

**RESPONSE TO PUBLIC COMMENTS ON DRAFT
STANDARD REVIEW PLAN 19.3: REGULATORY TREATMENT OF NON-SAFETY SYSTEMS FOR PASSIVE
ADVANCED LIGHT WATER REACTORS**

On October 12, 2012, a Notice of Opportunity for Public Comment was published in the Federal Register (77 FR 62270) on a proposed Revision to NUREG-0800 to include a new Standard Review Plan (SRP) section, SRP Section 19.3. This new section adds review guidance for the U.S. Nuclear Regulatory Commission (NRC) staff based on experience gained from the review of passive advanced light water reactor designs. The NRC received 61 comments from six entities which are listed below. After reviewing the comments and preparing a disposition for each comment, the NRC staff determined the need to incorporate additional guidance in the document regarding the protection of systems, structures and components (SSCs) against the effects of high winds such as a tornado or hurricane. On July 10, 2013, a Notice of Opportunity for Public Comment on this new additional guidance was published in the Federal Register (78 FR 41436). The NRC received one comment from one of the original commenters (Nuclear Energy Institute) on the additional guidance pertaining to protection of SSCs from high winds. The NRC staff's review and disposition of the original 61 comments are provided in the Table 1. The NRC staff's review and disposition of the one comment on the additional guidance pertaining to protection of SSCs from high winds are provided in Table 2.

Public Entities providing comments on SRP 19.3, Draft Revision 0

Nuclear Energy Institute (NEI) 1201 F Street, NW, Suite 1100 Washington, DC 20004	David Moses 130 Clemson Drive Oak Ridge, TN, 37830-7664	NuScale Power LLC (NuScale) 1100 NE Circle Blvd., Suite 350 Corvallis, Oregon 97330
Babcock & Wilcox mPower (GmP) 109 Ramsey Place Lynchburg, VA 24501	Sandia National Laboratories (SNL) P.O. Box 5800 Albuquerque, NM 87185	Patricia Campbell (GEH) GE Hitachi Nuclear Energy ESBWR Design-Centered Working Group 1299'Pennsylvania Avenue, NW Ninth Floor Washington, DC, 20004

Table 1 – Comments on October 12, 2012 Federal Register Notice

No.	Section of draft SRP 19.3	Originator	Specific Comment	NRC Resolution
1	19.3-2, 2nd paragraph, 19.3-3, item 3	NuScale	SRP 19.3 uses the terms large release frequency (LRF) and large early release	The commenter is mistaken. SRP 19.3 does not use the term large early

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	19.3-2, 2nd paragraph, 19.3-8 2nd paragraph.		frequency (LERF). Usage of LRF and LERF should be made consistent with Option 2C of SECY-12-0081.	release frequency (LERF). RTNSS is addressed in applications for design certification (DC) and combined license (COL). Holders of a COL are not required to further evaluate the need for RTNSS. The risk metric specified in the Commission's objectives for new and advanced reactors making applications for DC or COL is large release frequency (LRF).
2	19.3-2	NuScale	The draft SRP discusses Structures, Systems and Component (SSC) functions relied on under power-operating and shutdown conditions to meet the safety goals of CDF and LRF. However, it does not specify the scope of the PRA to be utilized for this analysis with respect to operating modes and internal/external events.	The focused PRA is a sensitivity study that utilizes the base PRA to examine the risk importance of non-safety SSCs. The scope is the same as the base PRA. Focused PRA sensitivity studies are reviewed in accordance with the guidance in SRP 19.0.
3	19.3-10	NuScale	Item 4 should read. "The PRA and Severe Accident staff reviews the results of the focused PRA sensitivity studies and confirms that non-safety-related design features or functional capabilities with mitigation capability sufficient to reduce the CDF or LERF below the NRC safety goals when credited in the focused PRA have been identified as risk-significant and included in the scope of the RTNSS program (RTNSS "C")." Item 5c. should be changed to read "Does the initiating event significantly affect the CDF and the LERF?"	Staff will modify language in SRP 19.3 and SRP 19.0, as appropriate to reflect SRM on SECY-12-0081 after Regulatory Guide 1.174 has been updated for use by holders of a combined license.
4	19.3-2 2nd paragraph.	NuScale	The SRP discusses RTNSS "A" thru "E."	SRP 19.3 covers functional design of

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	19.3-3, item 3 19.3-8 19.3-9 2nd paragraph.		The SRP states that programmatic treatment of these SSCs is discussed in the appropriate SRP sections. In particular, various sections of the SRP address determinations about whether SSCs belong in the Reliability Assessment Program. The SRP should clarify how functional requirements for RTNSS SSC will be treated consistently within SRP sections listed in Appendix A. Only functional requirements relevant to RTNSS SSCs should be applied.	RTNSS SSCs in a broad manner. Treatment of functional requirements for any particular RTNSS SSC will be described in Design Specific Review Standards (DSRS) that covers that SSC. Consistency among DSRS sections should be raised in the public review of DSRS sections. Appendix A has been removed from draft SRP 19.3. It was only included as a guide for staff as to which reviews may need to address RTNSS systems, but was perceived to be suggesting that guidance for review of safety-related SSCs in SRPs listed may be used in RTNSS reviews. It has been determined that the Appendix is not necessary for staff. The Appendix has been removed from the draft SRP.
5	19.3-7	NuScale	The SRP states "1. Safety functions required in the post 72-hour period following an accident can be accomplished with onsite equipment and supplies." It does not specify how long the safety functions are required after the 72 hours.	Staff has incorporated revisions in the SRP to explain that safety functions must be maintained for an additional 4 days after the 72 hour point following an accident is reached
6	19.3-11	NuScale	Item 7b. the number should be 0.1 and not 10 and should be consistent by referring to early containment failure.	Staff has corrected error on value for CCFP.
7	19.3-12	NuScale	Replace LRF with LERF in the following: "1. The staff reviews the results of the focused PRA sensitivity studies and confirms that the applicant has included	Staff will modify language in SRP 19.3 and SRP 19.0 as appropriate to reflect SRM on SECY-12-0081 after Regulatory Guide 1.174 has been

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			<p>requirements in the TSs, in accordance with 10 CFR 50.36(c)(2)(ii)(D), for non-safety-related design features or functional capabilities with mitigation capability sufficient to reduce the CDF or LRF below the NRC safety goals when credited in the focused PRA.”</p>	<p>updated for use by holders of a combined license.</p>
8	19.3-3, 19.3-8, 19.3-11, 19.3-13	GmP	<p>The use of other SRPs (that is, other than those for Chapter 19 directly) as the basis for review and acceptance for FSAR/DCD Section 19.3 represents a significant elevation of regulatory requirements for RTNSS SSCs. Staff should Revise SRP 19.3 to limit the application of other SRPs as the basis for review and acceptance of FSAR/DCD Section 19.3; and, where invoked, clearly identify how any such subsidiary SRPs are to be applied. Some examples include: “SRP 2.4” comprises 14 SRPs, including a number that have no relation to “flood protection” for RTNSS B SSCs. These include, but are not necessarily limited to: SRP 2.4.1 (Hydrologic Description), 2.4.11 (Low Water Considerations), 2.4.12 (Groundwater), 2.4.13 (Accidental Releases of Radioactive Liquid Effluents in Ground and Surface Waters) and 2.4.14 (Technical Specifications and Emergency Operation Requirements). SRP 5.4.7 invokes multiple GDCs in the context of a residual heat removal system “important to safety;” whereas, RTNSS</p>	<p>RTNSS is only addressed by other review guidance that covers structures, systems or components which have the potential for satisfying RTNSS criteria. Such guidance includes SSC specific guidance for RTNSS review applicable to that SSC. Currently, such guidance is only in Design Specific Review Standards, not SRP. Staff believes the comment resulted from confusion over the intent of the listing of SRP’s in Appendix A .</p> <p>Appendix A has been removed from draft SRP 19.3. It was only included as a guide for staff as to which reviews may need to address RTNSS systems, but was perceived to be suggesting that guidance for review of safety-related SSCs in SRPs listed may be used in RTNSS reviews. It has been determined that the Appendix is not necessary for staff. The Appendix has been removed from the draft SRP.</p>

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			SSCs are, by definition, non-safety related. SRP 9.2.5 concerns the ultimate heat sink for a reactor, which is safety-related and therefore, by definition, not a RTNSS function.	
9	19.3-3, 19.3-11, 19.3-16	GmP	The text of SRP 19.3 describes the SRPs listed in Appendix A as the basis for assuring SRP 19.3 Acceptance Criteria are satisfied. Under "Design of RTNSS SSCs," Appendix A cites SRP 3.10. SRP 3.10 concerns the "Seismic and Dynamic Qualification of Mechanical and Electrical Equipment;" whereas, the "Callan Memo" specifically notes that "no dynamic qualification of active equipment is necessary." Revise SRP 19.3 to delete use of SRP 3.10 as a basis for assuring that RTNSS SSCs satisfy applicable acceptance criteria or to clearly identify that the application thereof does not include dynamic qualification of RTNSS equipment	Staff agrees: Staff has reviewed Callan memo and SRP 3.10. Dynamic qualification as discussed in SRP 3.10 is not required. Reference to SRP 3.10 has been removed.
10	19.3-10, 19.3-12	GmP	Footnotes (1 and 3, on Pages 19.3-10 and 19.3-12, respectively) can be read to equate a "safe stable shutdown condition" with both "Cold Shutdown" as defined in plant Technical Specifications and a "condition by which all plant conditions are stable and within regulatory limits and the reactor coolant system pressure is stabilized and reactor coolant temperature is at (a) value less than or	Staff agrees: Staff has revised footnotes to remove reference to cold Shutdown.

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			<p>equal to 420 degrees F.” For RTNSS purposes, the term “safe stable shutdown condition” should be used consistently and exclusively throughout SRP 19.3; and Footnotes 1 and 3 should be revised to clarify that a “safe stable shutdown condition” for passive plant applications is stable reactor coolant conditions at a temperature of 420°F or less.</p>	
11	19.3-7, 19.3-10, 19.3-12	GmP	<p>RTNSS B functions are defined as those “SSC functions relied on to ensure long-term safety (beyond 72 hours) and to address seismic events” – re SECY-94-084; and SRP 19.3, Page 19.3-3 (Item B), Page 19.3-5 (Second Paragraph) and Page 19.3-13 (Item 3). However, the subject Acceptance Criterion and Review Procedures indicate that RTNSS B SSCs may be limited to equipment that is relied upon to ensure that long-term safety functions between three and seven days following an accident, only. Revise SRP 19.3 to consistently describe RTNSS B SSC functions as those relied upon for long-term safety beyond 72 hours following an accident.</p>	<p>SRP 19.3 has been revised to consistently describe RTNSS “B” SSC functions as those relied upon for long-term safety beyond 72 hours following an accident and to address seismic events.</p>
12	19.3-7	GmP	<p>The subject Acceptance Criterion requires that safety functions required in the post-72-hour period following an accident be accomplished with onsite equipment and supplies. However, the staff position in SECY-96-128 is: “After 7</p>	<p>Staff agrees: Staff has revised SRP 19.3 to make clear that only readily available on-site equipment and supplies are required in the period between 72 hours and 7 days following an accident and that after 7 days,</p>

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			<p>days, replenishment of consumables such as diesel fuel oil from offsite suppliers can be credited.” Revise SRP 19.3 to permit replenishment of consumables such as, but not necessarily limited to, diesel fuel oil after seven days following an accident.</p>	<p>replenishment of consumables such as diesel fuel oil from offsite suppliers can be credited.</p>
13	19.3-8	GmP	<p>The inclusion of tornados in the subject Acceptance Criterion is counter to the Staff position in the “Callan Memo,” which specifically states: “The post-72 hour SSCs will not be required to withstand tornado loads or tornado missiles ...”</p> <p>Designing structures to withstand tornado winds and missiles imposes a new and unwarranted set of requirements on what are, by definition, non-safety related SSCs – for example: tornado tangential, radial and translational wind speeds; and atmospheric pressure changes associated with the tornado core, particularly negative pressures.</p> <p>Revise SRP 19.3 to delete the requirement that RTNSS SSCs be designed to withstand tornado winds and missiles.</p>	<p>The staff has determined that since the “Callan memo” was issued, Regulatory Guide 1.76 has decreased the maximum design basis tornado wind speeds by over 100 mph and new guidance (Regulatory Guide 1.221) has been issued for addressing hurricanes and calculating missile velocities.</p> <p>Therefore, the basis for the policy described in the “Callan memo” is not considered valid anymore. Application of the policy described in the “Callan memo” could in some cases result in a level of treatment for RTNSS SSCs that is higher than the level for safety-related SSCs. The NRC’s position now is that RTNSS B SSCs should be protected from both tornados and hurricanes and missiles they may create and that applicants should choose the design basis wind speeds for RTNSS SSCs using the guidance in Regulatory Guides 1.76 and 1.221.</p> <p>SRP 19.3 has been revised to reflect this position.</p>

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14	19.3-8	GmP	<p>The subject Acceptance Criterion indicates that RTNSS B SSCs must be “analyzed and designed to withstand adverse effects associated with design basis accidents (e.g., turbine missiles, pipe whip).” SECY-93-087 refers to EPRI requirements for “protection against internal hazards” for “active systems that perform defense-in-depth functions.”</p> <p>However, none of the other key NRC documents related to RTNSS – SECY-94-084, SECY-95-132, SECY-96-128, SECY-95-172 or the “Callan Memo” – address protection of RTNSS SSCs from internal hazards, much less from the effects of DBAs, including turbine missiles and pipe whip. Revise SRP 19.3 to address appropriate protection of RTNSS SSCs from internal hazards, without specific inclusion of DBA conditions, including turbine missiles and pipe whip.</p>	SRP 19.3 has been revised to address appropriate protection of RTNSS SSCs from internal hazards, without specific inclusion of DBA conditions, including turbine missiles and pipe whip.
15	19.3-8	GmP	<p>The subject Acceptance Criteria indicate that a “non-safety-related system will be considered highly reliable if it has redundant trains with electrical backup power sources, with the components addressed in a RAP;” and if the system “has been designed against an assumed single failure as defined in 10 CFR Part 50, Appendix A” or if single failure “is considered to the extent that a single active failure does not prevent the intended function from occurring.”</p>	Staff agrees: SRP 19.3 has been revised to exclude statements that indicate that non-safety related systems should have redundant trains and be designed against assumed single failures.

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			<p>However, SECY-94-084 states that the EPRI ALWR URD “specifies requirements concerning design and performance of active systems and equipment that perform non-safety, defense-in-depth functions [RTNSS SSCs]. These requirements include ... redundancy for the more probable single active failures ...” [Emphasis Added] There is a significant difference between providing “redundant trains,” versus including redundancy at the component level.</p> <p>There is also a marked distinction between designing a non-safety related system at the component level against an assumed single failure pursuant to 10 CFR 50, Appendix A, versus “the more probable single active failures.” Revise SRP 19.3 to delete the requirement that non-safety related systems have redundant trains and be designed against assumed single failures, per se. Rather, RTNSS equipment should be considered reliable if it is designed to accommodate the more probable single active failures.</p>	
16	19.3-9, 2nd bullet	GmP	<p>The subject Review Procedures text refers to the “Functional capabilities “of some RTNSS “C” SSCs, such as support for standby diesel generators ...” This statement could be interpreted that systems and components that support RTNSS equipment can be categorized differently than the equipment with which</p>	<p>Staff agrees: Staff has removed the reference to standby (or ancillary) diesel generators.</p>

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			<p>they are associated. Specifically, if ancillary or standby diesel generators are RTNSS B, the above statement could be read to indicate that the associated support systems can be RTNSS C.</p> <p>Revise SRP 19.3 to delete reference to standby (or ancillary) diesel generators as RTNSS C SSCs.</p>	
17	19.3-10, 19.3-11	GmP	<p>The subject Review Procedure indicates that RTNSS C SSCs are identified, at least in part, “based on their contribution to initiating event frequencies.” However, RTNSS C SSC functions are defined as those relied on under power-operating and shutdown conditions to meet the Commission’s safety goal guidelines related to core damage frequency (CDF) and large release fraction (LRF). As written, an SSC that is arguably a “significant contributor” to an initiating event frequency could fall into the RTNSS C category, even if the Commission’s CDF and LRF safety goals are met. Revise SRP 19.3 to clarify that RTNSS C functions are those relied upon to meet the Commission’s CDF and LRF safety goals, only.</p>	<p>Staff disagrees: discussion of scoping SSCs into RTNSS category based on their contribution to initiating event frequency is discussed in RG 1.206.</p>
18	19.3-11	GmP	<p>The subject Review Procedure indicates that a goal for RTNSS D SSCs is that the “conditional containment failure probability determined from the Level II PRA is less than or equal to 10.”</p>	<p>Staff Agrees: It has corrected SRP 19.3 to indicate that the conditional containment failure probability goal for RTNSS D SSCs is less than or equal to 0.1 (versus 10).</p>

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			<p>However, conditional failure probabilities must be less than or equal to 1.0. The “10” appears to be a typographical error. Correct SRP 19.3 to indicate that the conditional containment failure probability goal for RTNSS D SSCs is less than or equal to .10 (versus 10).</p>	
19	Appendix A	GmP	<p>Under “The reliability of the non-safety-related active system relied upon to achieve a cold shutdown condition,” the reference to SRP 5.7.4 should be to SRP 5.4.7.</p>	<p>Appendix A has been removed from draft SRP 19.3. It was only included as a guide for staff as to which reviews may need to address RTNSS systems, but was perceived to be suggesting that guidance for review of safety-related SSCs in SRPs listed may be used in RTNSS reviews. It has been determined that the Appendix is not necessary for staff. The Appendix has been removed from the draft SRP.</p>
20	Appendix A	GmP	<p>Under “Design of RTNSS SSCs,” the SRP Chapter 7 series (7.0 – 7.9) is being replaced by a new DSRS/SRP series (7.0 – 7.2), at least for the B&W mPower reactor; hence, reference to SRP 7.8, per se, is questionable.</p>	<p>Appendix A has been removed from the document. It was only intended as a guide for staff as to which reviews may need to address RTNSS systems, but was perceived as suggesting that guidance for review of safety-related SSCs in SRPs listed may be used in RTNSS reviews. It has been determined that the appendix is not necessary for staff. The appendix has been deleted from the draft SRP</p>
21	Appendix A	GmP	<p>Under “Design of RTNSS SSCs,” it is not obvious why SRP 9.5.4 is cited and not SRPs 9.5.5, 9.5.6, 9.5.7 and 9.5.8, which</p>	<p>Appendix A has been removed from the document. It was only intended as a guide for staff as to which reviews</p>

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			also apply to emergency diesel engine systems.	may need to address RTNSS systems, but was perceived as suggesting that guidance for review of safety-related SSCs in SRPs listed may be used in RTNSS reviews. It has been determined that the appendix is not necessary for staff. The appendix has been deleted from the draft SRP.
22	19.3-7, 19.3-8	SNL	There is a subsection under II Acceptance Criteria titled "Area of Review - Augmented Design Standards" that specifies several added design requirements for RTNSS B SSCs (page 19.3-7 & 8). Why are RTNSS A, C, D and E SSCs not required to meet – in a similar fashion to RTNSS B SSCs - specific augmented design standards?	Passive safety systems are designed to perform their safety function without operator intervention only up to 72 hours following a design basis accident, including natural phenomena that challenge the plant. The Commission has taken the position that safety functions must be maintained for an extended period beyond 72 hours and up to 7 days with equipment that is on-site and readily available. Any such equipment that is not safety-related falls in the RTNSS B category. The Commission's position is based in part on the experience at Turkey Point following hurricane Andrew. Having and meeting augmented design standards reflects the need to protect the equipment from the effects of natural phenomena and assure its availability should the ability to bring in equipment from offsite be lost due to the effects of natural phenomena. RTNSS Criterion B is used to identify the necessary equipment. The

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				Commission's expectation for SSCs in other RTNSS categories (i.e., not RTNSS B) is that they be designed in a manner that provides reasonable assurance that they can satisfy their reliability and availability missions.
23	N/A	SNL	Throughout numerous DSRS sections review criteria have been established which apply to both safety related SSCs and risk significant nonsafety-related/RTNSS SSCs. This is in accordance with NRO's program plan for developing DSRSs and SECY 11-0024, "Use Of Risk Insights To Enhance The Safety Focus Of Small Modular Reactor Reviews." This essentially establishes new augmented design standards for all RTNSS SSCs. SRP 19.3 does not currently acknowledge that RTNSS SSCs will have to meet added criteria delineated in the various DSRS sections. Does this set up a potential conflict between the DSRS sections and SRP section 19.3, which is extensively referenced in those DSRS sections? Could applicants argue against the RTNSS requirements of various DSRSs based on the requirements of SRP 19.3?	The staff disagrees that the review approach being developed by the staff for iPWRs establishes new augmented design standards for all RTNSS SSCs. General Design standards for RTNSS SSCs are described in SRP 19.3 in accordance with Commission policy on RTNSS. Detailed review guidance in individual DSRS will be consistent with those general design standards.
24	N/A	GEH	In general, the guidance appears to reflect the NRC staff review process that was followed for the passive ESBWR design certification application with regard to regulatory treatment of non-safety systems (RTNSS). The ESBWR	Staff agrees: no changes necessary

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			Design Control Document, Tier 2, addresses RTNSS in Appendix 19A.	
25	19.3-9	GEH	Area of Review – Reliable Means of Achieving Cold Shutdown: The single failure consideration should be clarified because, as an example, a loss of a heat sink could prevent the intended function. The guidance should recognize that recovery actions may be necessary but, also, that such actions should be possible. Modify the last sentence of this section to read: Single failure is considered to the extent that a single active failure does not prevent the intended function from occurring, or that recovery actions can be taken in the event of a loss of intended function.	Staff has removed the discussion for a reliable means for achieving cold shutdown from the document
26	19.3-11	GEH	Paragraph III.7.b. "The conditional containment failure probability determined from the Level II PRA is less than or equal to 10." This value should be 10% rather than 10	Staff agrees: value has been changed to .10.
27	Multi	David Moses	The "augmented design standards" in draft SRP 19.3 do not fully reflect the specific list of capabilities requirements in the EDO's memorandum to the Commission, June 23, 1997, "Implementation of Staff Position in SECY-96-128 - 'Policy and Key Technical Issues Pertaining to the Westinghouse AP600 Standardized Passive Reactor Design,' Related to Post-72 Hour Actions." (ML003708229) While capability to withstand the adverse effects	Staff agrees: Staff has included as an acceptance criterion that RTNSS SSCs have availability controls. Leaving this out was an oversight on the part of the staff. An explicit acceptance criterion for RTNSS "B" SSCs to be under a QA program is not included to allow flexibility in applying treatment commensurate with reliability/availability mission. For example, RTNSS SSCs have been included in the reliability assurance

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			<p>of design basis accidents has been added, the requirements for availability controls and a quality assurance program and the exemption for dynamic qualification of active equipment are not addressed in the SRP Acceptance Criteria without any explanation of the bases for the changes in the so-called "Commission-approved guidance" as it is referred to in SRP 19.0 and Section C.I.19 of RG 1.206.</p>	<p>program (RAP) which includes QA. (See DC/COL-ISG-18).</p> <p>The exemption for dynamic qualification of active equipment has been addressed explicitly in the SRP.</p>
28	N/A	David Moses	<p>None of the current SRP or DSRS sections for SSCs provide cross-reference to the requirements for "augmented design standards" in SRP 19.3. Those NRC-generated DSRS that do reference SRP 19.3 fail to invoke the need to address "augmented design standards" when applicable to the RTNSS equipment that may be addressed in the DSRS thus leaving it up to the user to guess, infer or read between the lines on requirements. This lack of requirements flow-down and parallelism in the SRP/DSRS-based procedural controls for guiding staff reviews and for providing guidance for the designer/applicant design and documentation efforts will lead to confusion in both the review and design processes and would not pass muster in an Appendix B or NQA-1 type quality assurance audit of procedural controls. If QA auditors expect such clear</p>	<p>Staff agrees: DSRS have been reviewed prior to being issued for public comment to assure that those which involve review of RTNSS "B" SSCs either address Augmented Design Standards explicitly, as appropriate, or reference SRP 19.3 coverage of Augmented Design Standards.</p>

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			requirements flow-down and parallelism in licensee's procedures at nuclear facilities, the same is to be expected of NRC regulatory guidance	
29	19.3-12	David Moses	<p>There has been no rulemaking to define investment protection short-term availability controls only a profusion of inconsistent NRC thought documents (see white papers). The regulatory criteria in 10 CFR 50.36(c)(2)(ii)(C) and (D) indicate that, lacking any operational experience for the new passively-safe designs to justify otherwise, these controls should be subject to technical specification LCOs since RTNSS reliability/availability controls are for equipment that will constitute the "primary success path" in accidents and transients in which ac electrical power remains available thus preventing such challenges from progressing to "design basis accidents or transients" and are selected based on the requirements for their reliability/availability being shown by PRA to be "significant to public health and safety." Once sufficient operational experience has been obtained to warrant reduced controls other than technical specification LCOs, these type controls can be removed from technical specification LCOs and then be invoked as administrative controls in either Specification 5.4 (Procedures) or 5.5 (Programs and Manuals) in the plant</p>	<p>Staff disagrees that all availability controls should be in the form of technical specifications. The staff is currently developing guidance for applicants to use when evaluating the need for including availability controls on SSCs in the scope of the technical specifications under Criterion 4 of 10 CFR 50.36(c)(2)(ii)(D). The staff expects to issue such guidance for public review and comment prior to the end of fiscal year 2014.</p>

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			<p>specific technical specifications. The allowances with regard to availability controls that NRC has encoded in the design certifications (DCs) rulemakings for AP600, AP1000 and ESBWR appear to be a ripe source of legal contentions by interveners during the COL if they recognize that (1) there is no operational experience base nor generic and specific rulemaking for such allowances where the DCs rulemakings are lacking in substantive details in this regard and (2) the allowances are inconsistent with the existing regulatory requirements for LCOs in 10 CFR 50.36(c)(2)(ii)(C) and (D). In addition, the selection process using PRA may be questionable since the PRAs are understood to be proprietary and not open to public disclosure. This latter situation may not sit well with potential COL interveners due to a lack of transparency,</p>	
30	19.3-3	NEI	<p>The SRP uses RTNSS “B” to include both the post-72 hr. criteria and the seismic criteria. However, the reliability/availability (R/A) missions for these two criteria may be different. Post-72 hour systems, structures, and components (SSCs) should have some level of external hazard protection, but not full safety-related hazard protection / qualification, with the purpose to minimize the demands on external support</p>	<p>Staff disagrees: Only RTNSS “B” SSCs have explicit requirements for protection against seismic events and natural hazards which are in the form of augmented design standards. SSC functions for seismic protection are coupled with SSC functions for long term safety in the criterion to account for buildings housing long term safety SSCs and for addressing non-long term safety SSCs that could damage</p>

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			<p>services for hazards that could affect large areas around the plant. This would include earthquakes and storms such as hurricanes; it should not include internal hazards such as internal fires and floods. Also SSCs that are only important for seismic do not need protection for external winds. Revise SRP 19.3 to separate the post-72 hour criteria and the seismic criteria on SRP page 19.3-3.</p>	<p>long term safety SSCs.</p>
31	19.3-3, 19.3-8, 18.3-11, 19.3-13, 19.3-16	NEI	<p>The use of other SRPs (that is, other than those for Chapter 19 directly) as the basis for review and acceptance for FSAR/DCD Section 19.3 represents a significant elevation of regulatory requirements for RTNSS SSCs. For example: "SRP 2.4" comprises 14 SRPs, including a number that have no relation to "flood protection" for RTNSS B SSCs. These include, but are not necessarily limited to: SRP 2.4.1 (Hydrologic Description), 2.4.11 (Low Water Considerations), 2.4.12 (Groundwater), 2.4.13 (Accidental Releases of Radioactive Liquid Effluents in Ground and Surface Waters) and 2.4.14 (Technical Specifications and Emergency Operation Requirements). SRP 5.4.7 invokes multiple GDCs in the context of a residual heat removal system "important to safety;" whereas, RTNSS SSCs are, by definition, non-safety related. SRP 9.2.5 concerns the ultimate heat sink for a reactor, which is safety-related and therefore, by definition, not a</p>	<p>RTNSS is only addressed by other review guidance that covers structures, systems or components which have the potential for satisfying RTNSS criteria. Such guidance includes SSC specific guidance applicable to RTNSS review of that SSC. Currently, such guidance is only in Design Specific Review Standards, not SRP. Staff believes the comment resulted from confusion over the intent of the listing or SRP's in Appendix A .</p> <p>Appendix A has been removed from draft SRP 19.3. It was only included as a guide for staff as to which reviews may need to address RTNSS systems, but was perceived to be suggesting that guidance for review of safety-related SSCs in SRPs listed may be used in RTNSS reviews. It has been determined that the Appendix is not</p>

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			RTNSS function. Revise SRP 19.3 to limit the application of other SRPs as the basis for review and acceptance of FSAR/DCD Section 19.3; and, where invoked, clearly identify how any such subsidiary SRPs are to be applied.	necessary for staff. The Appendix has been removed from the draft SRP.
32	19.3-3, 19.3-11, 19.3-16	NEI	The text of SRP 19.3 describes the SRPs listed in Appendix A as the basis for assuring SRP 19.3 Acceptance Criteria are satisfied. Under "Design of RTNSS SSCs," Appendix A cites SRP 3.10. SRP 3.10 concerns the "Seismic and Dynamic Qualification of Mechanical and Electrical Equipment;" whereas, the "Callan Memo" specifically notes that "no dynamic qualification of active equipment is necessary." Revise SRP 19.3 to delete use of SRP 3.10 as a basis for assuring that RTNSS SSCs satisfy applicable acceptance criteria or to clearly identify that the application thereof does not include dynamic qualification of RTNSS equipment.	<p>Staff agrees: Staff has reviewed the "Callan memo" and SRP 3.10. Dynamic qualification as discussed in SRP 3.10 is not required. Reference to SRP 3.10 has been removed.</p> <p>Appendix A has been removed from draft SRP 19.3. It was only included as a guide for staff as to which reviews may need to address RTNSS systems, but was perceived to be suggesting that guidance for review of safety-related SSCs in SRPs listed may be used in RTNSS reviews. It has been determined that the Appendix is not necessary for staff. The Appendix has been removed from the draft SRP.</p>
33	19.3-4	NEI	The SECY clearly states that the RTNSS process will identify the R/A missions of the risk-significant SSCs; the SRP is less specific / clear (see SRP items 1 and 2) and could easily be interpreted as much broader, including review of all the functions of the SSCs captured in RTNSS, or possibly the system containing the SSC, instead of just those functions that are RTNSS important.	Staff agrees: Text has been added in the acceptance criteria and review procedures sections to make clear that the review is needed only for those functions of a RTNSS SSC needed to achieve the stated R/A mission.
34	19.3-5	NEI	The SECY does not apply hazard	Staff agrees that all RTNSS SSCs do

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			(seismic, missile, wind, ...) design capability to all RTNSS SSCs (see SRP item 4); they are only applied to RTNSS SSCs where it is necessary to meet the specific RTNSS R/A mission. For example, if a SSC is screened in as risk important because of random failures in the focused PRA (criteria C), then hazard capability would not be appropriate. If a SSC is screened because of seismic (criteria B), then some seismic capability would be appropriate, although flood or wind capability would not be appropriate.	not require protection from seismic and natural hazards. Only RTNSS "B" SSCs require such protection and this protection is developed in accordance with augmented design standards.
35	19.3-9	NEI	The SECY does not mention cold shutdown as a requirement and therefore this should not be added to SRP 19.3 (see SRP item 6). For example, for AP1000, the capability to bring the plant to cold shutdown following an event / accident is not the licensing basis of the plant; the licensing basis is to achieve safe shutdown and the passive safe related systems provide that capability. The only way cold shutdown should become a RTNSS R/A is if it is identified as such by the RTNSS screening criteria.	Staff agrees: SRP 19.3 has been revised such that capability to bring plant to cold shutdown is no longer an area of review in SRP 19.3.
36	19.3-10, 19.3-12	NEI	The text and titles of the subject Area of Review on Page 19.3-4, Acceptance Criterion on Page 19.3-9, Review Procedure on Page 19.3-13, Evaluation Finding on Page 19.3-14 and Appendix A entry on Page 19.3-17 introduce the term "cold shutdown" in the context of active non-safety related systems relied upon to	Staff agrees: Staff has revised footnotes to remove reference to cold Shutdown.

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			<p>achieve such a condition. Whereas, the text of the Review Procedures and associated footnotes on Pages 19.3-10 and -12 use the term “safe stable shutdown condition” in the context of maintaining such a condition “in the period between three and seven days following an accident.” Further, the subject Footnotes (1 and 3, on Pages 19.3-10 and 19.3-12, respectively) can be read to equate a “safe stable shutdown condition” with both “Cold Shutdown” as defined in plant Technical Specifications and a “condition by which all plant conditions are stable and within regulatory limits and the reactor coolant system pressure is stabilized and reactor coolant temperature is at (a) value less than or equal to 420 degrees F.” For RTNSS purposes, the term “safe stable shutdown condition” should be used consistently and exclusively throughout SRP 19.3; and Footnotes 1 and 3 should be revised to clarify that a “safe stable shutdown condition” for passive plant applications is stable reactor coolant conditions at a temperature of 420°F or less.</p>	
37	19.3-12	NEI	<p>There is no discussion in SECY-94-084, SECY-95-132 or Regulatory Guide 1.206 regarding the applicability of 10 CFR 50.36 (c)(2)(ii)(D) to the RTNSS process. There appears to be no regulatory basis to include this specific requirement in the</p>	<p>The RTNSS process includes an evaluation to determine availability controls that can be in the form of technical specifications (TS) or Administrative Controls (AC). However, the process provides no criteria for</p>

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			RTNSS SRP 19.3. Remove the 10 CFR 50.36(c)(2)(ii)(D) requirement from SRP 19.3.	determining what should be a TS versus what should be an AC. Previous and current applicants for design certification have utilized the results of their focused PRA studies in conjunction with 50.36(c)(2)(ii)(D) as a basis for determining the level of control and the staff has accepted this approach. In parallel with development of SRP 19.3, the staff is currently developing guidance for applicants to use when evaluating the need for including availability controls on SSCs in the scope of the technical specifications under Criterion 4 of 10 CFR 50.36(c)(2)(ii)(D). Guidance has been drafted and is currently under review by the staff.
38	19.3-5	NEI	Paragraph says, "... regarding the ability of "RTNSS B" SSCs to withstand seismic events as severe as the design basis safe shutdown earthquake," but, for example, the licensing basis for the AP1000 post-72 hour passive system support is to use offsite equipment connected to safety-related connections. The installed non-safety-related equipment is provided to reduce the challenges to the offsite equipment during hazard events that could affect significant areas around the plant. As such, this non-safety-related equipment only needs to have a reasonable chance of surviving and minor repairs are acceptable (since	Staff agrees: Revisions have been made to have the SRP better reflect the documented Commission policy on this topic. The SRP now states that: "To ensure that RTNSS "B" SSCs can withstand the effects of a safe shutdown earthquake (SSE) without the loss of capability to perform required functions, the SSCs should be analyzed, designed and constructed using the method and criteria for seismic Category II building structures defined in Chapter 3 of the FSAR. For these systems and components, the design of equipment anchorages must be consistent with the SSE design of

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			<p>there are 72 hours to put the equipment into service). As a result, in the AP1000, the installed non-safety-related SSCs that provide backup passive system support are not designed to seismic I requirements nor is the operability of pumps / valves tested. Instead, this equipment is located in seismic II buildings and pumps/valves/piping are provided with anchors as strong as the buildings. For equipment that is considered rugged (such as pumps, diesel generators, valves, and piping) no additional work is performed. For equipment that is not considered rugged (such as large atmospheric tanks), the design is analyzed for seismic II requirements. This approach is expected to give these SSCs reasonable likelihood of being available 72 hours after an accident. Note that minor repairs (tightening wires, etc.) are acceptable since there are 72 hours to put these SSCs into service. Revise this statement as follows "...regarding the ability of "RTNSS B" SSCs to withstand have a reasonable likelihood of being available 72 hours after a large seismic event as severe as the design basis safe shutdown earthquake."</p>	<p>equipment anchorages of Seismic Category I items and there should be no spatial interaction with any other non-seismic SSCs that could adversely interact to prevent the functioning of the RTNSS "B" SSCs following an SSE; but no dynamic qualification of active equipment is necessary."</p>
39	19.3-6	NEI	<p>There is no discussion in SECY-94-084, SECY-95-132 or Regulatory Guide 1.206 regarding the applicability of 10 CFR Part 50, Appendix A-GDC 2, "Design bases</p>	<p>SECY-95-132 states that the designer should establish graded requirements for SSCs based on the importance to safety of their functional</p>

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			<p>for protection against natural phenomena” to the RTNSS process. There appears to be no regulatory basis to include this specific requirement in the RTNSS SRP 19.3. Remove the 10 CFR Part 50, Appendix A - GDC 2, “Design bases for protection against natural phenomena” requirement from SRP 19.3.</p>	<p>reliability/availability missions. Staff agrees that RTNSS "B" SSCs should be designed to withstand the effects of natural hazards using augmented design standards for RTNSS “B” SSCs established in accordance with Commission guidance. Criterion 2 in 10 CFR Part 50, Appendix A (GDC-2) provides design bases for protection against natural phenomena for safety-related SSCs and any other SSCs the Commission specifies as needing that level of protection based on their specific importance to the safety of the facility. SRP 19.3 provides high level guidance for the evaluation of RTNSS SSCs by the NRC staff during licensing reviews of new passive nuclear power plants. The individual technical SRP or DSRS sections will address the specific treatment requirements to be applied to RTNSS SSCs. Therefore, the specific requirement for RTNSS "B" SSCs to meet GDC-2 has been removed from SRP 19.3.</p>
40	19.3-7	NEI	<p>As discussed in Comment #7, the non-safety-related SSCs do not provide a safety function to support long-term passive system operation. That safety function is provided by offsite equipment connected to safety-related plant connections. As such, the installed non-safety-related SSCs provide a backup post-72 hour passive system support</p>	<p>Staff agrees in general and has revised Item 2 to read as follows:</p> <p>"The staff will verify that the applicant has met the following acceptance criterion: The applicant has identified the functions performed by installed non-safety-related SSCs to provide a back-up post 72-hour period passive</p>

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			<p>capability. Revise Item 2 on Page 19.3-7 to read: "2. The staff will verify that the applicant has met the following acceptance criterion: The applicant has identified the risk important non-safety functions relied upon in the 72-hour period following an accident and described the installed non-safety-related SSCs provide a back-up post 72-hour period passive system support capability up to seven days following an accident (hereafter referred to as "RTNSS "B" SSCs")."</p>	<p>system support capability and provided reasonable assurance that those SSCs can perform their necessary functions for a period up to seven days following an accident."</p>
41	19.3-7, 19.3-10	NEI	<p>RTNSS "B" functions are defined as those "SSC functions relied on to ensure long-term safety (beyond 72 hours) and to address seismic events" – per SECY-94-084 as well as SRP 19.3, Page 19.3-3 (Item B), Page 19.3-5 (Second Paragraph) and Page 19.3-13 (Item 3). However, the subject Acceptance Criterion and Review Procedures indicate that RTNSS B SSCs may be limited to equipment that is relied upon to ensure that long-term safety functions between three and seven days following an accident, only. Revise SRP 19.3 to consistently describe RTNSS "B" SSC functions as those relied upon for long-term safety beyond 72 hours following an accident.</p>	<p>The staff has defined RTNSS SSCs in SRP 19.3 consistent with the definition in Regulatory Guide 1.206 as: Systems, Structures and components relied upon to ensure long-term safety in the period beginning 72 hours after a design basis event and lasting the following 4 days (hereafter referred to as the "Post-72 hour period") and to address seismic events. This should be understood as meaning that these SSCs must be able to perform the required functions in the "Post-72 hour period" should the initiating accident be a design basis earthquake.</p>
42	Item 3 page 19.3-7	NEI	<p>Item 3 on page 19.3 should be modified, consistent with the more detailed guidance provided on page 19.3-10 (item</p>	<p>Staff agrees: The revision has been made.</p>

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			5), to clearly support the approach used for the AP1000 (and certified by the NRC). Revise this statement as follows, "3. The PRA and Severe Accident staff will verify that the applicant has met the following acceptance criterion: The applicant has determined those non-safety SSCs, if any, used to prevent the occurrence of initiating events and based on their PRA importance included them in the scope of RTNSS."	
43	19.3-7	NEI	The guidance provided expands the RTNSS scope beyond that contained in the SECYs and past precedent. The SRP states that the NRC staff will review the adequacy of the RTNSS functional requirements, i.e., the SSCs design vs. functional requirements, without any limitation to the risk important (RTNSS) missions. The description of the review areas should be consistent with those specified in the SECYs which only talk about doing this for the functions related to the risk important (RTNSS) missions. Revise these statements as follows, "1. The staff will verify that the applicant has met the following acceptance criterion: The applicant has established functional requirements related to the RTNSS R/A missions for the design of SSCs in the RTNSS program, including support systems. 2. The staff will verify that the applicant has met the following acceptance criterion: The applicant has	Staff agrees: Proposed revisions have been made.

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			designed SSCs in the RTNSS program, and their support systems, to satisfy their functional requirements related to the RTNSS R/A missions.”	
44	19.3-7	NEI	This item requires a review of the RTNSS important SSCs I&C relative to their functional design. There is no stated connection to the RTNSS R/A missions; as a result, this guidance could easily be interpreted as all of the functions of these SSCs instead of just their RTNSS important missions. In addition, this review is not required in the SECYs. Delete this item.	Staff disagrees: If human actions such as controls, connections, or access are necessary for successful implementation of the functional design requirement needed to achieve a risk significant R/A mission, the staff may want to review that aspect of the design.
45	19.3-7	NEI	Sub-item (2) is not specified in the SECYs or past precedent and its use is not clear or specified. Delete sub-item (2).	Staff disagrees: The applicant must determine a functional design requirement for satisfying a risk-significant R/A mission and a design that meets that requirement. The staff may want to look at both aspects to see if there is reasonable assurance the R/A mission will be accomplished.
46	Item 1 19.3-7	NEI	The subject Acceptance Criterion requires that safety functions required in the post-72-hour period following an accident be accomplished with onsite equipment and supplies. However, the staff position in SECY-96-128 is: “After 7 days, replenishment of consumables such as diesel fuel oil from offsite suppliers can be credited.” Furthermore, these functions will be provided via safety-related SSCs and as such are not the responsibility of this portion of the	The staff's position is that safety functions required in the post-72 hour period must be accomplished with onsite equipment and supplies, including mobile equipment, but not with offsite equipment and supplies in the first 4 days of this period, but after these 4 days (i.e., 7 days after accident) replenishment of consumables such as fuel oil can be credited. Staff will not delete item 1 page 19.3-7, but will revise as

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			SRP. The review of these functions will have been performed as the result of other SRP sections and there is not a need to repeat that review. Delete item 1. OR, if it is decided not to delete item 1, Revise SRP 19.3 to permit replenishment of consumables such as, but not necessarily limited to, diesel fuel oil after seven days following an accident.	necessary to reflect the above position.
47	Item 2, Page 19.3-8	NEI	This item states that, "Use of mobile equipment is acceptable after seven days." This is inconsistent with the certified AP1000 design in which use of mobile equipment connected to safety-related plant connections is the safety case and as such may be required at 3 days. The installed non-safety-related SSCs provide a backup and reduce the probability that the offsite equipment will be used. Revise item 2 as follows, "... Use of mobile equipment is acceptable after seven three days."	Staff agrees: Change has been made. (See response to item 46)
48	item 3, Page 19.3-8	NEI	RTNSS "B" SSCs and structures housing these SSCs need not be designed to withstand a safe shutdown earthquake (SSE), e.g., this is not the NRC certified AP1000 licensing basis. Item 3 is also inconsistent with the SECYs and past precedent. Revise item 3 as follows, "... RTNSS "B" SSCs and structures housing RTNSS "B" SSCs are expected to be available following a large earthquake such that they are likely to withstand the effects of a safe shutdown earthquake	The AP1000 design was certified prior to issuance of SRP 19.3 and may not exactly reflect the staff's interpretation of RTNSS policy. The staff's position for current and future design certification reviews is that: To ensure that RTNSS "B" SSCs can withstand the effects of a safe shutdown earthquake (SSE) without the loss of capability to perform required functions, the SSCs should be analyzed, designed and constructed using the

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			(SSE); and, with simple repairs, the SSCs are likely to be capable of performing their required functions following the earthquake.”	method and criteria for seismic Category II building structures defined in Chapter 3 of the FSAR. For these systems and components, the design of equipment anchorages must be consistent with the SSE design of equipment anchorages of Seismic Category I items and there should be no spatial interaction with any other non-seismic SSCs that could adversely interact to prevent the functioning of the RTNSS “B” SSCs following an SSE; but no dynamic qualification of active equipment is necessary. This position is reflected in SRP 19.3.
49	Item 4, Page 19.3-8	NEI	The inclusion of tornados in the subject Acceptance Criterion is counter to the Staff position in the “Callan Memo,” which specifically states: “The post-72 hour SSCs will not be required to withstand tornado loads or tornado missiles ...” Designing structures to withstand tornado winds and missiles imposes a new and unwarranted set of requirements on what are, by definition, non-safety related SSCs – for example: tornado tangential, radial and translational wind speeds; and atmospheric pressure changes associated with the tornado core, particularly negative pressures. Revise SRP 19.3 to delete the requirement that RTNSS SSCs be designed to withstand tornado winds and missiles.	The staff has determined that since the "Callan memo" was issued, Regulatory Guide 1.76 has decreased the maximum design basis tornado wind speeds by over 100 mph and new guidance (Regulatory Guide 1.221) has been issued for addressing hurricanes and calculating missile velocities. Therefore, the basis for the policy described in the "Callan memo" is not considered valid anymore. Application of the policy described in the "Callan memo" could in some cases result in a level of treatment for RTNSS SSCs that is higher than the level for safety-related SSCs. The NRC's position now is that RTNSS B SSCs should be protected from both tornados and hurricanes and missiles they may

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				create and that applicants should choose the design basis wind speeds for RTNSS SSCs using the guidance in Regulatory Guides 1.76 and 1.221. SRP 19.3 has been revised to reflect this position.
50	item 5, Page 19.3-8	NEI	The subject Acceptance Criterion indicates that RTNSS B SSCs must be “analyzed and designed to withstand adverse effects associated with design basis accidents (e.g., turbine missiles, pipe whip).” SECY-93-087 refers to EPRI requirements for “protection against internal hazards” for “active systems that perform defense-in-depth functions.” However, none of the other key NRC documents related to RTNSS – SECY-94-084, SECY-95-132, SECY-96-128, SECY-95-172 or the “Callan Memo” – address protection of RTNSS SSCs from internal hazards, much less from the effects of DBAs, including turbine missiles and pipe whip. Revise SRP 19.3 to address appropriate protection of RTNSS SSCs from internal hazards, without specific inclusion of DBA conditions, including turbine missiles and pipe whip.	Staff agrees: SRP 19.3 has been revised to address appropriate protection of RTNSS SSCs from internal hazards, without specific inclusion of DBA conditions, including turbine missiles and pipe whip.
51	item 6, Page 19.3-8	NEI	There is no discussion in SECY-94-084, SECY-95-132 or Regulatory Guide 1.206 regarding the applicability of 10 CFR Part 50, Appendix A - GDC 2, “Design bases for protection against natural phenomena,” and flood protection to the RTNSS process. There appears to be no	SECY-95-132 states that the designer should establish graded requirements for SSCs based on the importance to safety of their functional reliability/availability missions. Staff agrees that RTNSS “B” SSCs should be designed to withstand the effects of

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			<p>regulatory basis to include this specific requirement into the RTNSS SRP 19.3. Remove the flood protection and 10 CFR Part 50, Appendix A - GDC 2, "Design bases for protection against natural phenomena," requirement from SRP 19.3.</p>	<p>natural hazards using augmented design standards for RTNSS "B" SSCs established in accordance with Commission guidance. Criterion 2 in 10 CFR Part 50, Appendix A (GDC-2) provides design bases for protection against natural phenomena for safety-related SSCs and any other SSCs the Commission specifies as needing that level of protection based on their specific importance to the safety of the facility. SRP 19.3 provides high level guidance for the evaluation of RTNSS SSCs by the NRC staff during licensing reviews of new passive nuclear power plants. The individual technical SRP or DSRS sections will address the specific treatment requirements to be applied to RTNSS SSCs. Therefore, the specific requirement for RTNSS "B" SSCs to meet GDC-2 has been removed from SRP 19.3.</p>
52	Item 1, Page 19.3-9	NEI	<p>The subject paragraph indicates that a "non-safety-related system will be considered highly reliable if it has redundant trains with electrical backup power sources, with the components addressed in a RAP;" and if the system "has been designed against an assumed single failure as defined in 10 CFR Part 50, Appendix A" or if single failure "is considered to the extent that a single active failure does not prevent the intended function from occurring."</p>	<p>In light of this comment, the staff has reviewed Commission policy on RTNSS as discussed in NRC documents referred to in SRP 19.3 and determined that the topic of reliability of systems used to achieve cold shutdown is not an appropriate area of review for SRP 19.3. There is sufficient guidance elsewhere in SRP 19.3 for staff to conduct its RTNSS review, if a non-safety system used to achieve cold shutdown satisfies any of</p>

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			<p>However, SECY-94-084 states that the EPRI ALWR URD “specifies requirements concerning design and performance of active systems and equipment that perform non-safety, defense-in-depth functions [RTNSS SSCs]. These requirements include ... redundancy for the more probable single active failures ...” [Emphasis Added] There is a significant difference between providing “redundant trains,” and including redundancy at the component level. There is also a marked distinction between designing a non-safety related system at the component level against an assumed single failure pursuant to 10 CFR 50, Appendix A, versus “the more probable single active failures.” This SRP 19.3 paragraph defines in deterministic terms what “highly reliable” means as applied to the RTNSS “B” SSCs. The term “highly reliable” is not used in the SECYs that define the RTNSS requirements. The reliability of the RTNSS SSCs is addressed in the PRA quantifications and, thus, there is no need to add deterministic requirements. Revise SRP 19.3 to delete the requirement that non-safety related systems have redundant trains and be designed against assumed single failures, per se. Rather, RTNSS equipment should be considered reliable if it is designed to accommodate the more</p>	<p>the criteria for requiring RTNSS, Staff has removed the discussion for a reliable means for achieving cold shutdown from the document.</p>

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			<p>probable single active failures. The following changes are suggested: “The staff will verify that the applicant has met the following acceptance criterion: RTNSS “B” SSCs and supporting equipment will be ‘highly sufficiently reliable to make it reasonably unlikely that the offsite equipment would need to be used to provide the post-72 hour RTNSS R/A missions.’ A non-safety-related system will be considered highly sufficiently reliable if it has: Redundant active SSCs are powered by redundant trains with electrical backup onsite power sources, with The components being are addressed in a RAP, and The redundancy of active components has been designed against an assumed is sufficient to mitigate more likely single failures as defined in 10 CFR Part 50, Appendix A. A graded approach is utilized related to potential environmental and dynamic effects that may affect the ‘highly reliable’ non-safety related SSCs. (e.g., pump start, diesel generator start, remote valve changing position) and need not consider a less likely single failure (check valve changing position, spurious operation of a component, passive failures).”</p>	
53	item 2, page 19.3-8	NEI	<p>This item implies that every RTNSS important SSC will have either controls in the Availability Controls Manual (ACM) or simple Technical Specifications (TS).</p>	<p>Staff agrees: Revision has been made.</p>

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			<p>This is not consistent with the SECYs and past precedent, which say that these availability controls should only be applied if appropriate for the RTNSS R/A mission. Revise item 2 as follows, "...The applicant has provided controls in the ACM or, if appropriate, TSs for the RTNSS SSCs where these controls are important to achieve the RTNSS R/A."</p>	
54	item 4, page 19.3-9	NEI	<p>Consistent with the SECYs and past precedent, availability controls should only be applied if appropriate for the RTNSS R/A mission. Revise item 4 to read as follows, "...ACSR provide adequate methods of establishing availability of SSCs and provide reasonable assurance that the RTNSS components can meet their RTNSS R/A missions.</p>	Staff agrees: Revision has been made.
55	Second Bullet, Page 19.3-9	NEI	<p>The subject Review Procedures text refers to the "Functional capabilities of some RTNSS "C" SSCs, such as support for standby diesel generators ..." This statement could be interpreted that systems and components that support RTNSS equipment can be categorized differently than the equipment with which they are associated. Specifically, if ancillary or standby diesel generators are RTNSS B, the above statement could be read to indicate that the associated support systems can be RTNSS C. Revise SRP 19.3 to delete reference to SSCs that support standby (or ancillary)</p>	Staff agrees: Staff has removed the reference to standby (or ancillary) diesel generators.

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			diesel generators as RTNSS C SSCs.	
56	item 1, Page 19.3-10	NEI	These non-safety-related SSCs in item 1 actually perform safety functions. As a result, they are fundamentally different from RTNSS SSCs which only perform backup functions to those performed by the passive safety-related SSCs. They should not be treated in the RTNSS program. Delete item 1.	Staff disagrees: Item 1 describes a fundamental RTNSS scoping criteria ("A") as described in Regulatory Guide 1.206. These criteria were developed jointly by NRC and EPRI for the RTNSS process.
57	item 2, Page 19.3-10	NEI	Item 2 deals with safety functions which is not the scope RTNSS SSCs. As such it does not belong in this SRP. Delete item 2.	Staff disagrees: Item 2 describes a fundamental RTNSS scoping criteria ("A") as described in Regulatory Guide 1.206. These criteria were developed jointly by NRC and EPRI for the RTNSS process.
58	item 5 and Footnote 2, Pages 19.3-10 and -11	NEI	The subject Review Procedure indicates that RTNSS C SSCs are identified, at least in part, "based on their contribution to initiating event frequencies." However, RTNSS C SSC functions are defined as those relied on under power-operating and shutdown conditions to meet the Commission's safety goal guidelines related to core damage frequency (CDF) and large release fraction (LRF). As written, an SSC that is arguably a "significant contributor" to an initiating event frequency could fall into the RTNSS C category, even if the Commission's CDF and LRF safety goals are met. Revise SRP 19.3 to clarify that RTNSS C functions are those relied upon to meet the Commission's CDF and LRF safety goals, only	Staff disagrees: Initiating event evaluation is part of the RTNSS "C" scoping process developed jointly by NRC and EPRI.

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59	items 6 and 7, Page 19.3-11	NEI	Items 6 and 7 are related to the PRA and the PRAs use for RTNSS. As such this guidance does not belong in this SRP. Delete items 6 and 7.	Staff disagrees: Uncertainty assessment is part of the RTNSS scoping process developed jointly by NRC and EPRI.
60	item 1, Page 19.3-12	NEI	The subject Review Procedure indicates that a goal for RTNSS D SSCs is that the “conditional containment failure probability determined from the Level II PRA is less than or equal to 10.” However, conditional failure probabilities must be less than or equal to 1.0. The “10” appears to be a typographical error. If item 7 is not deleted as recommended in the above comment, correct SRP 19.3 to indicate that the conditional containment failure probability goal for RTNSS D SSCs is less than or equal to 1.0.	Staff agrees: The value specific for conditional containment failure probability has been changed from 10.0 to 0.1.
61	item 1, Page 19.3-12	NEI	There is no discussion in SECY-94-084, SECY-95-132 or Regulatory Guide 1.206 regarding the applicability of 10 CFR 50.36 (c)(2)(ii)(D) to the RTNSS process. There appears to be no regulatory basis to include this specific requirement into the RTNSS SRP 19.3. Remove the 10 CFR 50.36(c)(2)(ii)(D) requirement from SRP 19.3.	Staff disagrees: The RTNSS process includes an evaluation to determine availability controls that can be in the form of technical specifications (TS) or Administrative Controls (AC). However, the process provides no criteria for determining what should be a TS versus what should be an AC. Previous and current applicants for design certification have utilized the results of their focused PRA studies in conjunctions with 50.36(c)(2)(ii)(D) as a basis for determining the level of control and the staff has accepted this approach. In parallel with development of SRP 19.3, The staff is currently

No.	Section of draft SRP 19.3	Originator	Specific Comment	NRC Resolution
				developing guidance for applicants to use when evaluating the need for including availability controls on SSCs in the scope of the technical specifications under Criterion 4 of 10 CFR 50.36(c)(2)(ii)(D). Guidance has been drafted and is currently under review by the staff.
62	item 2, Page 19.3-12	NEI	This is not consistent with the SECYs, which say that these availability controls should only be applied if appropriate for the RTNSS R/A mission. Revise item 2 to read as follows, "...The staff verifies that AC LCOs and completion times, if appropriate, are established such that the availability of each function provides reasonable assurance that the RTNSS components can meet their RTNSS R/A missions. The staff also verifies that surveillance requirements are established which provide an adequate level of support to ensure that component performance is consistent with their RTNSS R/A missions.	Staff agrees: Revisions have been made to SRP 19.3.
63	item 3, Page 19.3-13	NEI	SRP 19.3 should adopt/reflect the SECY language. Revise item 3 to read as follows, "The staff finds that the applicant has included sufficient non-safety-related equipment in the RTNSS program to ensure that safety functions have a reasonable likelihood of being successful in the post-72-hour period. Further, the staff finds that the non-safety-related equipment relied upon in the post-72-	Staff agrees: Revision has been made.

No.	Section of draft SRP 19.3	Originator	Specific Comment	NRC Resolution
			hour period has been designed in accordance with Commission policy and that the applicant has established appropriate ACs for this equipment.”	
64	Appendix A, Pages 19.3-16 and -17	NEI	If Comment #2 on not using SRPs as the basis for review and acceptance for FSAR/DCD Section 19.3 is not accepted, there are several apparent errors or inconsistencies in Appendix A. Namely: Under “Design of RTNSS SSCs,” the SRP Chapter 7 series (7.0 – 7.9) is being replaced by a new DSRS/SRP series (7.0 – 7.2), at least for the B&W mPower reactor; hence, reference to SRP 7.8, per se, is questionable. Under “Design of RTNSS SSCs,” it is not obvious why SRP 9.5.4 is cited and not SRPs 9.5.5, 9.5.6, 9.5.7 and 9.5.8, which also apply to emergency diesel engine systems. Under “The reliability of the non-safety-related active system relied upon to achieve a cold shutdown condition,” the reference to SRP 5.7.4 should be to SRP 5.4.7.	<p>Reviews of RTNSS SSCs in the areas of the referenced SRPs as well as others have been done in the past for new reactors, but without the benefit of guidance. Guidance for addressing RTNSS as it has been done in the past is being incorporated into DSRS. Formalizing guidance for the staff to use in conducting these reviews will make the RTNSS review more efficient and transparent. Many parts of the SRP associated with a DSRS do not apply to RTNSS SSCs, as noted in comment.</p> <p>Appendix A been removed from the document. It was only intended as a guide for staff as to which reviews may need to address RTNSS systems, but was perceived to be suggesting that guidance for review of safety-related SSCs in SRPs listed may be used in RTNSS reviews. It has been determined that the appendix is not necessary for staff. The appendix has been deleted from the draft SRP.</p>

Table 2 – Comments on July 10, 2013 Federal Register Notice

No.	Section of draft SRP 19.3	Originator	Specific Comment	NRC Resolution
1	item 4, Page 19.3-8	NEI	<p>Application of RGs 1.76 and 1.221 to choose design basis wind speeds for RTNSS SSCs, per item 4, could lead to these systems being treated as safety-related via GDC 2, which is referenced in these RGs. The October 2012 draft version of SRP 19.3 specified Category 5 hurricane wind speeds, which is a lower wind speed threshold than if one were to choose design basis wind speeds via the aforementioned RGs and GDC 2.</p>	<p>The staff disagrees. By their own definition, RTNSS SCCs should not be treated as safety-related. The staff expects RTNSS B SSCs to be protected against the effects from tornados and hurricanes. RGs 1.76 and 1.221 provide guidance acceptable to the staff for selecting those design-basis wind speeds. The FRN for this re-noticing discusses in further details the basis for this position.</p>