U.S. NUCLEAR REGULATORY COMMISSION

STANDARD REVIEW PLAN

OFFICE OF NUCLEAR REACTOR REGULATION

2.4.8 COOLING WATER CANALS AND RESERVOIRS

REVIEW RESPONSIBILITY

Primary - ~~Hydrologic & Geotechnical Engineering Branch (HGEB)~~Civil Engineering and Geosciences Branch (ECGB)[1]

Secondary - None

I. AREAS OF REVIEW

This section of the applicants safety analysis report (SAR) presents the basis for the hydraulic design of canals and reservoirs used to transport and impound plant cooling water. The ECGB review of the cooling water and canals includes the following:

1. Review of the hydraulic design basis for protection of structures (e.g., riprap);

2. Review of canals for the design basis for capacity, protection against wind waves, erosion, sedimentation buildup, and freeboard, and (where applicable) the ability to withstand a probable maximum flood (PMF), surges, etc.; and

3. Review of reservoirs, for the design basis for capacity, PMF design basis, wind wave and runup protection, discharge facilities (low-level outlet, spillway, etc.), outlet protection, freeboard, and erosion and sedimentation processes.

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.

II. ACCEPTANCE CRITERIA

Acceptance criteria for this Standard Review Plan (SRP)[2] section relate to the following regulations:

~~1. 10 CFR Part 50, 50.55a requires structures, systems, and components to be designed and constructed to quality standards commensurate with the importance of the safety function to be performed.~~

1. General Design Criterion 1 (GDC 1) requires that structures, systems, and components important to safety be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed.[3]

2. General Design Criterion 2 (GDC 2) requires structures, systems, and components important to safety to be designed to withstand the effects of natural phenomena such as hurricanes, floods, tsunami, and seiches without loss of capability to perform their intended safety functions.[4]

3. General Design Criterion 44 (GDC 44) requires an ultimate heat sink capable of accepting the plant's heat load under normal and accident conditions.

4. 10 CFR Part 100 requires that hydrologic characteristics be considered in the evaluation of the site.

To meet the requirements of ~~10 CFR Part 50, 50.55a~~GDC 1,[5] GDC 2, GDC 44, and 10 CFR Part 100 as they relate to cooling water canals and reservoirs, the following specific criteria are used:

1. The acceptance criteria for the protection of cooling water canals from wind waves, PMF, surges, etc., are the same as those outlined in SRP Sections 2.4.3, 2.4.4, 2.4.5, 2.4.6, and 2.4.7. The criterion for canal capacity is that the canal must be capable of transmitting to the plant sufficient water to meet all safety requirements during postulated extreme hydrologic events (i.e., both floods and droughts). Where canals comprise a part of the ultimate heat sink, Regulatory Guide 1.27 is used as a basis for the adequacy of design criteria and provisions. The design basis for canal capacity is analyzed to ~~assure~~ensure[6] that safety- related water requirements can be supplied under all postulated extreme hydrologic events, or that alternative conveyance systems are designed to be available during the postulated conditions.

2. The acceptance criteria for the hydraulic design of dams and reservoirs are as follows:

   a. For protection of structures against wind waves, input from SAR Sections 2.4.3, 2.4.4, 2.4.5, and 2.4.6 for PMF, probable maximum hurricane (PMH), other dam failures, surge, seiche, or tsunami levels and coincident waves and runup must be considered to establish the maximum and minimum water level and wave conditions. Also, normal pool level and coincident probable maximum wind-wave activity must be considered. Criteria and methods as reported in Corps of Engineers publications are generally acceptable for design of

embankment protection (riprap, grass, soil cement, tetrapods, dolosse, etc.) and freeboard.

b. For protection of structures from ice effects such as extreme forces on structures and components, ice blockages of spillways, and interruption of cooling water supply, input from SAR Section 2.4.7 is considered.

c. For emergency storage evacuation, the spillways are acceptable if they can safely pass the PMF, or controlling design basis flood, with antecedent or coincident conditions as discussed in Regulatory Guide 1.59, without endangering safety-related facilities or increasing the hazard to downstream residents. Model tests may be required for unusual spillway designs. Regulatory Guide 1.125 provides guidance in the use and evaluation of physical models. In addition, a low-level outlet may be necessary to evacuate the storage in an emergency.

d. For reservoir routings, the maximum still water level is acceptable if the spillway design flood has been routed through the spillway (and outlet works, if applicable) using standard methods as suggested by the Corps of Engineers, U.S. Bureau of Reclamation (USBR),[7] and others, and a minimum of three feet of freeboard (including waves) is available. However, the antecedent reservoir level to be used with the flood routing must be at least as high as that suggested by Regulatory Guide 1.59.

e. The probable minimum low water level is acceptable if the flow during the design basis drought (from SAR Section 2.4.11) has been routed through the reservoir[1] using standard methods as suggested by the Corps of Engineers, USBR, and others. The antecedent reservoir level for this routing, if reservoir storage is the sole water supply source, must be the lowest reasonably possible, considering regional conditions at the beginning of the drought and water demands, including plant requirements. In no case should the antecedent reservoir level be greater than the established normal operating level.

f. Where not covered above, the hydraulic design for the low-level outlets, conduits, spillways (gated and ungated, regulating and emergency), and embankment protection is required where the failure of such items could constitute a threat to essential plant facilities or to safety-related water supplies. The design is acceptable if standard techniques have been used as suggested by the Corps of Engineers, USBR, and others such that the minimum design water level for safety-related pumps would not be violated.

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[1] For those plants proposing multiple reservoirs for water supply, analyses must be provided to assure that storage allocated for safety-related water supply in alternate reservoirs will be available during postulated drought conditions. In addition, evidence of the right to use the water consumptively must be documented.

g. If reservoirs comprise a part of the ultimate heat sink, Regulatory Guide 1.27 is used as a basis for judging the adequacy of the design criteria and provisions.

3. Applicable portions of the following documents are to be used to determine the acceptability of the applicant's data and analyses. Regulatory Guide 1.59 discusses the design basis for flooding. Regulatory Guide 1.29 identifies the safety-related structures, systems, and components and Regulatory Guide 1.102 describes acceptable flood protection to prevent the safety-related facilities from being adversely affected. Regulatory Guide 1.27 describes design criteria and provisions which the ultimate heat sink must meet. Regulatory Guide 1.125 provides guidance on the use of physical models of hydraulic structures. Publications of the Corps of Engineers and USBR provide guidance for canal and reservoir design criteria. SRP Sections 2.4.3 through 2.4.7 provide basic hydrologic data for analyzing the hydraulic design of canals and reservoirs.

Technical Rationale[8]

The technical rationale for application of these acceptance criteria is discussed in the following paragraphs:[9]

1. Compliance with GDC 1 requires that structures, systems, and components important to safety be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed.

   GDC 1 applies to this SRP section because canals and reservoirs supply cooling water to structures, systems, and components important to safety for use during normal operations, anticipated operational occurrences, and accident conditions.

   Meeting the requirements of GDC 1 provides assurance that safety-related structures, systems, and components requiring cooling water will not lose the capability to perform their intended safety functions during the most severe credible natural phenomena in combination with normal operations, anticipated operational occurrences, or accident conditions.[10]

2. Compliance with GDC 2 requires that nuclear power plant structures, systems, and components important to safety be designed to withstand the effects of natural phenomena such as hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions. This criterion further specifies that the design bases for these structures, systems, and components shall reflect the following:

   a. Appropriate consideration of the most severe natural phenomena historically reported for the site and surrounding area, with sufficient margin for the limited accuracy, quantity, and period of time in which the historical data have been accumulated;

   b. Appropriate combinations of the effects of normal and accident conditions with those of the natural phenomena; and

c. The importance of the safety functions to be performed.

The design function of cooling water canals and reservoirs is to provide adequate cooling water to safety-related components of the emergency core cooling system and to reactor auxiliary equipment during normal operations, anticipated operational occurrences, and accident conditions. Compliance with GDC 2 ensures that cooling water canals and reservoirs will perform their design safety functions while withstanding the effects of the most severe natural phenomena likely to occur (including floods and droughts) in combination with normal operations, anticipated operational occurrences, or accident conditions.

Meeting the requirements of GDC 2 provides assurance that safety-related structures, systems, and components requiring cooling water will not lose the capability to perform their intended safety functions during the most severe credible natural phenomena in combination with normal operations, anticipated operational occurrences, or accident conditions.[11]

3. Compliance with GDC 44 requires a system for transferring heat from structures, systems, and components important to safety to an ultimate heat sink during normal operations, anticipated operational occurrences, and accident conditions.

GDC 44 applies to this SRP section because the ultimate heat sink for the cooling water system consists of complex water sources, including canals and reservoirs necessary to transport and impound plant cooling water. The design function of cooling water canals and reservoirs is to provide adequate cooling water to service or component cooling water systems so that plant components required to maintain adequate core cooling remain functional during normal operations, anticipated operational occurrences, and accident conditions.

Meeting the requirements of GDC 44 provides assurance that cooling water canals and reservoirs will be designed to supply adequate cooling water during normal operations, anticipated operational occurrences, and accident conditions, thereby protecting against loss of core cooling.[12]

4. 10 CFR Part 100 requires that hydrologic characteristics be considered in the evaluation of a nuclear power plant site. Appendix A to Part 100 addresses the need to consider an adequate cooling water supply for emergency and shutdown decay heat removal in the design of a nuclear power plant. The evaluation shall include consideration of river blockage or diversion, tsunami runup or drawdown, and failure of dams and intake structures, as appropriate.

In accordance with 10 CFR Part 100, Appendix A, cooling water canals and reservoirs must be designed to withstand the effects of the most severe hydrological phenomena noted in the previous paragraph. The function of the canal and reservoir is to provide adequate cooling water to safety-related components of the emergency core cooling system and to reactor auxiliary equipment during normal operations, anticipated operational occurrences, and accident conditions.

Meeting the requirements of 10 CFR Part 100 provides assurance that canals and reservoirs will be designed to withstand appropriately severe phenomena and remain capable of providing an adequate supply of cooling water to those structures, systems, and components important to safety during normal operations, anticipated operational occurrences, and accident conditions.[13]

III. REVIEW PROCEDURES

The conservatism of the applicant's design basis is judged against the criteria indicated above. SAR Sections 2.4.3, 2.4.4, 2.4.5, 2.4.6, and 2.4.7 should provide the basic data for analyzing the high flow hydraulic design basis of the facility. The applicant's hydraulic design basis is judged against standard design practices discussed in Corps of Engineers (Waterway Experiment Station) or USBR publications. Low flow input data are taken from SAR Section 2.4.11. The review procedures consist of independently "designing" (hydrologically and hydraulically) the applicant's facilities (e.g., dams, canals, spillways) using the above methods and comparing the resultant "design" with the applicant's. Wave and runup protection is evaluated using the methods of References 25 and 26. Subsequently, the staff will develop a position based on the analyses; resolve, if possible, differences between the applicant's and staff's design bases; and prepare the safety evaluation report (SER)[14] input accordingly.

~~The above reviews are performed only when applicable to the plant. Some items of review may be done on a generic basis.~~[15]

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.[16]

IV. EVALUATION FINDINGS

For construction permit (CP) or COL[17] reviews, the findings will consist of a statement of the applicant and staff estimates of the type and adequacy of required structure protection and the hydraulic design basis of canals and reservoirs.

Because of the advanced design required for the CP and where the design has received a detailed review at the CP stage, the operating license (OL) findings will only be an acknowledgement of any changes and a statement of acceptability. If a design or flooding potential was not reviewed in detail at the CP stage, it will be done at the OL stage. In the case of a COL review, a detailed evaluation of the acceptability of the applicant's proposed design will be done only once.[18]

Sample statements ~~from CP~~for CP or COL[19] reviews follow:

1.[20] The staff concludes that the auxiliary and main dams meet the requirements of ~~10 CFR Part 50, 50.55a~~General Design Criterion 1 and General Design Criterion 2 with respect to hydrologic and hydraulic design and are therefore acceptable. This is based on the following evaluation.

2. Although postulated flood waters are not expected to reach plant grade, protection of the essential auxiliary and main dams against their respective probable maximum floods is to be provided by riprap protection of exposed embankment surfaces (including areas in the plant site vicinity along the auxiliary reservoir intake channel) and concrete overflow spillways. At ~~our~~the staff's[21] request, the applicant provided design bases for riprap protection and the hydraulic design criteria for the two spillways. The applicant at ~~our~~the staff's[22] request, in Amendment No. 31 to the PSAR, provided criteria for the windwave riprap protection based upon an empirical relationship for the median size stone to be placed in a blanket approximately two feet thick and indicated its specifications for stone gradation. A filter blanket approximately one foot thick is to be placed under the riprap to prevent piping (removal of smaller material) through the larger armor riprap cover layer. Criteria were provided for the filter gradation, angularity, durability of the riprap, and placement which provides assurance that erosive failure of safety-related embankments should not occur. An armor protection layer also is provided. ~~We~~The staff[23] finds these riprap design bases and spillway hydraulic design criteria to be acceptable.

3. The staff concludes that the hydrologic aspects of the design of the reservoir system meets the requirements of General Design Criterion 44 and 10 CFR Part 100 and is therefore acceptable. This conclusion is based on the following evaluation.

4. Storage in the three reservoir system, runoff from the contributing drainage area, and diversion of A River flows to the main reservoir during periods of low runoff and high reservoir evaporation will constitute the water supply for the four-unit once-through cooling systems.

5. The applicant has provided analyses of the capability of the main and auxiliary reservoirs to supply water during emergency conditions requiring emergency shutdown and cooldown of one unit and the simultaneous normal shutdown and cooldown of the remaining three units as suggested in Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Power Plants." In addition, the applicant has provided analyses of the operation of the plant and the main reservoir under historical and a synthesized 100-year drought condition. For the shutdown conditions, the applicant has demonstrated that the two reservoir-A River diversion system constituting the ultimate heat sink would have a water supply available in excess of 30 days in the auxiliary reservoir if water were not available from the main reservoir-auxiliary reservoir-A River diversion facilities. The operation of the sink as a whole will require that the auxiliary reservoir be kept at its normal operating level of elevation 76.2 meters(250 feet)[24] MSL at all times by pumping water from the main reservoir to make up for water lost to normal evaporation. For the analyses of evaporation under normal plant operation during periods of assumed recurrence of historical droughts, the applicant has used historical flow records for the A River and synthesized flow data for the drainage area contiguous to the reservoir system.

6. For the analysis of evaporation during a more extreme drought than has occurred historically, the applicant has synthesized flows from both the A River and the contiguous drainage areas for what is called a 100-year frequency drought. The staff, in consonance with our consultant (the U.S. Geological Survey), independently developed and analyzed synthesized flows from both drainage areas. ~~We~~The staff[25] concluded that it is likely that flows from both areas could be substantially less than estimated by the applicant. The applicant is installing a streamflow gage near the plant to determine runoff characteristics from the contiguous drainage which should allow more accurate analysis of the operating capability of the reservoir system prior to plant operation. Inaccuracies in estimation of runoff are considered to be only indirectly safety related since an adequate shutdown and cooldown water supply will be available in the auxiliary reservoir should evaporation and the lack of runoff prevent replenishment of main reservoir storage above the minimum operating level of elevation 74.4 meters (244 feet)[26] MSL.

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.[27]

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.[28] 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.[29]

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, 50.55a, "Codes and Standards."~~10 CFR Part 50, Appendix A, General Design Criterion 1, "Quality Standards and Records."[30]

2. 10 CFR Part 50, Appendix A, General Design Criterion 2, "Design Bases for Protection Against Natural Phenomena."

3. 10 CFR Part 50, Appendix A, General Design Criterion 44, "Cooling Water."

4. 10 CFR Part 100, "Reactor Site Criteria."

5. ANSI N170-1976[31], "Standards for Determining Design Basis Flooding at Power Reactor Sites "

6. Am. Soc. Civil Engineers, "Hydraulic Models," Manual of Engineering Practice No. 25 (1963).

7. Leo R. Beard, "Flood Control Operation of Reservoirs," Jour. Hydraulic Division, Proc. Am. Soc. Civil Engineers, Vol. 88, No. HYI, pp. 1-25 (1963).

8. Leo R. Beard, "Methods for Determination of Safe Yield and Compensation Water from Storage, "Seventh International Water Supply Conference, Barcelona, Spain (1966).

9. E. F. Brater and H. W. King, "Handbook of Hydraulics for the Solution of Hydrostatic and Fluid-Flow Problems," McGraw-Hill Book Company, New York (1963).

10. V. T. Chow (ed.), "Handbook of Applied Hydrology," McGraw-Hill Book Company, New York (1964).

11. V. T. Chow (ed.), "Open Channel Hydraulics," McGraw-Hill Book Company, New York (1959).

12. C. V. Davis (ed.), "Handbook of Applied Hydraulics," McGraw-Hill Book Company, New York (1964).

13. G. W. Fair, J. C. Geyer, and D. A. Okien, "Water Supply and Waste Water Removal," John Wiley & Son, Inc., New York (1966).

14. G. A. Hathaway, "Determination of Spillway Requirements for High Dams," Proc. Fourth International Conference on Large Dams, New Delhi, Vol. 2, pp. 301-347 (1951).

15. H. W. King and E. F. Brater, "Handbook of Hydraulics," McGraw-Hill Book Company, New York (1963).

16. R. K. Linsley and J. B. Franzini, "Water-Resources Engineering," McGraw-Hill Book Company, New York (1964).

17. H. Rouse (ed.), "Engineering Hydraulics," John Wiley & Son, Inc., New York (1951).

18. "Hydraulic Design Criteria," prepared by the Corps of Engineers Waterways Experiment Station, loose-leaf by serials.

19. "Hydraulic Design of Flood Control Channels," Engineer Manual 1110-2-1601, Corps of Engineers, July 1970.

20. Hydraulic Design of Spillways," Engineer Manual 1110-2-1603, Corps of Engineers, March 1965

21. "Hydraulic Tables," Corps of Engineers (1944).

22. "Hydrologic Engineering Methods for Water Resources Development,"Volumes 1 through 12, Corps of Engineers Hydrologic Engineering Center, Davis, California (1971).

23. "Reservoir Regulation," Engineer Manual 1110-2-3600, Corps of Engineers, May 1959.

24. "Reservoir Storage-Yield Procedures," Corps of Engineers Hydrologic Engineering Center, Davis, CA (1967).

25. "Shore Protection Manual," Technical Report No. 4, Third Edition, Corps of Engineers Coastal Engineering Research Center (1966).

26. "Shore Protection Manual," Corps of Engineers Coastal Engineering Research Center (1977).

27. Hydraulic Model Studies of the Corps of Engineers Waterways Experiment Station.[2]

28. "Design of Small Dams," Second Edition, Bureau of Reclamation, U.S. Department of the Interior (1973).

29. "Design Standards No. 3, Canals and Related Structures, "Chapter 2 of "General Design Information for Structures," Bureau of Reclamation, U.S. Department of the Interior, April 1962.

30. "Hydraulic Model Studies"[2] of the Bureau of Reclamation, U.S. Department of the Interior.

31. "Hydraulic Model Studies"[2] of the Dept. of Water Resources, State of California.

32. ETL 1110-2-221, "Wave Runup and Wind Setup on Reservoir Embankments, "Department of the Army, Corps of Engineers, November 29, 1976.

33. Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants."

34. Regulatory Guide 1.59, "Flood Design Basis for Nuclear Power Plants."

35. Regulatory Guide 1.29, "Seismic Design Classification."

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[2] A series of such studies exists in the literature too numerous to mention here. In addition to the three specifically cited series, studies by others will be utilized on an "as-available" basis.

36. Regulatory Guide 1.102, "Flood Protection for Nuclear Power Plants."

37. Regulatory Guide 1.125, "Physical Models for Design and Operation of Hydraulic Structures and Systems for Nuclear Power Plants."

38. Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Power Plants."[32]

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SRP Draft Section 2.4.8
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 Civil Engineering and Geosciences Branch (ECGB).
2.	Editorial	Defined "SRP" as "Standard Review Plan."
3.	SRP-UDP format item	GDC 1 is the more appropriate quality umbrella because 10 CFR 50.55a relates to codes and standards for pumps, pipes and valves, etc.
4.	SRP-UDP format item	Expanded GDC 2 for consistency with subsection II.2.a.
5.	SRP-UDP format item	Changed 10 CFR 50.55a to be consistent with change No. 2 above (global change for this section).
6.	Editorial	Changed "assure" to "ensure."
7.	Editorial	Added title for USBR.
8.	SRP-UDP format item	Added "Technical Rationale" added to ACCEPTANCE CRITERIA and organized into numbered paragraph form to describe the basis for referring to the General Design Criteria and the Code of Federal Regulations.
9.	SRP-UDP format item	Added lead-in sentence for "Technical Rationale."
10.	SRP-UDP format item	Added technical rationale for GDC 1.
11.	SRP-UDP format item	Added technical rationale for GDC 2.
12.	SRP-UDP format item	Added technical rationale for GDC 44.
13.	SRP-UDP format item	Added technical rationale for 10 CFR Part 100.
14.	Editorial	Defined "SER" as "safety evaluation report."
15.	Editorial	Deleted because it didn't make sense.
16.	SRP-UDP Guidance, Implementation of 10 CFR 52	Added standard paragraph to address application of Review Procedures in design certification reviews.
17.	SRP-UDP format item	Added "or COL" to accommodate 10 CFR 50 Part 52.
18.	SRP-UDP format item	Added reference to COL review per 10 CFR 50 Part 52.
19.	SRP-UDP format item	Added reference to CP and COL review per 10 CFR 50 Part 52.
20.	Editorial	Numbered paragraphs for consistency with other subsections.
21.	Editorial	Replaced "our" with "the staff's."

Item	Source	Description
22.	Editorial	Replaced "our" with "the staff's."
23.	Editorial	Replaced "We" with "The staff."
24.	SRP-UDP format item	Converted feet to meters.
25.	Editorial	Replaced "We" with " The staff."
26.	SRP-UDP format item	Converted feet to meters.
27.	SRP-UDP Format Item, Implement 10 CFR 52 Related Changes	To address design certification reviews a new paragraph was added to the end of the Evaluation Findings. This paragraph addresses design certification specific items including ITAAC, DAC, site interface requirements, and combined license action items.
28.	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.
29.	SRP-UDP Guidance	Added standard paragraph to indicate applicability of this section to reviews of future applications.
30.	SRP-UDP format item	Replaced 10 CFR 50.55a with GDC 1.
31.	**Integrated Impact 1467**	Added the applicable version date to the reference for ANSI N170.
32.	SRP-UDP format item	Added RG 1.27 to references since it was cited in text.

SRP Draft Section 2.4.8

Attachment B - Cross Reference of Integrated Impacts

Integrated Impact No.	Issue	SRP Subsections Affected
644	SRP Section 2.4.8 cites ANSI N170 with no date specified. Consider updating the citation to reflect the latest version of the standard.	This is a placeholder integrated impact and will not be processed further.
1467	Update the citation of ANSI N170 to cite the 1976 version.	Subsection VI