Editorial	Added to conform to SRP Sections 9.4.3 and 9.4.4.
60.	SRP-UDP format item	Added reference to design certification reviews.
61.	Editorial	Modified to eliminate gender-specific reference.
62.	Editorial	Provided "SER" as initialism for "safety evaluation report."
63.	Conversion to SI units	Added metric units for 0.5 rem.

SRP Draft Section 9.4.2
Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
64.	Editorial	Added title of Regulatory Guide 1.29.
65.	SRP-UDP format item	Added reference to design certification reviews.
66.	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.
67.	SRP-UDP Guidance	Added standard paragraph to indicate applicability of this section to reviews of future applications.
68.	SRP-UDP format item	Added Regulatory Guide 1.25 to REFERENCES because Regulatory Guide 1.25 is referenced in Position C.4 of Regulatory Guide 1.13.

SRP Draft Section 9.4.2
Attachment B - Cross Reference of Integrated Impacts

Integrated Impact No.	Issue	SRP Subsections Affected
1405	Revise REVIEW PROCEDURES to include conformance with ANSI/ANS 59.2-1985, ANSI/ASME AG-1-1985, and ASTM D3803-89.	Subsection III, REVIEW PROCEDURES, paragraph 1 Subsection III, REVIEW PROCEDURES, paragraph 2.c