U.S. NUCLEAR REGULATORY COMMISSION

STANDARD REVIEW PLAN

OFFICE OF NUCLEAR REACTOR REGULATION

2.4.2 FLOODS

REVIEW RESPONSIBILITIES

Primary - ~~Structural & Geosciences Branch (ESGB)~~Civil Engineering and Geosciences Branch (ECGB)[1]

Secondary - None

I. AREAS OF REVIEW

This section of the safety analysis report (SAR) identifies historical flooding (defined as occurrences of abnormally high water stage or overflow from a stream, floodway, lake, or coastal area) at the proposed site or in the region of the site. It summarizes and identifies the individual types of flood-producing phenomena, and combinations of flood-producing phenomena, considered in establishing the flood design bases for safety-related plant features. It also covers the potential effects of local intense precipitation. Although topical information may appear in SAR Sections 2.4.3 through 2.4.7, the types of events considered and the controlling event are reviewed in this section.

The flood history and the potential for flooding are reviewed for the following sources and events. Factors affecting potential runoff (such as urbanization, forest fire, or change in agricultural use), erosion, and sediment deposition are considered in the review.

1. Stream flooding

    a. Probable maximum flood (PMF) with coincident wind-induced waves, considering dam failure potential due to inadequate capacity, inadequate flood-discharge capability, or existing physical condition.

b. Ice jams, both independently and coincident with a winter probable maximum storm.

c. Tributary drainage area PMF potential.

d. Combinations of less severe river floods, coincident with surges and seiches.

2. Surges

a. Probable maximum hurricane (PMH) at coastal sites.

b. PMH wind translated inland and resulting wave action coincident with runoff-induced flood levels.

c. Probable maximum wind-induced (non-hurricane) storm surges and waves.

d. Combinations of less severe surges, coincident with runoff floods.

3. Seiches

a. Meteorologically induced in inland lakes (e.g., Great Lakes and harbors) and at coastal harbors and embayments.

b. Seismically induced in inland lakes.

c. Seismically induced by tsunami (seismic sea waves) on coastal embayments.

d. Combinations of less severe surges and seiches, coincident with runoff floods.

4. Tsunami

a. Near field, or local, excitation.

b. Far field, or distant, excitation.

5. Seismically induced dam failures (or breaches) and maximum water level at site from:

a. Failure of dam (or dams) during safe shutdown earthquake (SSE) coincident with 25-year flood.

b. Failure during operating basis earthquake (OBE)[2] coincident with standard project flood (SPF).

c. Failure during other earthquakes, coincident with runoff, surge, or seiche floods where the coincidence is at least as likely as for 5.a and 5.b above.

6. Flooding caused by landslides

   a. Flood waves.

   b. Backwater effects due to stream blockage.

7. Ice loadings from water bodies

For design certification reviews, the maximum flood level specified in the site parameter envelope that must be met by the plant design is reviewed.[3]

Review Interfaces[4]

The ECGB also reviews, under SRP Section 2.3.6 (proposed), the adequacy of the site parameter envelope specified in standard design certification applications.[5]

II. ACCEPTANCE CRITERIA

Acceptance criteria for this ~~SRP~~ Standard Review Plan (SRP)[6] section relate to the following regulations:

1. General Design Criterion 2 (GDC 2) as it relates to structures, systems, and components important to safety being designed to withstand the effects of hurricanes, floods, tsunami, seiches.

2. 10 CFR Part 100 as it relates to identifying and evaluating hydrologic features of the site.

To meet the requirements of the hydrologic aspects of GDC 2 and 10 CFR Part 100, the following specific criteria are used:

For SAR Section 2.4.2.1 (Flood History): The potential flood sources and flood response characteristics identified by the staff's review (described in Review Procedures) are compared to those of the applicant. If similar, the applicant's conclusions are accepted. If, in the staff's opinion, significant discrepancies exist, the applicant will be requested to provide additional data, reestimate the effects on the plant, or revise the applicable flood design bases, as appropriate.

For SAR Section 2.4.2.2 (Flood Design Considerations): The applicant's estimate of controlling flood levels is acceptable if it is no more than 5% less conservative than the staff's independently determined (or verified) estimate. If the applicant's SAR estimate is more than 5% less conservative, the applicant should fully document and justify its estimate of the controlling level. On the other hand, the applicant may accept the staff's estimate and redesign applicable flood protection.

For SAR Section 2.4.2.3 (Effects of Local Intense Precipitation): The applicant's estimates of local probable maximum precipitation (PMP) and the capacity of site drainage facilities (including drainage from the roofs of buildings and site ponding) are

acceptable if the estimates are no more than 5% less conservative than the corresponding staff's assessment. Similarly, conclusions relating to the potential for any adverse effects of blockage of site drainage facilities by debris, ice, or snow should be based upon conservative assumptions of storm and vegetation conditions likely to exist during storm periods. If a potential hazard does exist (e.g., the elevation of ponding exceeds the elevation of plant access openings), the applicant should document and justify his local PMP basis and analysis and redesign any affected facilities.

Appropriate sections of the following documents are used by the staff to determine the acceptability of the applicant's data and analyses in meeting the requirements of GDC 2 and 10 CFR Part 100. Regulatory Guide 1.59[7] provides guidance for estimating the design basis for flooding considering the worst single phenomenon and combinations of less severe phenomena. 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. Publications of the U.S. Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA), Soil Conservation Service (SCS), Corps of Engineers, applicable State and river basin authorities, and other similar agencies are used to verify the applicant's data relating to hydrologic characteristics and extreme events in the region. SRP Sections 2.4.3 through 2.4.7 discuss methods of analysis to determine the individual flood-producing phenomena.

Technical Rationale[8]

The technical rationale for application of acceptance criteria to the review of a hydrologic description of a nuclear power plant site is discussed in the following paragraphs:[9]

1. 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 earthquake, tornado, hurricane, flood, tsunami, and seiche without loss of capability to perform their safety functions. The 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 time period in which the historical data have been accumulated;

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

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

   The first specification was adopted in recognition of the relatively short history available for severe natural phenomena (e.g., floods) on the North American continent and, when based on probabilistic considerations only, the potential for underestimating the severity of such events. This problem can be avoided by using a deterministic approach to assess

design basis events. Such an approach will account for the practical physical limitations of natural phenomena that contribute to the severity of a given event.

This criterion is applicable to SRP Section 2.4.2 in that it specifies the hydrologic phenomenon (i.e., flooding) addressed in this section. In general terms, it also specifies the level of conservatism that must be used to assess the severity of the flood for the purpose of determining the design bases for the structures, systems, and components important to safety.

Meeting the requirements of this criterion provides a level of assurance that structures, systems, and components important to safety have been designed to withstand the most severe flood likely to occur.[10]

2. Section 100.10(c) of 10 CFR Part 100 requires that the site's physical characteristics (including seismology, meteorology, geology, and hydrology) be taken into account when determining its acceptability for a nuclear power reactor.

To satisfy the hydrologic requirements of 10 CFR Part 100, the applicant's SAR must contain a description of the surface and subsurface hydrologic characteristics of the site and region and an analysis of the PMF. This description must be sufficient to assess the acceptability of the site and to assess the potential for those characteristics to influence the design of plant structures, systems, and components important to safety.

Meeting this requirement provides a level of assurance that plant structures, systems, and components important to safety are designed to withstand appropriately severe hydrologic phenomena.[11]

III. REVIEW PROCEDURES

Construction permit (CP) stage reviews are carried out under this SRP section to evaluate the significance of the controlling flood level with regard to the plant design basis for flood protection. At the operating license (OL) stage, a brief review is carried out to determine if new information has become available since the CP review and to evaluate the significance of the new information with regard to the plant design basis for flood protection. New information might arise, for instance, from the occurrence of a new maximum flood of record in the site region, from identification of a source of major flooding not previously considered, from construction of new dams, from flood plain encroachments, or from advances in predictive models and analytical techniques. If the CP stage evaluation of flooding potential has been carefully done, all sources of major flooding should have been considered and any new floods of record should fall well within the design basis. Improvements in calculational methods may occur, but generally will be concerned with increased accuracy in stream flow and water level predictions rather than with substantive changes in the flows and levels predicted. Where the OL review reveals that the controlling flood level differs more than 5% less conservatively from the CP evaluation, any supplemental provisions needed in the flood protection design basis should be directed toward early warning measures and procedures for ensuring safe shutdown of the plant or toward minor structural modification to accommodate the design flood level.

For standard design certification reviews, site-related parameters, including limiting water level due to all sources of flooding, should be identified in the site parameter envelope. The specified value should be representative of credible, bounding characteristics. The reviewer verifies that the flood level specified in the site parameter envelope is consistent with the acceptance criteria given in subsection II of this SRP section.

For an application referencing a certified standard design, the reviewer verifies that historical data are consistent with the flood level specified in the site parameter envelope for the certified design.

Requirements and procedures governing issuance of early site permits for approval of proposed sites for nuclear power facilities are specified in 10 CFR Part 52. Information required for such a permit includes a description of the site's flood-related hydrologic characteristics. For this type of permit, the scope and level of detail for reviewing hydrologic data parallel those used for CP reviews as outlined above.[12]

For SAR Section 2.4.2.1 (Flood History):

> The staff will review publications of the U.S. Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA), Soil Conservation Service (SCS), Corps of Engineers, applicable State and river basin agencies, and others to ensure that historical maximum events and the flood response characteristics of the region and site have been identified. Similar material, in addition to applicant-supplied information, will be reviewed to identify independently the potential sources of site flooding.

For SAR Section 2.4.2.2 (Flood Design Considerations):

> The potential flood levels from consideration of the worst single phenomenon and combinations of less severe phenomena are identified in accordance with SRP Sections 2.4.3 through 2.4.7 and the controlling flood level is selected. The controlling flood level is compared with the proposed protection levels to ensure that the safety-related facilities will not be adversely affected. If appropriate, additional provisions for flood protection will be imposed to ensure adequate protection of the safety-related facilities.

For SAR Section 2.4.2.3 (Effect of Local Intense Precipitation):

> The staff's estimates of flooding potential are based on PMP estimates from the appropriate hydrometeorological reports and similar NOAA publications. The staff's estimates are compared with the applicant's estimates to determine conformity to acceptance criteria in subsection II of this SRP section. Runoff models, such as the unit hydrograph if applicable, or other runoff discharge estimates presented in standard texts, are used to estimate discharge on the site drainage system. Where generalized runoff models are used, coefficients used for the site and region are compared to information available at documented locations to evaluate hydrologic conditions used in determining the probable maximum flood for the site drainage system. Potential ponding on the site is also determined.

The above reviews are performed only when applicable to the site or site region. Some items of review may be done on a generic basis.

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.[13]

IV. EVALUATION FINDINGS

For CP and early site permit[14] reviews, the findings will consist of a statement indicating the completeness of the identification of site flood characteristics and flood design bases in compliance with 10 CFR Part 100 and GDC 2. For OL reviews or a COL review that references an early site permit,[15] the flood history will be updated if necessary, with special attention to any new flood of record. Sample statements for CP reviews follow:

> The maximum flood known to have occurred on the A River was in 1796. The peak discharge at B City, Montana, was estimated to be 10,200 m^3/s (360,000 cubic feet per second (cfs)).[16] The applicant estimated that a comparable flood would produce water surface elevation at the site of ~~116 feet~~ 35.4 m (116 ft)[17] MSL. The maximum flood during the period since records were maintained (1883) at B City was 9,900 m^3/s (350,000 cfs)[18] and occurred on October 3, 1929. These floods occurred prior to construction of several upstream dams. Flood flows are now regulated by C and D Reservoirs as well as by upstream hydropower plants.
>
> The applicant has estimated potential flooding from rainfall over the E River basin upstream from the site. The probable maximum flood (PMF), the upper level of flooding the staff considers to be reasonably possible, was estimated to produce a flow of 140,000 m^3/s (5,000,000 cfs),[19] near the city of F. This estimate was made by using 165% of the Corps of Engineers project design flood (PDF) estimate of 85,800 m^3/s (3,030,000 cfs),[20] at the same location, as modified by upstream flood control reservoirs. The 85,800-m^3/s (3,030,000-cfs)[21] project design flood flow is estimated to be partially diverted to the leveed G and H floodways upstream of the site, with 42,500 m^3/s (1,500,000 cfs),[22] continuing downstream within the levee system past the plant site. The applicant concluded that the PMF could result in overtopping of levees and flooding of the river valley well upstream from the site, thereby causing generally low level flooding in the plant area. The upstream levee overtopping and resulting valley flow during such an event would reduce the flow in the main levee channel adjacent to the site to levels equal to or less than those that would exist during a PDF. We conclude that the combination of a runoff-type flood less severe than a PMF, but more severe than a PDF, and a coincident levee break in the vicinity of the site could occur before water approaches levee grade upstream. A failure or levee breach, when the levee is full to design capacity ~~3 feet~~ (1 m or 3 ft)[23] below the top of the levee adjacent to the site plus the effects of any coincident wind-generated wave activity), would result in a higher water surface at the

plant than a PMF spread over the valley as a result of levee failures upstream. At our request, the applicant evaluated various modes of levee failure in the vicinity of the plant. One of the conditions postulated is that of a flood, approaching the severity of a PMF, causing a massive failure of the upstream left bank levee along the G floodway, resulting in flooding around the plant, coincident with a failure of the levee adjacent to the plant site. The applicant estimated the resulting water level at the plant would reach elevation ~~22.5 feet~~ 6.9 m (22.5 ft)[24] MSL for this case. The case of an instantaneous levee failure adjacent to the plant, with no upstream levee failure, resulted in an estimated water level of ~~24.6 feet~~ 7.5 m (24.6 ft)[25] MSL. Based upon this evaluation, the staff concludes that, in order to meet the requirements of General Design Criterion 2 and 10 CFR Part 100 with respect to potential hydrologic events, the applicant should design for the conditions associated with the ~~24.6 feet~~ 7.5-m (24.6-ft)[26] MSL water level.

For an application referencing a certified plant design, the reviewer's findings should include a concluding statement similar to the following:

> Historical data for the proposed site are consistent with the flood level identified in the site parameter envelope specified in the certified plant design documents.[27]

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.[28]

V. IMPLEMENTATION

The following is intended to provide guidance to applicants 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.[29] 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.[30]

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

~~The provisions of this SRP section apply to reviews of construction permit (CP), operating license (OL), and Preliminary Design Approval (PDA), applications docketed after the effective date of issuance of this revision to SRP Section 2.4.2.~~[31]

VI. REFERENCES[1]

1. 10 CFR Part 50, Appendix A, General Design Criterion 2, "Design Bases for Protection Against Natural Phenomena."

2. 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants."[32]

3. 10 CFR Part 100, "Reactor Site Criteria."

4. "Surface Water Supply of the United States,"[2] U.S. Geological Survey.

5. "Tide Tables," National Oceanic and Atmospheric Administration (similar situation as identified in footnote 2).

6. Reports of Great Lakes levels by National Ocean Survey, National Oceanic and Atmospheric Administration.

7. Corps of Engineers records maintained in District and Division Offices, Coastal Engineering Research Center, and Waterways Experiment Station.

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

9. Regulatory Guide 1.59, "Design Basis Floods for Nuclear Power Plants."

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

11. ANSI N170-1976,[33] "Standards for Determining Design Basis Flooding at Power Reactor Sites."[34]

12. "Generalized Estimates of Probable Maximum Precipitation for the United States West of the 105th Meridian for Areas to 400 Square Miles and Durations to 24 Hours," Technical Paper No. 38, U.S. Weather Service, NOAA (1960).

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

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[1] References for PMP estimates, time distribution, etc., are in SRP Section 2.4.3.

[2] "Surface Water Supply" is a continuing series of water discharge measurements by the USGS and others. It is not practical to list all the volumes (called "Water-Supply Papers") that are available. Numerous State and local authorities maintain river discharge, lake level, and tide data.

14. "Probable Maximum Precipitation Estimates, - United States East of the 105th Meridian," Hydrometeorological Report No. 51, National Oceanic and Atmospheric Administration, National Weather Service, June 1978.

15. "Application of Probable Maximum Precipitation Estimates, - United States East of the 105th Meridian," Hydrometeorological Report No. 52, National Oceanic and Atmospheric Administration, National Weather Service, August 1982.

16. "Seasonal Variation of 10-Square-Mile Probable Maximum Precipitation Estimates, - United States East of the 105th Meridian," Hydrometeorological Report No. 53, National Oceanic and Atmospheric Administration, National Weather Service, April 1980.

17. "Probable Maximum Precipitation Estimates, - United States Between the Continental Divide and the 103rd Meridian," Hydrometeorological Report No. 55, National Oceanic and Atmospheric Administration, I National Weather Service (Corps of Engineers and Bureau of Reclamation), March 1984.

SRP Draft Section 2.4.2
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 Civil Engineering and Geosciences Branch (ECGB).
2.	Integrated Impact No. 1340	The Commission has approved specific staff positions and criteria for elimination of the OBE (see Section 1.M of SECY 93-087 and the associated SRM). The coincident OBE and standard project flood addressed in this subsection should be eliminated or replaced with an appropriate combination involving a flood and a seismic event, based on a staff assessment of the matter.
3.	Integrated Impact No. 388	Identified site parameter envelope needed for design certification.
4.	SRP-UDP format item	Added "Review Interfaces" to AREAS OF REVIEW.
5.	Integrated Impact 388	Included a review interface to new SRP section 2.3.6 for review of DC site parameter envelope.
6.	Editorial	Defined "SRP" as "Standard Review Plan."
7.	Integrated Impact No. 387	Regulatory Guide 1.59 references ANSI N170-1976, which was revised in 1981 to ANSI/ANS-2.8, which in turn was revised in 1992. RG 1.59 should be updated to reference ANSI/ANS-2.8-1992 if a detailed comparison of the two versions supports the update of the citation.
8.	Develop technical rationale	Added "Technical Rationale" to ACCEPTANCE CRITERIA and presented in paragraph form.
9.	Develop technical rationale	Added lead-in sentence for "Technical Rationale."
10.	Develop technical rationale	Added technical rationale for GDC 2.
11.	Develop technical rationale	Added technical rationale for 10 CFR Part 100.
12.	Integrated Impact No. 388	Added paragraphs to define design certification review, early site permit review and review of applications referencing a certified design.
13.	SRP-UDP Guidance, Implementation of 10 CFR 52	Added standard paragraph to address application of Review Procedures in design certification reviews.
14.	Integrated Impact No. 388	Added reference to early site permit reviews.
15.	Integrated Impact No. 388	Added reference to COL reviews.
16.	Conversion to SI units	Converted 360,000 cfs to 10,200 m^3/s.
17.	Conversion to SI units	Converted 116 ft to 35.4 m.

Item	Source	Description
18.	Conversion to SI units	Converted 350,000 cfs to 9,900 m^3/s.
19.	Conversion to SI units	Converted 5,000,000 cfs to 140,000 m^3/s.
20.	Conversion to SI units	Converted 3,030,000 cfs to 85,800 m^3/s.
21.	Conversion to SI units	Converted 3,030,000 cfs to 85,800 m^3/s.
22.	Conversion to SI units	Converted 1,500,000 cfs to 42,500 m^3/s.
23.	Conversion to SI units	Converted 3 ft to 1 m.
24.	Conversion to SI units	Converted 22.5 ft to 6.9 m.
25.	Conversion to SI units	Converted 24.6 ft to 7.5 m.
26.	Conversion to SI units	Converted 24.6 feet to 7.5 m.
27.	Integrated Impact No. 388	Added requirement for a statement regarding the site parameter envelope to EVALUATION FINDINGS.
28.	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.
29.	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.
30.	SRP-UDP Guidance	Added standard paragraph to indicate applicability of this section to reviews of future applications.
31.	SRP-UDP Guidance	Deleted sentence that would be redundant to new implementation guidance related to the issuance of revised SRP.
32.	Integrated Impact No. 388	Added reference to 10 CFR Part 52.
33.	Integrated Impact 1423	Specified the date for ANSI N170 based upon a citation in RG 1.59.
34.	Integrated Impact No. 387	ANSI N170-1976 was revised in 1981 as ANSI/ANS-2.8, which was further revised in 1992. This reference should be updated to ANSI/ANS-2.8-1992 if a detailed comparison of the two versions supports the adoption of the more resent standard.

SRP Draft Section 2.4.2
Attachment B - Cross Reference of Integrated Impacts

Integrated Impact No.	Issue	SRP Subsections Affected
387	Regulatory Guide 1.59 references ANSI N170-1976, which was revised in 1981 to ANSI/ANS-2.8, which in turn was revised in 1992. In addition, ANSI N170 is referenced in this and other sections of the SRP. Such references should be updated to ANSI/ANS-2.8-1992 in RG 1.59 and the SRP if a detailed comparison of the two versions supports the adoption of the more recent standard.	No changes were made to SRP Section 2.4.2.
388	10 CFR 52 specifies that applications for design certifications must contain the site parameters postulated for the design and an analysis and evaluation of the design in terms of such parameters. Integrated Impact No. 388 states that consideration should be given to (1) developing a new SRP section for review of the site parameter envelope..., and (2) revising the existing SRP sections, including SRP 2.4.2, for review of site-specific parameters to reflect the site parameter-related requirements of 10 CFR 52. Regarding consideration (1), new SRP section 2.3.6 has been drafted. Regarding consideration (2), this SRP section has been revised in general terms with respect to this issue to address the appropriate use of a site parameter envelope.	Subsection I, AREAS OF REVIEW, last paragraph Subsection I, REVIEW INTERFACES, new interface to 2.3.6 Subsection III, REVIEW PROCEDURES, introduction Subsection IV, EVALUATION FINDINGS, introductory paragraph Subsection IV, EVALUATION FINDINGS, new finding Subsection VI, REFERENCES, Reference 17
1259	Revise the Acceptance Criteria, Review Procedures, and Evaluation Findings as necessary to incorporate the guidance of the proposed draft Regulatory Guide DG-4004 (previously DG-4003) (proprosed revision 2 to RG 4.7).	No changes to SRP at this time, pending issuance of the RG
1340	The Commission has approved specific staff positions and criteria for elimination of the OBE (see Section 1.M of SECY 93-087 and the associated SRM). The coincident OBE and standard project flood addressed in this subsection should be eliminated or replaced with an appropriate combination of flood and seismic event, based on a staff assessment of the matter.	No changes to SRP at this time
1423	Consider updating the citation of ANSI N170 to cite the 1976 version.	Subsection VI, REFERENCES, Ref. 11