

Public Comments on mPower DSRS

mPower DSRS Section 2.4.0, "Hydrology Review"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	1.	General to all DSRS 2.4.x subsections	Changes identified in the DSRS are not specific to the mPower standard plant design.	Provide updates/revisions in the form of revised SRP 2.4.x subsections	
Generation mPower	7/23/2013	2.	General	There is no DSRS acceptance criteria included in this section, and it is not clear what information is expected to be supplied by the applicants specifically in this section (2.4.0) for staff's review. It appears that the review requirements as described in 2.4.0 will have been covered in sections that follow (2.4.1 to 2.4.14.)	Provide clarification as to which data and information are expected to be reviewed in other 2.4 sections and need not be duplicated in 2.4.0.	
NEI	8/15/2013	3.	General	Much of the new topics and information addressed in 2.4.0 are already addressed in other 2.4.x subsections. An applicant will be forced to address particular hydrology issues in two places, contrary to NRC's stated preference.	Revise to ensure each topic is addressed in only one DSRS section (either 2.4.0 or the appropriate 2.4.x, not both).	
Generation mPower	7/23/2013	4.	General	There is no mention of the contents of 2.4.11 thru 2.4.13	Suggest completing summaries of 2.4.x contents with summaries for 2.4.11, 2.4.12, and 2.4.13.	
Generation mPower	7/23/2013	5.	I, 3 rd Para	4 th sentence – Section 2.4.2 is omitted.	Change "Sections 2.4.3 through 2.4.9" to "Sections 2.4.2 through 2.4.9"	
Generation mPower	7/23/2013	6.	II, Flood Producing Phenomena, 1 to 6	Clarify if the statement "Details of flooding analysis are presented in DSRS Sections 2.4.2 and 2.4.3...." in II.1 and similar statements in II.2 to II.6 mean "Guidance on the review of flooding analysis are presented in DSRS Sections 2.4.4 and 2.4.3....", etc..	Modify affected statements accordingly.	
Generation mPower	7/23/2013	7.	II, Flood Producing Phenomena, 1	Local intense precipitation flooding and site drainage are not included in Section II, despite that DSRS Section 2.4.2 is mentioned in Section II.1.	Add local intense precipitation/site drainage to Section II - Summary of Topical Review Areas – Flood Producing Phenomena.	

Public Comments on mPower DSRs

mPower DSRs Section 2.4.0, "Hydrology Review"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	8.	II, Flood Producing Phenomena, 1	DSRS 2.4.0 implies that DSRs 2.4.2 and 2.4.3 includes a discussion regarding flooding due to dam failure or ice jams.	Remove from discussion in II.1 and broaden scope of II.2 to include hydrologic dam failures, independently or in conjunction with ice dams.	
Generation mPower	7/23/2013	9.	II, Flood Producing Phenomena, 2	DSRS 2.4.0 implies that DSRs 2.4.4 discusses use of 25-year flood and 2-year wind waves. In addition, the five conditions (clauses) specified in A to E do not address all dam breach related flooding scenarios such as hydrologic and sunny day failures. Also, the scenarios associated with seismic events (clauses A and B) are not consistent with the guidelines from draft JLD-ISG-2013-01, Guidance for Assessment of Flooding Hazards Due to Dam Failure (which uses annual frequency ground motions in lieu of SSE or OBE and frequency of floods instead of standard project flood), NUREG/CR-7046 or ANS 2.8. The latter two guidance's use one half PMF or 500-year flood, not standard project flood as the coincidental event during OBE.	Revise DSRs 2.4.0 to remove the five conditions, refer to DSRs 2.4.4 discussion for consistent review requirements and acceptance criteria.	
Generation mPower	7/23/2013	10.	II / Item 2.E	In addition, SSE and OBE terminologies are not consistent with present day seismic evaluations. DSRs 2.4.0 uses the term "ice and glacial dams" with respect to DSRs 2.4.4.	Revise DSRs 2.4.4 to discuss "ice and glacial dams" or alternately have DSRs 2.4.0 refers to DSRs 2.4.7.	
Generation mPower	7/23/2013	11.	II / Item 5	DSRS 2.4.0 discuss "anchor ice" with respect to DSRs 2.4.7; however, DSRs 2.4.7 does not include any discussion of "anchor ice."	Revise DSRs 2.4.0 to use terminology consistent with DSRs 2.4.7 or update the language in DSRs 2.4.7.	
Generation mPower	7/23/2013	12.	II / Item 8	DSRS 2.4.0 indicates that there is a DSRs 2.4.8. No such DSRs 2.4.8 currently exists.	Revise DSRs 2.4.0 to revise reference to SRP 2.4.8.	
Generation	7/23/2013	13.	II / Groundwater	Use of the terminology of "alternative" in 2.4.12 is	Use consistent terminology between	

Public Comments on mPower DSRs

mPower DSRs Section 2.4.0, "Hydrology Review"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower			and Accidental Release of Radioactive Liquid Effluents, Item #6	inconsistent with the use of "alternate" in 2.4.0.	sections.	
Generation mPower	7/23/2013	14.	II, Low Water Considerations	DSRS 2.4.0 does not reference an SRP section for low water considerations.	Include reference to SRP 2.4.11 for low water considerations	
Generation mPower	7/23/2013	15.	II / Groundwater and Accidental Release of Radioactive Liquid Effluents	DSRS 2.4.0 does not reference any DSRs for groundwater considerations and accidental release of radioactive material, respectively.	Include reference to DSRs 2.4.12 for groundwater considerations and DSRs 2.4.13 for accidental release of radioactive material.	
Generation mPower	7/23/2013	16.	III / Items #8 and #11	DSRS 2.4.0 includes a list of DSRs in review interfaces...there are currently no DSRs for 2.4.8 and 2.4.11.	Remove the reference to DSRs for 2.4.8 and 2.4.11. These are noted as remaining as SRP Sections, as indicated in the mPower design-specific review standard scope and safety review matrix.	
Generation mPower	7/23/2013	17.	II, Flooding Protection Requirements, 1	Item 1 of the specific areas of review under this subtopic is "SSCs Important to Safety Exposed to Flooding or High Subsurface Hydraulic Head". High Subsurface Hydraulic Head is not normally referred to as a flooding condition which typically refers to when there is water above ground or grade level. Flood protection is needed to prevent surface water from getting into openings, while water proofing is typically used to prevent groundwater from getting into structures. If the staff determines to put the two phenomena into the same flooding category, it should include a definition upfront to clarify.	Either separate the references to High Subsurface Hydraulic Head from Flooding or add definition upfront.	
Generation mPower	7/23/2013	18.	II, Groundwater and Accidental Release of	Clarify if "hydrodynamic effects of groundwater" means "hydrostatic effects of groundwater"	Modify accordingly.	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.0, "Hydrology Review"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	19.	Radioactive Liquid Effluents, 2 III, Review Interface	The titles of the subchapters of 2.4 listed here should be consistent with the new DSRS subchapter titles. Sections 2.4.3 and 2.4.13 are inconsistent both with the new DSRS subsection and SRP titles. It is acknowledged that the subchapter titles for 2.4.5 and 2.4.6 have been modified from those for the SRP and have been correctly identified in this section.	Modify as necessary.	
Generation mPower	7/23/2013	20.	VIII, References	Add NUREG/CR-7046 as a reference.	Add NUREG/CR-7046 if appropriate.	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.1, "Hydrologic Description"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	1.	I.5/1	This would seem to indicate that "the evaluation of potential hazards to SSCs important to safety of existing operation units" does not have to be performed for Part 50 applicants.	Broaden discussion to all applications, if appropriate. If not appropriate, suggest moving under item #7, "Additional Information for 10 CFR Part 52 Applications).	
Generation mPower	7/23/2013	2.	II/DSRS Acc. Crit. #7	Permafrost hydrology is not considered to be applicable only to the mPower standard plant design.	A revision to the SRP to incorporate the new/revised items in this DSRS should be performed instead.	
Generation mPower	7/23/2013	3.	I/Review Interfaces, 1	(1) Section 2.4.1.1, Low Water Considerations, should be referenced or included as one of the interfaces. (2) High hydraulic heads that affect subsurface safety- related or risk significant SSCs should be grouped in the evaluation and design of flooding protection in 2.4.10.	(1) Modify to include reference to 2.4.11. (2) Include definition of flooding impacts to include high subsurface hydraulic head.	
Generation mPower	7/23/2013	4.	I/Review Interfaces, 4	DSRS Section 3.4.2 has a title of "Protection of Structures Against Flood From External Sources", not "Analysis Procedures".	Modify accordingly.	

Public Comments on mPower DSRs

mPower DSRs Section 2.4.2, "Flood and Site Drainage"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	General	As with other DSRs related to Section 2.4, the revisions to the DSRs 2.4.2 do not seem to be particular to the B&W mPower™ design and would serve better as revisions to the SRP.	Revise SRP accordingly and do not move forward with the Section 2.4 DSRs.	
Generation mPower	8/14/2013	2.	I/ 2 nd paragraph	The statement "These reviews are based on information and analysis presented in the applicant's final safety analysis report (FSAR)." Such information and analysis can also be presented in the site safety analysis report (SSAR) in the case of an ESP application.	Add the acronym "SSAR" following the text site safety analysis report to this sentence and use SSAR in other similar occurrences in all related DSRs sections when referring to ESP applications.	
Generation mPower	8/14/2013	3.	I/1	Review Interfaces items 4 and 6 seem to duplicate the need to address review of the site parameter envelope identified in SRP Section 2.0 (Appendix A).	Consolidate information and delete duplicate item.	
Generation mPower	8/14/2013	4.	I/1.C, III/1	Section 1, Item 1.C and Section II, DSRs Acceptance Criteria Item 1 under the header <u>Design Bases for Site Drainage</u> include statements related to estimates of the runoff from the immediate site area and the drainage from areas adjacent to the site, including the roofs of structures important to safety. Local intense precipitation evaluations typically include runoff from the roof of <u>all</u> structures, safety and nonsafety-related structures, on or adjacent to the site. Therefore, there is no need to explicitly indicate the need to address roofs of structures important to safety and these statements should be revised.	Revise Item 1.C on page 2.4.2-2 as follows: The Staff reviews estimates of the runoff from the immediate site area and the drainage from areas adjacent to the site, including the roofs of plant structures important to safety." Revise DSRs Acceptance Criteria Item 1 on page 2.4.2-4 as follows: "The application should provide an estimate of the runoff from the immediate site area and the drainage from areas adjacent to the site, including the roofs of plant structures important to safety."	
Generation mPower	8/14/2013	5.	II	Technical rationale is not provided for GDC 4 in Section II, which is an added GDC under the	Include technical rationale for GDC 4 or delete GDC 4 from Acceptance Criteria.	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.2, "Flood and Site Drainage"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	6.	II	Acceptance Criteria. It is not clear why Criterion 4 would need to be applied, beyond what is already addressed under Criterion 2, with respect to hydrological events. Requirements #4 cites 10CFR100.10(c), which is applicable to applications before January 10, 1997. 10CFR100.20(c) is applicable to applications submitted on or after January 10, 1997.	Revise Requirements #4 to refer to 10 CFR 100.20(c).	
NuScale	8/15/2013	7.	II. Acceptance Criteria p. 2.4.2-3	As stated in ISG-013, the DSRS acceptance criteria should stipulate that if the liquid radwaste tank passive mitigative design features preclude environmental releases, no tank failure accident analysis need be performed. Furthermore, only site-specific groundwater, surface water and effects of ice analyses would be required.	Clarify the criteria for the Tank Failure Analysis.	
Generation mPower	8/14/2013	8.	III/ 2	Review Procedures, 2 nd paragraph, reconsider the use of the term PMF for site drainage system. Typically PMF is used in conjunction with river and streams.	Instead of PMF, use "flooding at the site during local intense precipitation".	
Generation mPower	8/14/2013	9.	III/ 2	Review Procedures, Item 2, 4th paragraph includes the following text: "Protection from flooding caused by local intense precipitation cannot be mitigated by siting changes." Siting changes can in some situations mitigate the flooding hazard resulting from local intense precipitation.	Revise Item 2, 4 th paragraph as follows: "Protection from flooding caused by local intense precipitation cannot be mitigated by siting changes."	
NuScale	8/15/2013	10.	III. Review Procedures Item	What is the justification for the 5% less conservative site characteristics values	Clarify the type of precipitation data to be used in the DSRS. Also, review	

Public Comments on mPower DSRs

mPower DSRs Section 2.4.2, "Flood and Site Drainage"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	11.	3, Combined Events Criteria p. 2.4.2-7 Figure 2.4.2-1 p. 2.4.2-14	presented being acceptable to the staff in the note 2 on page 2.4.2-7? Figure 2.4.2-1 appears to be more suitable for the COL applicants. Also, based on the conclusions from the recent ACRS subcommittee meeting, Committee Chairman Stetkar indicated that the guidance document does not go far enough and should include precipitation data as far back as 100 years instead of the current 30 years. Please clarify what type of data the DSRs should use.	applicability to COL vs. DCA.	
Generation mPower	8/14/2013	11.	III/ 3, VI	Under Review Procedures, Item 3, add reference to NUREG/CR-7046 and recently published ISGs on flooding that provide guidance on the Staff's review of Combined Events Criteria.	Include NUREG/CR-7046, ISG JLD-ISG-2012-06, and ISG JLD-ISG-2013-01 or adopt similar wordings as given in DSRs Section 2.4.4 footnotes regarding use of later revision or additional guidance when they become available. Identify added documents in References sections.	
Generation mPower	8/14/2013	12.	IV/ 2	ESP Review – 2 nd paragraph starting with "As set forth above", in the 2 nd sentence – FSAR should be SSAR since this paragraph addresses ESP reviews.	Revise as noted.	
Generation mPower	8/14/2013	13.	VI	The following Reference 29 was added to DSRs 2.4.2: "U.S. Army Corps of Engineers records maintained in District and Division Offices, Coastal Engineering Research Center, and Waterways Experiment Station." Please substantiate further why this reference was added and where it is cited or is applicable in the	Delete Reference 29 or use reference in text.	

Public Comments on mPower DSRs

mPower DSRs Section 2.4.2, "Flood and Site Drainage"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				DSRS 2.4.2 text.		
Generation mPower	8/14/2013	14.	VI	Footnote 3, reference to SRP Section 2.4.3 should be DSRs Section 2.4.3.	Revise as noted.	
Generation mPower	8/14/2013	15.	Figure 2.4.2-1	<ol style="list-style-type: none"> 1. Consider combining the contents of the second and third boxes as the content of the second box is not complete. 2. Second box indicates PMP of 5 minutes to 48 hours should be prepared. It is unusual that PMP of the longer durations (say 12 hours to 48 hours) are of much significance in LIP evaluations. Suggest use of text "durations appropriate for the site condition". 	<ol style="list-style-type: none"> 1. Modify 2nd and 3rd boxes accordingly. 2. Suggest to add "or durations appropriate for the specific site condition" after "48 HR" in the second box. 	

Public Comments on mPower DSRs

mPower DSRs Section 2.4.3, "Probable Maximum Flood (PMF) On Streams and Rivers"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NuScale	8/15/2013	1.	Throughout section	A considerable portion of the additions to this section of the mPower DSRs are intended for the COL applicant that will largely assist the site-specific review.	Revise applicability to COL vs. DCA applicants.	
Generation mPower	8/14/2013	2.	General	As with other DSRs related to Section 2.4, the revisions to DSRs 2.4.3 do not seem to be particular to the B&W mPower™ design and would serve better as revisions to the SRP.	Revise SRP accordingly and do not move forward with the Section 2.4 DSRs.	
Generation mPower	8/14/2013	3.	General	Suggest that references to "important to safety" should be "safety-related and RTNSS-B".	Revise as indicated in Section I Areas of Review: Section II DSRs Acceptance Criteria Items 1 and 2; Section II Technical Rationale Items 1 and 2; Section III Review Procedures Item 5; Section IV Items 1 and 2.	Generation mPower
Generation mPower	8/14/2013	4.	1/1 st paragraph	Missing "." at end of paragraph.	Add "." accordingly.	
Generation mPower	8/14/2013	5.	1/2 nd paragraph.	The statement "These reviews are based on information and analysis presented in the applicant's final safety analysis report (FSAR)." Such information and analysis can also be presented in the site safety analysis report in the case of an ESP application.	Add site safety analysis report (SSAR) to this sentence and other similar occurrences.	
Generation mPower	8/14/2013	6.	1/3 rd paragraph	Consider adding "Combined Event Criteria" to specific areas of review in this and other DSRs flooding related sections, consistent with that in DSRs 2.4.2.	Revise the DSRs Acceptance Criteria to renumber the current item 2 to item 3 and add a new item 2, which reads: "2. Combined Events Criteria: The application should include information concerning design basis flooding at the plant site, including consideration of appropriate combinations of individual flooding phenomena in addition to the	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.3, "Probable Maximum Flood (PMF) On Streams and Rivers"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
					most severe effects from individual phenomena themselves. The highest flood water surface elevation should be determined based on consideration of the worst combination of flooding phenomena and is reported as a site characteristic in the staff's SER."	
Generation mPower	8/14/2013	7.	I/1/Review Interface, Item 4	DSRS 3.4.2 is titled "Protection of Structures Against Flood From External Sources", not "Analysis Procedures".	Revise title to state, "Protection of Structures Against Flood From External Sources".	
Generation mPower	8/14/2013	8.	I/1/Review Interface, Item 5	DSRS 10.4.5 is titled "Circulating Water Systems," not "Circulating Water System Review Responsibilities."	Revise title to state, "Circulating Water Systems."	
Generation mPower	8/14/2013	9.	I/1/Review Interface, Item 5	Delete Interface Item 5 related to DSRS 10.4.5 on the circulating water system as it is not in DSRS 2.4.2 or other flooding related DSRS sections.	Delete Review Interface Item 5 and renumber remaining items.	
NuScale	8/15/2013	10.	Figure 2.4.3-1 p. 2.4.3-14	Figure 2.4.3-1 is a flow chart for determining PMF that is best suited for COL applicant, not a DC applicant.	Revise applicability to COL vs. DCA.	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.4, "Potential Dam Failures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	General	As with other DSRSs related to Section 2.4, the revisions to DSRS 2.4.4 do not seem to be particular to the B&W mPower™ design and would serve better as revisions to the SRP.	Revise SRP accordingly and do not move forward with the Section 2.4 DSRS Sections.	
Generation mPower	8/14/2013	2.	General	References to "SSCs important to safety" should be revised to state safety-related and RTNSS-B SSCs."	Revise as suggested in Areas of Review (including the areas of review), Technical Rationale, Review Procedures, and Evaluation Findings.	
Generation mPower	8/14/2013	3.	General (e.g., Sect 1 paragraph 2)	References to information under the Design Certification Application should reference the Design Control Document (DCD); activities under an ESP should reference an SSAR; and activities under COL should reference a FSAR.	Revise as indicated.	
NEI	8/15/2013	4.	I. Areas of Review, Item 1, p. 2.4.4-1	On page 2.4.4-1, the item 1 paragraph has been revised to include flooding from potential onsite and offsite water storage tanks. However, this change is not reflected by any additional acceptance criteria or review procedures in this section. For example, it is not clear the extent that offsite tanks are to be considered (distance from site). Also, onsite tank failure is reviewed under section 3.4.1.	Revise throughout to reflect review guidance for tank failures, or delete sentence.	
Generation mPower	8/14/2013	5.	I/Item 1	Last sentence should be reworded to state, "Flooding from the potential failure of offsite water control or storage structures is also reviewed." Tanks are considered to be engineered storage structures.	Revise as indicated.	
Generation mPower	8/14/2013	6.	I/Item 5	2 nd sentence discussing potential effects of sediment erosion and deposition on site drainage system and its conveyance capacity is reviewed as part of DSRS 2.4.2.	Remove reference to site drainage and conveyance capacity.	

Public Comments on mPower DSRs

mPower DSRs Section 2.4.4, "Potential Dam Failures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	7.	I/Review Interface/Item 2	Remove Item 2 regarding DSRs Section 2.4.12 "Groundwater" as the effects of design basis flood elevation and erosion/deposition on subsurface hydraulic heads are considered under DSRs 2.4.12.	Revise as stated.	
Generation mPower	8/14/2013	8.	I/Review Interfaces	Add a reference to DSRs 3.4.2 on force and effective loads applied to Seismic Category I structures, and to DSRs 2.4.5, similar to text being added in DSRs 2.4.6.	Revise as indicated.	
NEI	8/15/2013	9.	II. Acceptance Criteria, Acceptance Criterion 2, p. 2.4.4-4.	On page 2.4.4-4, Acceptance Criterion 2 should include within the criterion the extent to which upstream dam failures must be considered, i.e. how far upstream.	Clarify with guidance on how far upstream dam failure must be considered.	
Generation mPower	8/14/2013	10.	II/DSRS Acceptance Criteria/4 th paragraph	RG 1.29 – the added wording regarding risk-significant SSCs for B&W mPower is not consistent among the DSRs 2.4 subsections and is not consistent with RG 1.29. Suggest using "important to safety" when discussing regulatory guidance that uses that terminology.	Replace current wording with "RG 1.29 identifies seismic design bases for SSCs important to safety" consistent with DSRs 2.4.1 and DSRs 2.4.3.	
Generation mPower	8/14/2013	11.	III/ Requirements	GDC 4 is specified in the Requirements Section, but is not discussed as part of DSRs Acceptance Criteria, or in Evaluation Findings for COL Reviews. It is not clear why Criterion 4 would need to be applied, beyond what is already addressed under Criterion 2, with respect to hydrological events.	Include technical rationale for GDC 4 or delete GDC 4 from Acceptance Criteria.	
Generation mPower	8/14/2013	12.	III/ Requirements	GDC 44 is specified in Requirements Item #4. For the B&W mPower standard plant design, the ultimate heat sink (UHS) function is provided by the atmosphere in conjunction with the water	Delete references to GDC 44.	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.4, "Potential Dam Failures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	13.	III/Item 4	<p>supply of a Passive Containment Cooling Tank (PCCT) located below grade in a Seismic Category I structure. The UHS function will be addressed in DCD Section 6.2.2 relative to compliance with GDC 44 and should be deleted from DSRS 2.4.4.</p> <p>Suggest using terms such as "velocity field", "turbulent field" and/or "temporal and spatially varying velocity distribution" in lieu of "mean and turbulent velocities" as the current technologies for dam failure flooding evaluation do not provide sufficient information for meaningful prediction or resolution of turbulent velocities. During an extreme flooding event, the hydrodynamic effect is more governed by the mean flow field than by the turbulent velocities. The SSCs important to safety for the B&W mPower standard plant will unlikely be subjected to the dynamics effect of the turbulent field from flooding as safety-related and risk significant SSCs safety are enclosed in the RSB structure, which is of physical scales much larger than the expected turbulent structures. Furthermore, the dynamic effect evaluation, if needed, will likely rely on the postulated characteristics of the overall turbulent field such as scaling and frequencies rather than the turbulent velocity itself, as there is no actual measurement to allow for its resolution. Computer models such as CFDs have been used to generate turbulent velocity for specific applications but are subject to limitations in external flooding evaluations.</p>	Revise as indicated.	
Generation	8/14/2013	14.	IV/Item 2	References to FSAR and COL in the discussion of	Revise as indicated.	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.4, "Potential Dam Failures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower				the ESP Review should be SSAR and ESP, respectively.		

Public Comments on mPower DSRs

mPower DSRs Section 2.4.5, "Probable Maximum Surge and Seiche Flooding"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	General	As with other DSRs related to Section 2.4, the revisions to the DSRs 2.4.5 do not seem to be particular to the B&W mPower™ design and would serve better as revisions to the SRP.	Revise SRP accordingly and do not move forward with the Section 2.4 DSRs.	
Generation mPower	8/14/2013	2.	I/2 nd and 3 rd paragraphs	Suggest including SSAR in addition to FSAR for ESP applications.	Revise Section I and in all other similar occurrences.	
Generation mPower	8/14/2013	3.	I/Review Interfaces	Delete the second item referring to DSRs 2.4.6, as this DSRs review interface is already identified in Item 1.	Delete the second item.	
Generation mPower	8/14/2013	4.	I/Review Interfaces	Include SRP Section 2.4.11 in the list of review interfaces, as seiche can result in low water considerations.	Include SRP Section 2.4.11 in list of review interfaces.	
Generation mPower	8/14/2013	5.	I/Review Interfaces	Provide a reference to DSRs 3.4.2 on force and effective loads applied to seismic Category I structure.	Revise as indicated.	
Generation mPower	8/14/2013	6.	I/Item 6	2 nd sentence - Potential effects of sediment erosion and deposition on site drainage system and its conveyance capacity are reviewed as part of DSRs 2.4.2.	Remove reference to site drainage and conveyance capacity.	
Generation mPower	8/14/2013	7.	III/ Requirements	GDC 4 is specified in Requirements section, but is not discussed as part of the DSRs Acceptance Criteria, or in Evaluation Findings for COL Reviews. It is not clear why Criterion 4 would need to be applied, beyond what is already addressed under Criterion 2, with respect to hydrological events.	Include technical rationale for GDC 4 or delete GDC 4 under Requirements in Section II.	
Generation mPower	8/14/2013	8.	II/DSRS Acceptance Criteria	Delete GDC 44 from the Requirements section. For the B&W mPower standard plant design, the ultimate heat sink (UHS) function is provided by the atmosphere in conjunction with the water supply of a Passive Containment Cooling Tank	Delete references to GDC 44.	

Public Comments on mPower DSRs

mPower DSRs Section 2.4.5, "Probable Maximum Surge and Seiche Flooding"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				(PCCT) located below grade in a Seismic Category I structure. The UHS functions will be addressed in DCD Section 6.2.2 relative to compliance with GDC 44.		
NEI	8/15/2013	9.	II. Acceptance Criteria, DSRs Acceptance Criteria, p. 2.4.5-4 & 5	Consider including RG 1.221, "Design-Basis Hurricane and Hurricane Missiles for Nuclear Power Plants" as an NRC acceptance criterion, as most of the recent DC and COL applicants have received RALs on this topic in order to show compliance.	Revise to include RG 1.221 as an acceptance criterion.	
Generation mPower	8/14/2013	10.	II/DSRS Acceptance Criteria	DSRS 2.4.6 includes JLD-ISG-2012-06 to support the acceptance criteria and should also be included in DSRs 2.4.5.	Include JLD-ISG-2012-06.	
Generation mPower	8/14/2013	11.	II/Technical Rationale/Item 1/3 rd paragraph	Revise reference to "PMS" to "DBSS" based on the terminology noted in Footnote 1 on page 2.4.5-1 and adopted in other paragraphs.	Revise as indicated.	
Generation mPower	8/14/2013	12.	III/Item 2/1 st paragraph	NOAA NWS Report 23 was removed from the associated paragraph in the SRP and is not listed in the Section VI (References) of the current DSRs. This reference should be reinstated in the DSRs.	Include NWS 23 in the text and reference section.	
Generation mPower	8/14/2013	13.	III/Item 6	Potential effects of sediment erosion and deposition on site drainage system and its conveyance capacity are reviewed as part of DSRs 2.4.2.	Remove reference to site drainage as the review of the worst case local flooding under local intense precipitation is performed in DSRs 2.4.2.	
Generation mPower	8/14/2013	14.	General	It is noted that there DSRs subsection does not include discussion of hydrodynamic forces and debris impact as in 2.4.3 and 2.4.4. In addition, there is no flow chart included in DSRs 2.4.5.	Add discussion on hydrodynamic forces and debris impact similar to information in DSRs 2.4.3 and 2.4.4 and a flow chart for this DSRs Section.	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.6, "Tsunami Hazards"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	General	As with other DSRSs related to Section 2.4, the revisions to DSRS 2.4.6 do not seem to be particular to the B&W mPower™ design and would serve better as revisions to the SRP.	Revise SRP accordingly and do not move forward with the Section 2.4 DSRS Sections.	
Generation mPower	8/14/2013	2.	I/ Areas of Review	Include verbiage appropriate for an ESP applicant.	Revise text as follows: "These reviews are based on information and analysis presented in an ESP applicant's site safety analysis report (SSAR) or a COL applicant's final safety analysis report (FSAR). The staff's review and findings are described in the appropriate section of the final safety evaluation report (FSER). The staff's review of the SSAR or FSAR covers the following specific areas:..."	
Generation mPower	8/14/2013	3.	I/ Area of Review	DSRS subsection should reference "safety-related or RTNSS-B SSCs" rather than "important to safety".	Replace as indicated.	
Generation mPower	8/14/2013	4.	I/Review Interfaces/Item 3	DSRS 3.4.2 is titled "Protection of Structures Against Flood From External Sources", not "Analysis Procedures".	Revise as indicated.	
Generation mPower	8/14/2013	5.	III/ DSRS Acceptance Criteria	The reference to "FSAR" should also include "SSAR."	Revise as indicated.	
Generation mPower	8/14/2013	6.	III/DSRS Acceptance Criteria 3-6	DSRS subsection should reference "safety-related or RTNSS-B SSCs" rather than "important to safety".	Replace as indicated.	
Generation mPower	8/14/2013	7.	III/DSRS Acceptance Criteria	RG 1.59 – wording used here is different from other DSRS 2.4 subsections. Suggest using consistent wordings throughout.	Revise to state, "RG 1.59, as supplemented by best current practices, provides guidance for developing the flood design bases."	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.6, "Tsunami Hazards"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	8.	III/Technical Rationale Item 2	The reference to "FSAR" should also include "SSAR."	Revise as indicated.	
Generation mPower	8/14/2013	9.	IV/Evaluation Findings paragraph 1	The reference to "FSAR" should also include "SSAR."	Revise as indicated.	
Generation mPower	8/14/2013	10.	IV/ Evaluation Findings Item #2	References to "FSAR" should be to "SSAR."	Revise as indicated.	
Generation mPower	8/14/2013	11.	VI/ Implementation paragraph 3	Delete reference to FSAR after DCD.	Revise as indicated.	
Generation mPower	8/14/2013	12.	VI References	Add JLD-ISG-2012-06 and NUREG/CR-7046 to the reference section and delete GDC 44, which is not applicable or referenced in DSRS 2.4.6.	Revise as indicated.	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.7, "Ice Effects"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	1.	Various	DSRS 2.4.7 references the UHS or RG 1.27, Ultimate Heat Sink for Nuclear Power Plants, in multiple areas. Given that the UHS is not external in the mPower design, ice effects on the UHS do not apply.	Revise the DSRS accordingly.	
Generation mPower	7/23/2013	2.	Various	Reference to mPower™ should be to B&W mPower™	Revise globally as indicated (or indicate that mPower is being used as short hand).	
Generation mPower	7/23/2013	3.	I/Review Interfaces, 1.	Interface should include Section 2.4.1 (Hydrologic Description), 2.4.11 (Low Water Considerations)	Include references to 2.4.1 and 2.4.11.	
Generation mPower	7/23/2013	4.	Various	The new title of 3.4.2 is "Protection of Structures Against Flood From External Sources", not "Analysis Procedures".	Revise accordingly.	
NuScale	8/15/2013	5.	II. Acceptance Criteria p. 2.4.7-3	RG 1.221, <i>Design-Basis Hurricane and Hurricane Missiles for Nuclear Power Plants</i> , should be the NRC acceptance criterion because the design-basis hurricane would concomitantly cause a large tsunami from wind speed or hurricane categorization effects.	Include RG 1.221 for determining the design basis hurricane criteria.	

Public Comments on mPower DSRs

mPower DSRs Section 2.4.9, "Probable Maximum Surge and Seiche Flooding"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	General	As with other DSRs related to Section 2.4, the revisions to DSRs 2.4.9 do not seem to be particular to the B&W mPower™ design and would serve better as revisions to the SRP.	Revise SRP accordingly and do not move forward with the Section 2.4 DSRs Sections.	
Generation mPower	8/14/2013	2.	I/ Areas of Review	Include verbiage appropriate for an ESP applicant.	These reviews are based on information and analysis presented in an ESP applicant's site safety analysis report (SSAR) or a COL applicant's final safety analysis report (FSAR). The staff's review and findings are described in the appropriate section of the final safety evaluation report (FSER). The staff's review of the SSAR or FSAR covers the following specific areas:...	
Generation mPower	8/14/2013	3.	I/ Areas of Review/ II/ Acceptance Criteria III/ Review Procedures IV/ Evaluation Findings	"Important to safety" should be replaced with "safety-related and RTNSS-B"	Revise as suggested in first paragraph of Section I Areas of Review; Section I Areas of Review Items 5; Section I Review Interfaces Items 2 & 5; Section II Technical Rationale Items 1, 3, & 5; Section III Review Procedures 2, 3, & 4; Section III Review Procedures 4, 6, 8, & 10; and IV Evaluation Findings Items 1 & 2	
Generation mPower	8/14/2013	4.	I/ Areas of Review Item 3	Add "SSAR or" to "FSAR 2.4.7."	Revise as suggested.	
NuScale	8/15/2013	5.	II. Acceptance Criteria	Regulatory Guide 1.221, <i>Design-Basis Hurricane and Hurricane Missiles for Nuclear Power Plants</i> , is not considered an NRC acceptance criterion in the mPower DSRs. Regulatory Guide 1.221 establishes the criteria for determining the design basis hurricane. A considerable amount of the DSRs is good material for the COL applicant to utilize in performing the site-specific analyses	Include RG 1.221 for determining the design basis hurricane criteria. Also, verify applicability to COL vs. DCA.	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.9, "Probable Maximum Surge and Seiche Flooding"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	6.	III/ Acceptance Criteria 3 and 7 III/ Review Procedures Item 4	and really not information for the DC applicant. Add "SSAR or" to "FSAR."	Revise as suggested.	
Generation mPower	8/14/2013	7.	IV/ Evaluation Findings paragraph 1	The reference to "FSAR" should also include "SSAR."	Revise as indicated.	
Generation mPower	8/14/2013	8.	IV/ Evaluation Findings Item 2	References to "FSAR" should be to "SSAR."	Revise as indicated.	
Generation mPower	8/14/2013	9.	VI/ Implementation paragraph 3	Delete reference to FSAR after DCD.	Revise as indicated.	

Public Comments on mPower DSRs

mPower DSRs Section 2.4.10, "Flooding Protection Requirements"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	General	As with other DSRs related to Section 2.4, the revisions to DSRs 2.4.10 do not seem to be particular to the B&W mPower™ design and would serve better as revisions to the SRP.	Revise SRP accordingly and do not move forward with the Section 2.4 DSRs Sections.	
Generation mPower	8/14/2013	2.	I/2	Reword the following sentence, "The staff reviews information presented by the applicant for a design certification (DC), early site permit (EP), or combined license (COL) concerning hydrologic setting of the site as they relate to safety-related or risk-significant SSCs important to safety."	Revise to state: "The staff reviews information presented by the applicant for a design certification (DC), early site permit (EP), or combined license (COL) concerning hydrologic setting of the site as they relate to safety-related or RTNSS-B SSCs."	
Generation mPower	8/14/2013	3.	I/Review Interfaces /Item 1	Insert space between Sections and 2.4.0. Add "." at the end of the sentence.	Revise as indicated.	
Generation mPower	8/14/2013	4.	I/Review Interfaces /Item 3	DSRS 3.4.2 is titled "Protection of Structures Against Flood From External Sources", not "Analysis Procedures".	Revise as indicated.	
Generation mPower	8/14/2013	5.	I/Review Interfaces/Item 5	DSRS 2.4.2 uses "local intense precipitation" more prominently than "local probable maximum precipitation." DSRS 2.4.5 uses the term "simulated wind storm" in lieu of "probable maximum wind storm."	Revise wording to be consistent with text from DSRs 2.4.2 and 2.4.5.	
Generation mPower	8/14/2013	6.	II/Requirements	GDC 44 is specified in Requirements Item #5. For the B&W mPower standard plant design, the ultimate heat sink (UHS) function is provided by the atmosphere in conjunction with the water supply of a Passive Containment Cooling Tank (PCCT) located below grade in a Seismic Category I structure. The UHS functions will be addressed in DCD Section 6.2.2 relative to	Delete references to GDC 44.	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.10, "Flooding Protection Requirements"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	7.	III/6	<p>The "Review Procedures" section does not include references to ESPs; however, Section IV, Evaluation Findings, includes information specific to ESPs.</p> <p>compliance with GDC 44 and should be deleted from DSRS 2.4.10.</p>	Add information to the "Review Procedures" section to address ESP applications.	

Public Comments on mPower DSRs

mPower DSRs Section 2.4.12, "Groundwater"							
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution	
Generation mPower	8/14/2013	1.	General	There is little to no B&W mPower™ design-specific information in DSRs 2.4.12. Rather than provide a new DSRs, suggest revising SRP 2.4.12 to reflect these changes.	Revise SRP 2.4.12 instead of proceeding with DSRs 2.4.12.		
Generation mPower	8/14/2013	2.	I Review Interfaces / 3	The referenced DSRs section for the design basis flood site characteristic should be 2.4.0, not 2.4.	Revise Review Interface Item 3 to refer to 2.4.0.		
Generation mPower	8/14/2013	3.	I Review Interfaces/ 6	Per the DSRs matrix provided by NRC, there will not be a DSRs 3.8.1, the SRP is N/A.	Remove reference to DSRs 3.8.1 in the Review Interface Item 6.		
Generation mPower	8/14/2013	4.	Review Procedures / 6B	For consistency with other deleted text references to construction permits, remove reference to the construction permit applicant and add reference to an ESP applicant.	Revise sentence to read, "DC applications do not contain general descriptions of site characteristics because this information is site-specific and will be addressed by the ESP or COL applicant."		
Generation mPower	8/14/2013	5.	II/ Acceptance Criteria Items 1 and 2	Correct Item #2 to indicate 10 CFR 50.55(f), instead of 10 CFR 50.55(a).	Correct the reference to 10 CFR 50.55(f).		
Generation mPower	8/14/2013	6.	II/Acceptance Criteria Item 8; Technical Rationale Item 6	The B&W mPower standard plant systems providing compliance with GDC 44 do not rely on site groundwater. Consequently, delete DSRs 2.4.12 text either inferring or stating that site groundwater is used to supply safety-related or risk-significant functions for compliance with GDC 44.	Delete references to GDC 44.		
Generation mPower	8/14/2013	7.	II/Acceptance Criteria Item 10	Remove reference to 10 CFR 20.1406, as this section is concerned with groundwater hydrology and not contamination of groundwater. This is more appropriate for Section 2.4.13.	Revise as indicated.		
Generation mPower	8/14/2013	8.	II/ DSRs Acceptance Criteria 2	Remove reference to "extreme" when discussing the comparison of post-construction groundwater conditions with the design basis of the plant and	Replace "extreme" with "maximum" for the post-construction groundwater levels.		

Public Comments on mPower DSRs

mPower DSRs Section 2.4.12, "Groundwater"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	9.	II/ DSRs Acceptance Criteria 6	replace with a reference to "maximum." Remove references to RG 4.21 as this is more appropriate for DSRs 2.4.13.	Remove as indicated.	
Generation mPower	8/14/2013	10.	II/ Technical Rationale Item 7 paragraph 4	Insert "COL" before "applicant's FSAR" Remove the second sentence. The second sentence is more appropriate for DSRs 2.4.13.	Revise text in paragraph 4 of Item 7.	
Generation mPower	8/14/2013	11.	II/ Technical Rationale Item 9	Remove Item 9 related to 10 CFR 20.1406. This information is more appropriately discussed in DSRs 2.4.13 and that section already recognizes that an understanding of groundwater is required to make evaluations.	Remove Item 9.	
NEI	8/15/2013	12.	III. Review Procedures, Item 3, pg. 2.4.12-10	Effects on Subsurface or Risk-Significant SSCs: the DSRs states that "where margins between anticipated conditions and the design bases are small, technical specifications or permit conditions about continuing groundwater level monitoring may be needed to assure that actual post-construction groundwater conditions remain as represented in the COL application." "Small" is vague, and creates challenges for applicant in anticipating potential problems and with Staff in defining this and agreeing upon when TS or permit conditions will be required.	Clarify what is meant by an acceptable margin (i.e. not too small) to preclude TS or permit conditions by explicitly stating an acceptable margin, or otherwise identify parameters and guidance relevant to determining an acceptable margin for a particular site.	
NuScale	8/15/2013	13.	III. Review Procedures Item 3 p. 2.4.12-10	Under Review Procedures, Item 3, <i>Effects on Subsurface or Risk-Significant SSCs</i> , the discussion suggests that where margins between anticipated conditions and design bases are "small", technical specifications or permit conditions about continuing groundwater monitoring may be needed to ensure that actual post-construction conditions remain as	Clarify what is meant by an acceptable margin (i.e. not too small) to preclude TS or permit conditions by explicitly stating an acceptable margin, or otherwise identify parameters and guidance relevant to determining an acceptable margin for a particular site.	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.12, "Groundwater"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				represented in the COL application. For this purpose, "small" should be more clearly defined. Lack of clarification may lead to numerous issues with the staff in defining the requirements and agreeing upon when TS or permit conditions will be required.		
Generation mPower	8/14/2013	14.	III/ Review Procedures Item 6	Remove reference to construction permit and replace with a reference to an ESP applicant.	Revised to read, "...will be addressed by the ESP or COL applicant."	
Generation mPower	8/14/2013	15.	IV, Evaluation Findings, Item 1 paragraph 1 and 2	Remove the reference to GDC 44 as the B&W mPower standard plant does not use groundwater to supply the UHS.	Revise in both cases to read, "...GDC 2 and 4..."	
Generation mPower	8/14/2013	16.	VI References	Remove the following references: Reference 1 to 10 CFR 20.1406, "Minimization of Contamination, (as it is more appropriate for 2.4.13) Reference 31 to RG 1.27 (as this is related to UHS which does not rely on groundwater in the B&W mPower standard plant design) Reference 33 to RG 4.21 (as this is more appropriate for the discussion in DSRS 2.4.13)	Revise as indicated.	

Public Comments on mPower DSRs

mPower DSRs Section 2.4.13, “Accidental Releases of Radioactive Liquid Effluents in Ground and Surface Waters”

Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	General	As with other DSRs related to Section 2.4, the revisions to DSRs 2.4.13 do not seem to be particular to the B&W mPower™ design and would serve better as revisions to the SRP.	Revise SRP accordingly and do not move forward with the Section 2.4 DSRs Sections.	
NuScale	8/15/2013	2.	Throughout section	A considerable portion of the additions to this section of the mPower DSRs are intended for the COL applicant that will largely assist the site-specific review.	Revise applicability to COL vs. DCA applicants.	
NuScale	8/15/2013	3.	Throughout Section	The DSRs needs to specify in the acceptance criteria that if the design meets the passive mitigative design features to preclude releases to the environment that only the site-specific groundwater and surface water as well as effects of ice, etc. need to be performed, and that the continuation of the tank failure analysis is unnecessary. ISG -013 states that this is allowed.	Modify Acceptance Criteria based on presented argument.	
Generation mPower	8/14/2013	4.	// Areas of Review, 1 st paragraph	Revise to indicate that the DC document for review is the DCD, the COL document for review is the FSAR, and the ESP document for review is the SSAR.	Revise to state, “...staff’s review of the section of the design certificate (DC) applicant’s design control document (DCD), a combined license (COL) applicant’s final safety analysis report (FSAR), or an early site permit (ESP) applicant’s site safety analysis report (SSAR) that evaluates...”	
Generation mPower	8/14/2013	5.	// Areas of Review, paragraph 2	Use only acronym for DC, ESP, or COL as they will now be defined in paragraph 1.	Revise as suggested.	
Generation mPower	8/14/2013	6.	// Areas of Review, paragraph 3	Replace the fourth and fifth sentences with, “Normal operational releases and other accidents are considered elsewhere in the DSRs, in particular Chapters 11 and 15.”	Revise as indicated.	
Generation	8/14/2013	7.	//Areas of Review,	For simplicity revise the third sentence to state,	Revise as indicated.	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.13, "Accidental Releases of Radioactive Liquid Effluents in Ground and Surface Waters"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower			paragraph 4	"The application must provide sufficient..."		
Generation mPower	8/14/2013		I/ Review Interfaces Item 2	Add DSRS Section 2.4.1 to the list.	Revise to read, "...following the guidance in DSRS Section 2.4.1, 2.4.2,..."	
Generation mPower	8/14/2013	8.	I/ Review Interfaces Item 3	Delete Item 3 for review of information on seismically-induced land subsidence information is performed under SRP Section 2.5.1) and renumber remaining items, as it is redundant to Item 7, which provides a better description of the needed review interface.	Revise as suggested.	
NEI	8/15/2013	9.	II. Acceptance Criteria, DSRS Acceptance Criterion 6, p. 2.4.13-6	Acceptance Criterion 6 should state that if the design meets the passive mitigative design features to preclude releases to the environment, then only the site-specific groundwater and surface water, as well as effects of ice, etc. analyses need to be performed, and that the continuation of the tank failure analysis is unnecessary. ISG-013 states that this is allowed.	Revise to clarify that mitigative design features may be used to partially satisfy the tank failure analysis requirement.	
Generation mPower	8/14/2013	10.	II DSRS Acceptance Criteria / 7	The citation for ISG-014 should be (NRC, 2013b) for consistency with Reference 44 in Section VI.	Revise reference citation to " 2013b"	
Generation mPower	8/14/2013	11.	III Review Procedures Pg. 2.4.13-10 / 1 st paragraph	Revise text: "and to a reasonably degree of certainty" to use term "reasonable" instead of "reasonably"	Revise "reasonably" to "reasonable"	
Generation mPower	8/14/2013	12.	III Review Procedures Pg. 2.4.13-10 / 1 st paragraph	ISG-014 citation: "(USNRC, 2013b) is inconsistent with prior citations and references section	Revise to "(NRC, 2013b)"	
Generation mPower	8/14/2013	13.	III Review Procedures Pg. 2.4.13-10 / last	Provide citation to ISG-014 since the majority of the portion of text in the last paragraph comes directly from ISG-014.	Add (NRC, 2013b) to end of paragraph	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.13, "Accidental Releases of Radioactive Liquid Effluents in Ground and Surface Waters"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	14.	III Review Procedures Pg. 2.4.13-13 / Item 5 paragraph	Use of "the" in the phrase "non-geological and non-hydrological the criteria" –confuses the meaning of the sentence.	Delete text "the" and revise the phrase as follows: "non-geological and non-hydrological the criteria"	

Public Comments on mPower DSRS

mPower DSRS Section 2.4.14, "Technical Specifications and Emergency Operation Requirements"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	General	With the exception of the discussion under Section V, Implementation, the revisions made to SRP 2.4.14 to develop DSRS 2.4.14 are not specific to the B&W mPower™ design.	Suggest revising SRP 2.4.14 and not creating a separate B&W mPower DSRS 2.4.14.	
Generation mPower	8/14/2013	2.	Various	Revise "SSCs important to safety" to "safety-related and RTNSS-B SSCs."	Revise as indicated in the following sections: Areas of Review, Review Interfaces, Technical Rationale Item 1, Review Procedures Item 3 & 6, and Evaluation Findings Items 1 & 2.	
NuScale	8/15/2013	3.	Throughout section	A considerable portion of the additions to this section of the mPower DSRS are intended for the COL applicant that will largely assist the site-specific review.	Verify applicability to COL vs. DCA.	

Public Comments on mPower DSRS

mPower DSRS Section 3.2.1, "Seismic Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NuScale	8/15/2013	1.	Throughout section	The positions (C.2 and C.3) associated with RG 1.151 are from an older revision of the RG and need to be updated to reflect the current Revision 1 as these position are not related to seismic classification now.	Update the revision numbers for the RGs as recommended.	
Generation mPower	8/15/2013	2.	I/1	Under Areas of Review, first paragraph, wording has been added to introduce a general definition of "important to safety." As noted in the final rulemaking for 10 CFR 50.69, "The terms 'safety-related' and 'basic component' are defined in the regulations, while 'important to safety,' used principally in the General Design Criteria (GDC) of Appendix A to 10 CFR Part 50, is not explicitly defined." The addition of the generalized Part 50 definition to the DSRS will not enhance the review of the B&W mPower™ design and should be deleted. It is clear that certain treatments will be required for nonsafety-related, risk-significant SSCs and will identify those in DCD Sections 3.2, 19.3, and in other applicable sections of the DCD. These treatments will be based upon regulations, past practices for passive plant designs, and PRA insights.	Remove the following sentence from the first paragraph under Areas of Review: "Important to safety structures, systems and components (SSCs) are those SSCs that provide reasonable assurance that the facility can be operated with adequate protection to the health and safety of the public."	
Generation mPower	8/15/2013	3.	I/2	Under Areas of Review, first paragraph, the DSRS has added a rather lengthy discussion on a risk-informed categorization process from 10 CFR 50.69. The provisions from 10 CFR 50.69 are alternative provisions and are voluntary. This option will not be pursued for the B&W mPower	Remove the following text on the 50.69 option under Areas of Review. "An alternative approach to classify SSCs important to safety is identified in 10 CFR 50.69 as a risk-informed categorization process that applies industry guidelines for	

Public Comments on mPower DSRS

mPower DSRS Section 3.2.1, "Seismic Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/15/2013	4.	I/2, III/3, IIII/10, VI	<p>design certification. Thus, the additional text referring to the 10 CFR 50.69 option and RG 1.201 should be removed from the B&W mPower DSRS Section.</p>	<p>categorizing SSCs according to a risk-informed safety class. The risk-informed approach described in Regulatory Guide (RG) RG-1.201 is optional and subject to the limitations of 10 CFR 50.69. Successful application of an acceptable risk-informed categorization approach depends on a high-quality PRA. Considering that RG-1.201 currently is to be used only as interim guidance for trial use and that an acceptable risk-informed method to assign risk-informed safety class does not exist, this Design Specific Review Standard (DSRS) section does not include criteria for reviewing a risk-informed categorization approach. Guidance in other referenced standard review plans can support a risk-informed classification approach."</p>	
				<p>DSRS 3.2.1 has inserted references to NUREG-1242 and the EPRI Utility Requirements Document (URD). Within the context of the DSRS, NUREG-1242 and the EPRI URD have been used, at least in part, as a way to introduce the concept of Seismic Category II, which is not a separate category, discussed or defined in Regulatory Guide 1.29. B&W mPower will use the Seismic Category II designation for:</p> <p>a) risk-significant, nonsafety-related structures, systems, and components (SSCs) classified as Regulatory Treatment of Non-Safety Systems, Criterion B (RTNSS-B). RTNSS-B</p>	<p>DSRS 3.2.1 references to NUREG-1242 and EPRI URD should be deleted.</p>	

Public Comments on mPower DSRs

mPower DSRs Section 3.2.1, "Seismic Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/15/2013	5.	III/2	<p>SSCs must remain functional after an SSE and beyond 72 hours following a design basis accident. The Seismic Category II structures must protect the RTNSS-B systems and components from the failure of non-seismic SSCs during an SSE, and</p> <p>b) SSCs whose continued function is not required after an SSE, but whose loss of structural integrity could reduce the functioning of SC-I or RTNSS-B SSCs to an unacceptable safety level, or could result in incapacitating injury to occupants of the control room. For structures, a SC-II/ evaluation will confirm that no SC-I or RTNSS-B SSC are adversely affected by the SC-II structure during an SSE event.</p> <p>It is acknowledged that certain nonsafety-related SSCs with a risk-significant function that fall into the category of Seismic Category II may require supplemental QA requirements based on the importance of their safety function. It is intended that this usage be responsive to the guidance of Regulatory Guide 1.29, Items C.2 and C.4. Thus, B&W mPower will use the Seismic Category II designation, but will not rely on NUREG-1242 or the EPRI URD and references to these documents should be deleted.</p>	<p>Appropriate revisions to the DSRs text should be made to reflect the fact that there are no plans to use a risk categorization structure to classify the B&W mPower</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.2.1, "Seismic Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/15/2013	6.	III./2	<p>or replace" applies to nonsafety-related risk-significant SSCs, but "to replace" applies to nonsafety-related nonrisk-significant SSCs according to the "graded approach" discussion in NUREG-0800 "Introduction," Part 2.</p> <p>For the B&W mPower standard plant design, the classification of SSCs will be consistent with current regulatory practices and PRA insights will be used to identify both the RTNSS SSCs and the risk-significant SSCs. Although risk significance of the B&W mPower standard plant SSCs will be defined, there are no plans to use a risk categorization "graded approach" to classify the B&W mPower SSCs. Therefore, the third sentence under Item 1 should be removed.</p> <p>The following text was added as Item 2 under Review Procedures and the specific implication to seismic classification is not clear: "For new reactor license applications submitted under Part 52, the applicant is required (1) by 10 CFR 52.47(a)(21) to address the proposed technical resolution of unresolved safety issues (USIs) and medium- and high-priority generic safety issues (GSIs) that are identified in the version of NUREG-0933 current on the date 6 months before the application and that are technically relevant to the design; (2) by 10 CFR 52.47(a)(22) to demonstrate how the operating experience insights have been incorporated into the plant design; and (3) by 10 CFR 52.47(a)(8) to provide information necessary</p>	SSCs.	
					Item 2 related to generic programmatic requirements should be removed from DSRS 3.2.1 on seismic classification as this information will be addressed as discussed in SRP Chapter 1.	

Public Comments on mPower DSRS

mPower DSRS Section 3.2.1, "Seismic Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NEI	8/15/2013	7.	III. Review Procedures, Item 4, last sentence, p. 3.2.1-9	<p>to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding SER section."</p> <p>The above identified generic programmatic issues for a design certification applicant will be addressed in Chapter 1 of the B&W mPower DCD consistent with the guidance in NUREG-0800, Chapter 1. Therefore, it is not clear why this specific requirement was included in the DSRS section on seismic classification and should be removed.</p>		
Generation mPower	8/15/2013	8.	III./8	<p>The positions (C.2 and C.3) associated with RG 1.151 are from an older revision of the RG and need to be updated to reflect the current Revision 1 as they now have nothing to do with seismic classification.</p>	Revise to reflect current revision of RG 1.151.	
NEI	8/15/2013	9.	VI. References, Reference 23, p. 3.2.1-14	<p>Under Review Interfaces, Item 8 refers to DSRS Section 3.8.1. According to the NRC's B&W mPower DSRS Scope and Review Matrix there are no plans to develop DSRS 3.8.1 and references to DSRS 3.8.1 should be deleted.</p> <p>BTP 3-2 deals only with BWRs, so should be deleted for the mPower iPWR review standard.</p>	Delete reference to DSRS Section 3.8.1 in Item 8. Delete reference 23.	
NuScale	8/15/2013	10.	VI. References	Seismic Classification, VI.23, BTP 3-2. BTP 3-2	Delete these BTPs for the iPWR review	

Public Comments on mPower DSRS

mPower DSRS Section 3.2.1, "Seismic Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
			Item 23 p. 3.2.1-14	deals only with BWRs. As such it should be deleted for the iPWR review standard.	standard.	

Public Comments on mPower DSRS

mPower DSRS Section 3.2.2, "System Quality Group Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/15/2013	1.	I/1	<p>Under Areas of Review, first paragraph, wording has been added to introduce a general definition of "important to safety." As noted in the final rulemaking for 10 CFR 50.69, "The terms 'safety-related' and 'basic component' are defined in the regulations, while 'important to safety,' used principally in the general design criteria (GDC) of Appendix A to 10 CFR Part 50, is not explicitly defined."</p> <p>The addition of the generalized Part 50 definition to the DSRS will not enhance the review of the B&W mPower™ design and should be deleted. It is clear that certain treatments will be required for nonsafety-related, risk-significant SSCs and these will be identified in DCD Sections 3.2, 19.3 and in other applicable sections of the DCD. These treatments will be based upon regulations, past practices for passive plant designs, and PRA insights.</p>	<p>Remove the following sentence from the first paragraph under Areas of Review:</p> <p>"Important to safety structures, systems and components (SSCs) are those SSCs that provide reasonable assurance that the facility can be operated with adequate protection to the health and safety of the public."</p>	
Generation mPower	8/15/2013	2.	I/1	<p>Under Areas of Review, first paragraph, the DSRS has retained additional guidance supporting the review of a risk-informed categorization process from the current SRP 3.2.2. As noted in the reference (SECY 11-0024), "...the framework is similar to 10 CFR 50.69, "Risk-informed categorization and treatment of structures, systems, and components for nuclear power reactors." As noted therein, the provisions from 10 CFR 50.69 are alternative provisions and are voluntary. This option will not be pursued for the B&W mPower</p>	<p>Delete the following text from the first paragraph under Areas of Review:</p> <p>An alternative approach identified in Title 10 of the Code of Federal Regulations (10 CFR) 50.69 is a risk-informed categorization process that applies industry guidelines for categorizing SSCs according to a risk-informed safety class. The risk-informed approach described in Regulatory Guide (RG) 1.201 is optional and subject to the limitations of 10 CFR 50.69. Successful</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.2.2, "System Quality Group Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NuScale	8/15/2013	3.	I. Areas of Review p. 8.1-1	design certification. Thus, the additional text referring to the 10 CFR 50.69 option and RG 1.201 should be removed from the B&W mPower DSRS Section.	application of an acceptable risk-informed categorization approach depends on a high quality probabilistic risk assessment (PRA) and an approved method to assign applicable codes and standards. Given that RG 1.201 currently is to be used only as interim guidance for trial use and that an acceptable risk-informed method to assign applicable codes and standards to a risk-informed safety class does not exist, this Design Specific Review Standard (DSRS) section does not include criteria for reviewing a risk-informed categorization approach.	
Generation mPower	8/15/2013	4.	All	The DSRS states that "Risk-informed classification review guidance in RG 1.201 may assist in IPWR reviews when combined with pilot studies." The DSRS provides no guidance on expectations for pilot studies and recent (June 2013) discussions with the NRC staff indicate that there is no current guidance for such studies. Suggest clarifying the role of pilot studies or delete pilot study as a source of employing or reviewing a risk-informed categorization approach. The page numbering for DSRS 3.2.2 needs to be corrected from page 2 forward that indicates "8.1-2" page numbers in series instead of "3.2.2-2."	Clarifying the role of "pilot studies" or delete "pilot study" as a source of employing or reviewing a risk-informed categorization approach. Correct page numbering from "8.1-2....." to "3.2.2-2....."	
NuScale	8/15/2013	5.	I. Areas of Review <u>Review</u>	Item 5 states, "Editions of codes and standards are reviewed by those reviewers involved in endorsing each code and standard to be	Clarification on "newest codes and standards that have been endorsed by the NRC" is needed.	

Public Comments on mPower DSRS

mPower DSRS Section 3.2.2, "System Quality Group Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NuScale	8/15/2013	6.	<u>Interfaces Item</u> 5 p. 8.1-3	<p>consistent with guidance in SECY-93-087." Suggest clarifying what is intended. SECY-93-087 states that the review will be conducted per the "newest codes and standards that have been endorsed by the NRC."</p> <p>Suggest clarifying the intent of this change. Is it simply to reflect that current standards must be identified? If so, suggest stating more clearly, such as "each application must identify the applicable codes and standards (applicable 6 months prior to submittal)." If something else is intended by reference to SECY-93-087, please specify.</p>		
NuScale	8/15/2013	7.	I. Areas of Review <u>Interfaces Item</u> 7 p. 8.1-3	<p>Item 7 explicitly mentions SRP 14.3 and 14.3.3. If the focus of this interface is intended to be only quality group classification for piping, only 14.3.3 appears directly relevant. Conversely, other subsections associated with 14.3 provide ITAAC requirements for other SSCs.</p> <p>Note: the DSRS later explicitly states that electrical and instrumentation systems that are not pressure-retaining are beyond the scope of this DSRS section. Suggest identifying only SRP sections that are directly relevant.</p>	Clarify the applicability of the entire SRP 14.3 vs. 14.3.3 for this section.	
NuScale	8/15/2013	7.	I. Areas of Review <u>Interfaces Item</u> 7 p. 8.1-4	Suggest changing "Simplified system description and schematics or P&IDs, if applicable, typically duplicate quality group information..." to "Simplified system description and schematics or P&IDs, if applicable, may duplicate quality group information...."	Revise the statement as indicated.	

Public Comments on mPower DSRS

mPower DSRS Section 3.2.2, "System Quality Group Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NuScale	8/15/2013	8.	I. Areas of Review <u>Review Interfaces</u> Item 5 p. 8.1-4 III. Review Procedures Item 3 p. 8.1-8	Review Interfaces (2nd group Item 5): Reference is made to "Identification of risk-significant non safety-related SSCs that are important to safety, including RTNSS SSCs..." Review Procedures (Item 3): This item states, "These systems, and references establishing their acceptable classifications, are identified in Appendix A and the non safety-related risk-significant systems and components important to safety are to be identified by the RTNSS process or similar risk-informed process further described in RG 1.206 and SRPs for Sections 17.4 and 19.0." These sentences would appear adequate if "important to safety" were deleted. What is the intent of including "important to safety"? Suggest deleting or explaining the relationship between "non safety-related risk-significant SSCs" and "important to safety."	Clarify the intent for including "important to Safety" and revise the statements as indicated.	
NuScale	8/15/2013	9.	II. Acceptance Criteria p. 8.1-4	Added Programmatic Requirements to Section III, Review Procedures: consistent with SRP Introduction, Part 2. Note that other DSRS sections (e.g., 15.2.8) provide additional discussion in Sections II Acceptance Criteria. NuScale suggests that the DSRS sections treat the discussion consistently.	Provide consistency in treatment of Programmatic Requirements in 3.2.2 and other sections.	
Generation mPower	8/15/2013	10.	III/1	Item 1 under Review Procedures includes a reference to RG 1.182, which was withdrawn in November 2012 per 77 FR 70846 and its contents included in Rev. 3 to RG 1.160. Reference to	Delete reference to RG 1.182 in Section III as it has been withdrawn.	

Public Comments on mPower DSRS

mPower DSRS Section 3.2.2, "System Quality Group Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/15/2013	11.	III./ Item 5	<p>withdrawn RG 1.182 should be deleted from Section III.1.</p> <p>An addition to Item 5 (the third sentence) states: "ASME Code class and/or quality group is to be shown on Tier 1 P&IDs that are to be consistent with Tier 2 information. If during the review of Tier 1 diagrams according to SRP 14.3, discrepancies are identified between Tier 1 and Tier 2 system description and schematics or P&IDs, and if applicable, concerning quality group or ASME Code class, the applicant should be requested to verify consistency between the figures." This statement is not consistent with the guidance on Tier 1 information in SRP 14.3 as the level of information to be included in Tier 1 is simplified schematic figures, not complete P&IDs with ASME Code class and/or quality group designations. Simplified drawings will be provided in Tier 2 and these figures will include applicable information regarding the ASME Code Class and/or quality group. Thus, the DSRS 3.2.2 text should be clarified.</p>	<p>Replace the third sentence in Item 5 with the following: "ASME Code class and/or quality group is generally indicated on Tier 2 drawings. If during the review of Tier 1 according to SRP 14.3, discrepancies are identified between Tier 1 and Tier 2 concerning quality group or ASME Code class, the applicant should be requested to verify consistency between the Tier 1 and Tier 2 sections."</p>	
Generation mPower	8/15/2013	12.	III/1	<p>The second bullet under Review Procedures, Item 1 refer to SRP Section 17.3 that is not applicable to the B&W mPower design according to the NRC's B&W mPower DSRS Standard Scope and Safety Review Matrix and should be deleted.</p>	<p>Revise second bullet to indicate "SRP Section 17.5" instead of "SRP Sections 17.3 and 17.5".</p>	

Public Comments on mPower DSRs

mPower DSRs Section 3.2.2, "System Quality Group Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/15/2013	13.	III/1	The second and fourth bullets under Review Procedures, Item 1 refer to DSRs 13.4. According to B&W mPower DSRs Standard Scope and Safety Review Matrix, SRP Section 13.4 will be used "as-is" and there will not be a DSRs 13.4.	Revise "DSRS Section 13.4" to "SRP Section 13.4" in Item 1.	
Generation mPower	8/15/2013	14.	III./ Item 6	An addition to Item 6 states, "NRC risk insight documents typically define which systems are risk-significant for each type of reactor design." The availability of a risk insight document for the B&W mPower design is not clear.	Suggest deleting additional text in Item 6 or referencing the appropriate NRC document.	
Generation mPower	8/15/2013	15.	III	A paragraph applicable to BWR designs has been retained in the DSRs and should be deleted.	Delete the following paragraph since it addresses BWR main steam and feedwater systems: "Clarification of the quality group classification provided in RG 1.26 and applicable to those portions of BWR main steam and feedwater systems (other than the reactor coolant pressure boundary) on the turbine side of the containment isolation valves, is provided in Branch Technical Position (BTP) 3-1 and BTP 3-2."	
Generation mPower	8/15/2013	16.	Table A-1	Item #7 is applicable only to BWR designs and should be deleted.	Delete Item #7	
Generation mPower	8/15/2013	17.	Table A-1	Item #9 refers to PWR Pressurizer PORVs, associated components and Block Valves, which does not reflect the B&W mPower design and	Delete Item #9	

Public Comments on mPower DSRS

mPower DSRS Section 3.2.2, "System Quality Group Classification"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				should be deleted.		

Public Comments on mPower DSRS

mPower DSRS Section 3.3.1, "Severe Wind Loading"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	I.6	<p>Areas of Review #6 states</p> <p>"...however, portions of the reactor service building and safety-related SSCs are located above ground and must be protected against severe wind loading."</p> <p>Based on the current B&W mPower™ Reactor Service Building equipment arrangement, the statement regarding safety-related SSCs located above ground is not accurate.</p>	<p>Reword statement as follows:</p> <p>"...however, portions of the reactor service building and some safety-related SSCs are if safety-related SSCs are located above ground they must be protected or designed against severe wind loading."</p>	
Generation mPower	8/14/2013	2.	II.4	<p>As it is currently worded, DSRS Acceptance Criteria #4 does not encompass the entire spectrum of methods for ensuring RTNSS-B equipment is protected (e.g., through location within a protected structure).</p>	<p>Revise DSRS Acceptance Criteria #4 as follows:</p> <p>"The staff will evaluate and verify that the analyses and designs of RTNSS "B" SSCs are adequate to demonstrate that these RTNSS "B" SSCs can are protected against or are designed to withstand the effects of severe winds including gusts and sustained winds without loss of the capability to perform their intended safety functions."</p>	
Generation mPower	8/14/2013	3.	III.1	<p>The following text was added as Item 1 under Review Procedures:</p> <p>"In accordance with 10 CFR 52.47(a)(8),(21), and (22), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues</p>	<p>Revise Item 1 to read as follows:</p> <p>"In accordance with 10 CFR 52.47(a)(8),and (21), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.3.1, "Severe Wind Loading"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and, (3) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p> <p>As required by 10CFR 52.47(a)(22), the information necessary to demonstrate how operating experience insights have been incorporated into the plant design is a generic programmatic issue for a design certification applicant and will be addressed in Chapter 1 of the B&W mPower DCD consistent with the guidance in NUREG-0800, Chapter 1. Based on the generic applicability of incorporating operating experience into a standard plant design, this specific requirement need not be identified separately in each individual DSRS section as this information is already covered in SRP Chapter 1.</p>	<p>safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and (3) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p>	
Generation mPower	8/14/2013	4.	III.2	<p>Review Procedures #2 is unclear, particularly with respect to which parameters are the subject of each aspect of the review, and at what stage (i.e. DCA or COL/ESP) the review occurs. The</p>	<p>Revise Review Procedures #2 as follows: "For a COL or ESP review, the site characteristics are The site-related</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.3.1, "Severe Wind Loading"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	5.	III.3	<p>terminology currently used is also not consistent with the terminology of SRP 2.3.1 and 2.3.2.</p> <p>Similar to Comment #4 above, Review Procedures #3 should be revised for greater clarity.</p>	<p>parameters described in subsection 1.4 reviewed in accordance with SRP Sections 2.3.1 and 2.3.2. The staff examines the site characteristics these parameters to ensure that they are consistent with those contained in SRP Sections 2.3.1 and 2.3.2."</p> <p>Revise Review Procedure #3 as follows: "After the acceptability of the site-related design-basis wind speed parameters is established, the reviewer proceeds with the evaluation of the structural aspects of wind design..."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.3.2, “Extreme Wind Loads (Tornado and Hurricane Loads)”

Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	I.9	<p><u>Areas of Review</u> Item #9 states:</p> <p>“...however, portions of the reactor service building and some safety related SSCs are located above ground and must be protected against tornado or hurricane loading and their associated missile impact effects.”</p> <p>Based on the current B&W mPower™ Reactor Service Building equipment arrangement the statement regarding safety-related SSCs located above ground is not accurate.</p>	<p>Reword Item #9, last sentence as follows:</p> <p>“... however, portions of the reactor service building and some safety-related SSCs are if safety-related SSCs are located above ground they and must be protected or designed against tornado or hurricane loading and their associated missile impact effects.”</p>	
Generation mPower	8/14/2013	2.	II.3.F	<p>In the <u>DSRS Acceptance Criteria</u>, for consistency with the treatment of tornadoes, suggest identifying the added text on hurricanes as a separate Item 4 with an introductory statement (similar to Item 3), to include the information from items 3.F through 3.I, and renumber items 4 and 5.</p>	<p>Revise DSRS Acceptance Criteria #3, to include the hurricane design information in Items 3.F through 3.I under a separate Item 4 as follows</p> <p>“4. The acceptance criteria for procedures used to transform hurricane parameters into equivalent loads on structures are as follows:</p> <p>F- A. <u>Hurricane Characteristics and Effects</u></p> <p>G-B <u>Hurricane Wind Effects...</u>”</p>	
Generation mPower	8/14/2013	3.	II.5	<p>As it is currently worded, DSRS Acceptance Criteria #5 does not encompass the entire spectrum of methods for ensuring RTNSS-B</p>	<p>Also, revise the numbering of the remaining DSRS Acceptance Criteria accordingly.</p> <p>Revise DSRS Acceptance Criteria #5 as follows:</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.3.2, "Extreme Wind Loads (Tornado and Hurricane Loads)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				equipment is protected (e.g., through location within a protected structure).	The staff will evaluate and verify that the analyses and design of RTNSS "B" SSCs are adequate to demonstrate that these RTNSS "B" SSCs are protected from or can withstand the effects of the design-basis tornado and hurricane and associated tornado- and hurricane-borne missiles without loss of capability to perform their intended safety functions following guidance in RG 1.76 and RG 1.221.	
Generation mPower	8/14/2013	4.	III.1	The following text was added as Item 1 under Review Procedures: "In accordance with 10 CFR 52.47(a)(8),(21), and (22), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and, (3) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety	Revise Item 1 to read as follows: "In accordance with 10 CFR 52.47(a)(8), and (21), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and (3)(2) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be	

Public Comments on mPower DSRs

mPower DSRs Section 3.3.2, "Extreme Wind Loads (Tornado and Hurricane Loads)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	5.	III.3.A IV/5¶	<p>evaluation report (SER) section."</p> <p>As required by 10CFR 52.47(a)(22), the information necessary to demonstrate how operating experience insights have been incorporated into the plant design is a generic programmatic issue for a design certification applicant and will be addressed in Chapter 1 of the B&W mPower DCD consistent with the guidance in NUREG-0800, Chapter 1. Based on the generic applicability of incorporating operating experience into a standard plant design, this specific requirement need not be identified separately in each individual DSRs section as this information is already covered in SRP Chapter 1.</p> <p>Consistent with proposed changes in Comment #2, revise the following items to reflect the changed references for tornado and hurricane requirements:</p> <ul style="list-style-type: none"> • Review Procedures Item 3.A • Evaluation Findings (last line of 5th paragraph) 	<p>addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p>	
					<p>Revise Review Procedures #3A as follows:</p> <p>"... with the acceptance criteria delineated in this DSRs Acceptance Criteria, subsections 3.B and 3.G-4.B</p> <p>Revise the last line of the 5th paragraph as shown below:</p> <p>"...thus, satisfying the requirement in items 3 and 4 listed above.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.4.1, "Internal Flood Protection for Onsite Equipment Failures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	1/2	<p>The second sentence in the second paragraph under Areas of Review contains the following text:</p> <p>"An SSC may be classified as: Safety-related risk-significant; Safety-related non-risk-significant Nonsafety-related risk-significant; or Nonsafety-related non-risk significant"</p> <p>For the B&W mPower™ standard plant design, the classification of SSCs will be consistent with current regulatory practices and PRA insights will be used to identify both the RTNSS SSCs and the risk-significant SSCs. Classification information for the B&W mPower SSCs will be provided in DCD Section 3.2, including a listing of RTNSS SSCs. Further details on the RTNSS SSCs will be provided in DCD Section 19.3. Therefore, information related to how a B&W mPower SSC may be classified should be removed from this DSRS Section.</p>	<p>The following text implying the use of the listed type of classification structure for SSCs should be removed from Section I of DSRS 3.4.1:</p> <p>"An SSC may be classified as: Safety-related risk-significant; Safety-related non-risk-significant Nonsafety-related risk-significant; or Nonsafety-related non-risk-significant"</p>	
Generation mPower	8/14/2013	2.	1/4	<p>Item 1 under Areas of Review states:</p> <p>"The safety-related or risk-significant SSCs that must be protected against flooding from both external and internal causes."</p> <p>Consistent with Draft SRP 19.3, use the words "SSCs subject to flood protection" here and throughout to refer to safety-related and RTNSS-B SSCs.</p>	<p>Change Item 1 text to read:</p> <p>"The safety-related or RTNSS-B SSCs subject to flood protection that must be protected against flooding from both external and internal causes."</p>	
Generation	8/14/2013	3.	1/4	<p>Item 2 under Areas of Review (page 3.4.1-2)</p>	<p>Change text to read:</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.4.1, "Internal Flood Protection for Onsite Equipment Failures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower				states: "The location of SSCs subject to flood protection relative to the internal flood level in various buildings, rooms, and enclosures that house safety-related or risk-significant SSCs." Revise text as recommended.	"The location of SSCs subject to flood protection relative to the internal flood level in various buildings, rooms, and enclosures that house safety-related or RTNSS-B SSCs."	
Generation mPower	8/14/2013	4.	II/4	Item 1 under Technical Rationale on pg. 3.4.1-5, there seems to be a word missing in the last sentence which should indicate "...seismically-induced full-circumferential ruptures should be considered."	Change text in last sentence of Item 1 from "seismically" to "seismically-induced"	
Generation mPower	8/14/2013	5.	III.2	Item 2 under Review Procedures (page 3.4.1-5) describes an evaluation of SSCs that are either safety-related or risk-significant that should be protected against floods. The intent is to protect both safety-related and RTNSS-B SSCs not one or the other that is implied by use of the operator "or" in Item 2.	Change Item 2 to read: "An evaluation of SSCs in the SAR and PRA that are safety-related and RTNSS-B and should be protected against floods or flood conditions."	
Generation mPower	8/14/2013	6.	III/2	Section III, Item 9 on Page 3.4.1-6 states that a permanent dewatering system should be designed as a safety-related system if needed for flood protection of any safety-related or risk-significant structure. Page 3.4.1-1 of DSRS 3.4.1 indicates that "risk-significant" also includes the category of "nonsafety-related risk-significant". However, if a dewatering system is needed for flood protection of a "nonsafety-related risk-significant structure", the DSRS should clarify that this dewatering system should be designed as a "nonsafety-related system" with augmented design standards	The DSRS should clarify that if a dewatering system is needed for flood protection of a nonsafety-related risk-significant structure, that this dewatering system should be designed as a "nonsafety-related system" with augmented design standards as needed rather than as a "safety-related" system.	

Public Comments on mPower DSRs

mPower DSRs Section 3.4.1, "Internal Flood Protection for Onsite Equipment Failures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	7.	IV.2	as needed not as a "safety-related" system. In Item 2 under Evaluation Findings (page 3.4.1-7), the term SSCs important to safety should be clarified as "SSCs subject to flood protection" or "safety-related and RTNSS-B SSCs" for consistency and accuracy. Also, the term "safety-related SSCs" in the last sentence of Item 2 should be revised to safety-related and RTNSS-B SSCs subject to flooding for consistency and accuracy.	Revise Item 2 as follows: "Using a method that has been reviewed and found acceptable by the staff to protect safety-related and RTNSS-B SSCs from flooding by external and internal causes. The design includes the separation of redundant trains of safety-related and RTNSS-B SSCs, the use of protective barriers and enclosures wherever necessary, the placement of safety-related and RTNSS-B SSCs above internal flood levels, and an analysis that shows that safety-related and RTNSS-B SSCs subject to flooding will retain their safety function if submerged."	
Generation mPower	8/14/2013	8.	IV.3	Item 3 under Evaluation Findings (page 3.4.1-7) refers to a safety-related dewatering system. A safety-related dewatering system should not be required for a nonsafety-related risk-significant structure (see Comment # 6 on Section II, Item 9).	Revise Item 3 consistent with the resolution of Comment # 6 on Section III, Item 9.	
Generation mPower	8/14/2013	9.	V	First paragraph under Implementation (page 3.4.1-8) should be clarified that this DSRs is for the B&W mPower DCA and COL applications referencing the B&W mPower certified design only not just any COL application. The same clarification is needed in the last sentence of the second paragraph.	Clarify applicability of this DSRs to B&W mPower certified design and COL applications referencing the B&W mPower certified design only.	

Public Comments on mPower DSRS

mPower DSRS Section 3.4.2, "Protection of Structures Against Flood from External Sources"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	I/2	<p>Item 1, third sentence under Areas of review states:</p> <p>"Further, for plants where the flood level is higher than the proposed grade around the plant structures, the dynamic phenomena associated with flooding and tsunami such as currents, flood waves, and their hydrodynamic effects."</p> <p>For editorial clarification, add the words "are considered" at the end of the sentence.</p>	<p>Change text to read:</p> <p>"Further, for plants where the flood level is higher than the proposed grade around the plant structures, the dynamic phenomena associated with flooding and tsunami such as currents, flood waves, and their hydrodynamic effects are considered."</p>	
Generation mPower	8/14/2013	2.	II/1	<p>Item 1, first sentence under Acceptance Criteria (page 3.4.2-3) states:</p> <p>"10 CFR 52.47(b)(1), which requires that a DC application contain the proposed ITAAC that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a facility that incorporates the design certification has been constructed and will operate in conformity with the design provisions of the Atomic Energy Act (AEA), and the U.S. Nuclear Regulatory Commission's (NRC's) regulations."</p> <p>To be consistent with other DSRS Sections, make appropriate editorial corrections.</p>	<p>Change text to read:</p> <p>"10 CFR 52.47(b)(1), which requires that a DC application contain the proposed ITAAC that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a facility that incorporates the design certification has been constructed and will operate in conformity with the design certification, the provisions of the Atomic Energy Act (AEA), and the NRC's rules and regulations."</p>	
Generation mPower	8/14/2013	3.	II/3	<p>Item 2, under DSRS Acceptance Criteria (page 3.4.2-3) states:</p> <p>"In most situations, the highest flood level is</p>	<p>Change text to read:</p> <p>"In most situations, the highest flood level is below the proposed plant grade and</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.4.2, "Protection of Structures Against Flood from External Sources"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	4.	II/3	<p>below the proposed plant grade and only its hydrostatic effects need be considered. Unless the hydrostatic head associated with the highest flood and groundwater levels is relieved by utilizing drainage or a pumping system around the foundations of structures, hydrostatic pressure has to be considered as a structural load on basement walls and the foundation slab of a structure. In consideration of any uplifting or floating of a structure, the total buoyancy force may be based on the highest flood level or the highest groundwater level excluding wave action. However, wave action should be included in the calculation for lateral and overturning movements of a structure."</p> <p>The text needs to be clarified to provide acceptance criteria for situations where the grade level is above or below the highest flood level.</p>	<p>only its hydrostatic effects need be considered. If a drainage or a pumping system around the foundations of structures is not included to reduce the hydrostatic head associated with the highest flood and groundwater levels, hydrostatic pressure must be considered as a structural load on basement walls and the foundation slab of a structure. In consideration of any uplifting or floating of a structure, the total buoyancy force may be based on the highest flood level or the highest groundwater level excluding wave action. However, if the highest flood level is above the proposed plant grade, wave action should be included in the calculation for lateral and overturning movements of a structure."</p>	
				<p>Item 3, under DSRS Acceptance Criteria (page 3.4.2-3 and 3.4.2-4) states:</p> <p>"Where the flood level is above the proposed plant grade, the dynamic loads of wave action should be considered. Procedures for determining such dynamic loads are acceptable if they are in accordance with or equivalent to those delineated in the U.S. Army Coastal Engineering Research Center, "Shore Protection Manual" (Vol. I, June 2002, reprinted from 1973 edition and Vol. II, June 2002, reprinted from 1973 edition), in EM 1110-2-1100, Coastal Engineering Manual, Part II, Chapter 1, "Water Wave Mechanics," U.S. Army</p>	<p>Change text to read:</p> <p>"For sites where the flood level is above the proposed plant grade, the COL Applicant should consider the dynamic loads of wave action. Procedures for determining such dynamic loads are acceptable if they are in accordance with or equivalent to those delineated in the U.S. Army Coastal Engineering Research Center, "Shore Protection Manual" (Vol. I, June 2002, reprinted from 1973 edition and Vol. II, June 2002, reprinted from 1973 edition), in EM 1110-2-1100, Coastal</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.4.2, "Protection of Structures Against Flood from External Sources"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	5.	II/4	<p>Corps of Engineers, April 30, 2002, or in FEMA 55, "Coastal Construction Manual," Federal Emergency Management Agency, Jessup, MD, 2005, as applicable."</p> <p>DSRS Acceptance Criteria Item 3 is a site-specific issue and the text should be clarified to indicate this item as COL Applicant scope.</p> <p>Second paragraph, second sentence under Technical Rationale (page 3.4.2-4) states:</p> <p>"These loadings are to be used in the design of SSCs important to safety in order to ensure their capability to withstand flood effects without loss of their safety functions."</p> <p>Replace reference to "important to safety" to "safety-related and RTNSS-B".</p>	<p>Engineering Manual, Part II, Chapter 1, "Water Wave Mechanics," U.S. Army Corps of Engineers, April 30, 2002, or in FEMA 55, "Coastal Construction Manual," Federal Emergency Management Agency, Jessup, MD, 2005, as applicable."</p> <p>Change text to read:</p> <p>"These loadings are to be used in the design of safety-related and RTNSS-B SSCs in order to ensure their capability to withstand flood effects without loss of their safety functions."</p>	
Generation mPower	8/14/2013	6.	IV/6	<p>First sentence under Evaluation Findings (page 3.4.2-6) states:</p> <p>"The use of these procedures provides reasonable assurance that, in the event of floods, tsunami or high groundwater, the structural integrity of the plant seismic Category I structures will not be impaired and, in consequence, safety related systems and components located within these structures will be adequately protected and may be expected to perform necessary safety functions, as required, thus satisfying the requirement of item 3 listed above"</p>	<p>Change text to read:</p> <p>"The use of these procedures provides reasonable assurance that, in the event of floods, tsunami or high groundwater, the structural integrity of the plant seismic Category I structures will not be impaired and, in consequence, safety-related and RTNSS-B systems and components located within these structures will be adequately protected and may be expected to perform necessary safety functions, as required, thus satisfying the requirement of item 3 listed above."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.4.2, "Protection of Structures Against Flood from External Sources"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	7.	I/3	<p>Include risk-significant systems and components and add a period at the end of the last sentence.</p> <p>The statement following Item 4 under Areas of Review (page 3.4.2-2) should be supplemented to indicate many of the review areas that refer to gathering site data or historical site data are not applicable to a DC applicant. The DSRS should clarify that the reviewer will review the postulated values to ensure that they are reasonable and representative of site parameters anticipated within the jurisdiction of the NRC.</p>	<p>DSRS statement following Item 4 on page 3.4.2-2 should be supplemented as follows:</p> <p>"An applicant for a standard design certification may postulate values for site parameters as a basis for plant design. In this case, review procedures referring to gathering or site data or review of historical site data are not applicable. Instead, the reviewer should ensure that the postulated site parameters are reasonable and representative of, but do not need to be comprehensive, site parameters that may be anticipated within the jurisdiction of the NRC."</p>	
Generation mPower	8/14/2013	8.	III.3	<p>In the second paragraph for Item 3 (page 3.4.2-5), there is a generic comment. Although paragraph 2 is a general statement on the scope of a COL application, this DSRS is applicable to B&W mPower™ DCA and COLs that reference the B&W mPower certified design only and references to an early site permit or other NRC approvals (e.g., manufacturing license, site suitability report or topical report) are confusing and not applicable.</p>	<p>Clarify the specific applicability of the B&W mPower DSRS and delete references to early site permit and the other NRC approvals (i.e., manufacturing license, site suitability report, etc.)</p>	
Generation mPower	8/14/2013	9.	IV/5	<p>In the third paragraph on pg. 3.4.2-6, the DSRS should clarify that both safety-related systems and components and risk-significant systems and components will be adequately protected.</p>	<p>Revise paragraph as follows:</p> <p>"The use of these procedures provides reasonable assurance that, in the event of floods, tsunami or high groundwater, the</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.4.2, "Protection of Structures Against Flood from External Sources"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	10.	V/1&4	<p>First paragraph under Implementation (pg. 3.4.2-6)...the staff should be clarified that the DSRS is for the B&W mPower DCA and COL applications referencing the B&W mPower certified design only not just any COL application.</p> <p>The same clarification is needed in the last sentence of the second paragraph on pg. 3.4.2-7.</p>	<p>structural integrity of the plant seismic Category I structures will not be impaired and, in consequence, both safety-related and RTNSS-B systems and components located within these structures will be adequately protected..."</p> <p>Clarify applicability of this DSRS to B&W mPower certified design and COL applications referencing the B&W mPower certified design only.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.1, “Internally Generated Missiles (Outside Containment)”

Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	II/2	<p>Section 1, paragraph 2 includes the following statement:</p> <p>“An SSC may be classified as:</p> <ul style="list-style-type: none"> • Safety-related risk-significant • Safety-related nonrisk-significant • Nonsafety-related risk-significant • Nonsafety-related nonrisk-significant” <p>For the B&W mPower™ standard plant design, the classification of SSCs will be consistent with current regulatory practices and PRA insights will be used to identify both the RTNSS SSCs and the risk-significant SSCs. Classification information for the B&W mPower SSCs will be provided in DCD Section 3.2, including a listing of RTNSS SSCs. Further details on the RTNSS SSCs will be provided in DCD Section 19.3 consistent with the guidance provided in draft SRP 19.3. Therefore, information related to how a B&W mPower SSC may be classified should instead be removed from this DSRS Section.</p>	<p>Delete the following text implying the use of the listed type of classification structure for SSCs:</p> <p>“An SSC may be classified as:</p> <ul style="list-style-type: none"> • Safety-related risk-significant • Safety-related nonrisk-significant • Nonsafety-related risk-significant • Nonsafety-related nonrisk-significant <p>significant”</p>	
Generation mPower	8/14/2013	2.	I/3	<p>The last two sentences under Areas of Review states:</p> <p>“If the SSC belongs in the first two classifications above or if it is determined as part of the SRP 19.3, “Augmented Design Standard” review that the SSC is RTNSS “B”, the review described in this DSRS Section 3.5.1.2 is applied (see Review Procedure 2 below). For the purpose of brevity in this section, the first two categories above and the</p>	<p>Change text to read as follows:</p> <p>“If the SSC belongs in the first two classifications above is safety-related or if it is determined as part of the SRP 19.3, “Augmented Design Standard” review that the SSC is RTNSS “B”, the review described in this DSRS Section 3.5.1.1 is applied (see Review Procedure 2 below). For the purpose of brevity in this section,</p>	

Public Comments on mPower DSRs

mPower DSRs Section 3.5.1.1, "Internally Generated Missiles (Outside Containment)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	3.	I/4	<p>RTNSS "B" SSCs will be designated as "SSCs subject to missile protection SSCs in the 4th classification above are not subject to missile protection."</p> <p>Consistent with Comment #1 and draft SRP 19.3, the last two sentences should be revised to designate safety-related and RTNSS-B SSCs as the SSCs subject to missile protection.</p>	<p>the first two categories above safety-related and the RTNSS-B SSCs will be designated as "SSCs subject to missile protection." SSCs in the 4th classification above are not subject to missile protection.</p>	
Generation mPower	8/14/2013	4.	I/4	<p>Item 1, first sentence, under Review Interfaces (page 3.5.1.1-2) states:</p> <p>"Review of the acceptability of the analytical procedures and criteria for structures or barriers that protect the essential systems and safety-related components from internally-generated missiles is performed under DSRs Section 3.5.3, "Barrier Design Procedures."</p> <p>Refer to Comment # 2.</p>	<p>Change text to read:</p> <p>'Review of the acceptability of the analytical procedures and criteria for structures or barriers that protect the essential systems and safety-related components SSCs subject to missile protection from internally-generated missiles is performed under DSRs Section 3.5.3, "Barrier Design Procedures."</p>	
Generation mPower	8/14/2013	5.	II/1	<p>Item 4 under Review Interfaces (page 3.5.1.1-3) states:</p> <p>"Review of the regulatory treatment of nonsafety systems related to augmented design standards of missile protection for RTNSS-B SSCs, is performed under Standard Review Plan (SRP) Section 19.3."</p> <p>Refer to Comments 1 & 2.</p>	<p>Change text to read:</p> <p>"Review of the regulatory treatment of nonsafety systems related to augmented design standards of missile protection for RTNSS-B SSCs, is performed under Standard Review Plan (SRP) Section 19.3."</p>	
Generation mPower	8/14/2013	5.	II/1	<p>Item 2, under Acceptance Criteria (page 3.5.1.1-3) states:</p>	<p>Change text to read:</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.1, "Internally Generated Missiles (Outside Containment)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	6.	II/2	<p>"10 CFR 52.47(b)(1), which requires that a DC application contain the proposed ITAACs that are necessary and sufficient to provide reasonable assurance that, if the tests, and analyses are performed and the acceptance criteria met, a facility that the DC has been constructed and will be operated in conformity with the DC, the provisions of the Atomic Energy Act (AEA), and the U.S. Nuclear Regulation Commission's (NRC's) regulations."</p> <p>Correct typo "Regulations" to "Regulatory."</p> <p>Second sentence, under DSRS Acceptance Criteria (page 3.5.1.1-4) states:</p> <p>'Acceptance is based on the design meeting the guidance as described in Regulatory Guide (RG) 1.115, "Protection Against Turbine Missiles," as related to the protection of SSCs important to safety from the effects of turbine missiles.'</p> <p>Consistent with Comment # 2, remove reference to "important to safety."</p>	<p>"10 CFR 52.47(b)(1), which requires that a DC application contain the proposed ITAACs that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a facility that incorporates the DC has been constructed and will be operated in conformity with the DC, the provisions of the Atomic Energy Act (AEA), and the U.S. Nuclear Regulatory Commission's (NRC's) regulations."</p>	
Generation mPower	8/14/2013	7.	II/2	<p>Item 2, sixth method, under DSRS Acceptance Criteria (page 3.5.1.1-4) states:</p> <p>"...or (6) orienting missile sources to prevent missiles from striking equipment important to safety."</p>	<p>Change text to read:</p> <p>"...or (6) orienting missile sources to prevent missiles from striking equipment protection."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.1, "Internally Generated Missiles (Outside Containment)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	8.	II/3	<p>Consistent with Comment # 2, replace reference to "important to safety" with "SSCs subject to missile protection".</p> <p>Item 1, under Technical Rationale (page 3.5.1.1-4):</p> <p>Consistent with Comment # 2, replace reference to "important to safety" with "SSCs subject to missile protection".</p>	<p>Replace reference to "important to safety" with "SSCs subject to missile protection" in Item 1.</p>	
Generation mPower	8/14/2013	9.	IV/1	<p>Item 1.A, under Evaluation Findings (page 3.5.1.1-6) states:</p> <p>"Has met the guidance in RG 1.115, "Protection Against Turbine Missiles," Position C.3, for the protection of SSCs important to safety from the effects of turbine missiles;"</p> <p>Consistent with Comment # 2, replace reference to "important to safety" with "SSCs subject to missile protection".</p>	<p>Change text to read:</p> <p>'Has met the guidance in RG 1.115, "Protection Against Turbine Missiles," Position C.3, for the protection of SSCs important to safety subject to missile protection from the effects of turbine missiles;'</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.2, "Internally Generated Missiles (Inside Containment)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	1/2	<p>Section 1, paragraph 2 includes the following statement:</p> <p>"An SSC may be classified as:</p> <ul style="list-style-type: none"> • Safety-related risk-significant • Safety-related nonrisk-significant • Nonsafety-related risk-significant • Nonsafety-related nonrisk-significant" <p>For the B&W mPower™ standard plant design, the classification of SSCs will be consistent with current regulatory practices and PRA insights will be used to identify both the RTNSS SSCs and the risk-significant SSCs. Classification information for the B&W mPower SSCs will be provided in DCD Section 3.2, including a listing of RTNSS SSCs. Further details on the RTNSS SSCs will be provided in DCD Section 19.3 consistent with the guidance provided in draft SRP 19.3. Therefore, information related to how a B&W mPower SSC may be classified should be removed from this DSRS Section.</p>	<p>Delete the following text implying the use of the listed type of classification structure for SSCs</p> <p>"An SSC may be classified as:</p> <ul style="list-style-type: none"> • Safety-related risk-significant • Safety-related nonrisk-significant • Nonsafety-related risk-significant • Nonsafety-related nonrisk-significant" 	
Generation mPower	8/14/2013	2.	1/3	<p>The last two sentences under Areas of Review states:</p> <p>"If the SSC belongs in the first two classifications above or if it is determined as part of the SRP 19.3, "Augmented Design Standard" review that the SSC is RTNSS "B", the review described in this DSRS Section 3.5.1.2 is applied (see Review</p>	<p>Change text to read as follows:</p> <p>"If the SSC belongs in the first two classifications above is safety-related or if it is determined as part of the SRP 19.3, "Augmented Design Standard" review that the SSC is RTNSS "B", the review described in this DSRS Section 3.5.1.2 is</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.2, "Internally Generated Missiles (Inside Containment)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	3.	I/4	<p>Procedure 2 below). For the purpose of brevity in this section, the first two categories above and the RTNSS "B" SSCs will be designated as "SSCs subject to missile protection SSCs in the 4th classification above are not subject to missile protection.'</p> <p>Consistent with Comment #1 and draft SRP 19.3, the last two sentences should be revised to designate safety-related and RTNSS-B SSCs as the SSCs subject to missile protection.</p>	<p>applied (see Review Procedure 2 below). For the purpose of brevity in this section, the first two categories above safety-related and the RTNSS-B SSCs will be designated as "SSCs subject to missile protection." SSCs in the 4th classification above are not subject to missile protection.'</p>	
Generation mPower	8/14/2013	4.	II/3	<p>Item 3 under Review Interfaces (page 3.5.1.2-3) states:</p> <p>"Review of the regulatory treatment of nonsafety systems is performed under Standard Review Plan (SRP) Section 19.3 as related to augmented design standards of missile protection for nonsafety-related risk significant SSCs."</p> <p>Refer to Comments 1 & 2.</p> <p>Item 1, third and fourth sentences, under Technical Rationale (page 3.5.1.2-4) states:</p> <p>"An internally-generated missile has a dynamic effect and its impact on SSCs important to safety must be evaluated to ensure that they are protected adequately and will be capable of performing their safety functions. Protecting SSCs important to safety from the adverse effects of internally-generated missiles prevents both failure of systems required for safe shutdown of the</p>	<p>For consistency with draft DSRS Section 3.5.1.1 change text to read:</p> <p>"Review of the regulatory treatment of nonsafety systems related to augmented design standards of missile protection for RTNSS-B SSCs, is performed under Standard Review Plan (SRP) Section 19.3."</p>	
Generation mPower	8/14/2013	4.	II/3	<p>Item 1, third and fourth sentences, under Technical Rationale (page 3.5.1.2-4) states:</p> <p>"An internally-generated missile has a dynamic effect and its impact on safety-related and RTNSS-B SSCs must be evaluated to ensure that they are protected adequately and will be capable of performing their safety functions. Protecting safety-related and RTNSS-B SSCs from the adverse effects of internally-generated missiles prevents both failure of</p>	<p>Change text to read:</p> <p>"An internally-generated missile has a dynamic effect and its impact on safety-related and RTNSS-B SSCs must be evaluated to ensure that they are protected adequately and will be capable of performing their safety functions. Protecting safety-related and RTNSS-B SSCs from the adverse effects of internally-generated missiles prevents both failure of</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.2, "Internally Generated Missiles (Inside Containment)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	5.	III/1	<p>reactor facility and significant uncontrolled release of radioactivity."</p> <p>Consistent with Comment # 2, replace the words "SSCs important to safety" with "safety-related and RTNSS-B SSCs."</p> <p>Item 2, first sentence, under Review Procedures (page 3.5.1.2-5) states:</p> <p>"The first step in the review of SSCs requiring protection against internally-generated missiles is to determine whether the equipment is needed to perform a safety-related function or a nonsafety-related risk-significant function.</p> <p>Refer to Comments 1 & 2.</p>	<p>systems required for safe shutdown of the reactor facility and significant uncontrolled release of radioactivity."</p> <p>Change text to read:</p> <p>"The first step in the review of SSCs requiring protection against internally-generated missiles is to determine whether the equipment is needed to perform a safety-related or a RTNSS-B function."</p>	
Generation mPower	8/14/2013	6.	III/1	<p>Item 4, under Review Procedures (page 3.5.1.2-5) states:</p> <p>The reviewer determines whether controls ensure that unsecured maintenance equipment, including that required for maintenance and that undergoing maintenance, will be removed from containment prior to operation, moved to a location where it is not a potential hazard to SSCs be protected, or seismically restrained to prevent it from becoming a missile."</p> <p>Missing the word "to."</p>	<p>Change text to read:</p> <p>The reviewer determines whether controls ensure that unsecured maintenance equipment, including that required for maintenance and that undergoing maintenance, will be removed from containment prior to operation, moved to a location where it is not a potential hazard to SSCs to be protected, or seismically restrained to prevent it from becoming a missile."</p>	

Public Comments on mPower DSRs

mPower DSRs Section 3.5.1.3, "Turbine Missiles"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	ALL	<p>The B&W mPower™ plant design has taken into consideration the effects of a turbine missile strike on SSCs considered essential for safe plant operation. For the B&W mPower design, there are no adverse effects from either a high- or low-trajectory turbine missile strike, as the essential SSCs needed to safely shut down and maintain the plant in a safe condition are housed in the deeply embedded Reactor Service Building (RSB), which is located over 200 ft from the Turbine Building. The RSB includes a protective engineered barrier designed to withstand the effects caused by a wide spectrum of potentially damaging missiles, including natural phenomena and the turbine.</p> <p>As such, the B&W mPower plant does not rely on the determination of low turbine missile probabilities to meet the requirements of GDC 4, but instead utilizes engineered barriers to protect its essential SSCs. A postulated turbine missile strike on above-grade SSCs would have no adverse impacts on safe plant operations, including affecting the ability to safely shut down the plant and maintain in a safe condition, as continued system functionality can be maintained given redundancy and physical separation, and a loss of one of those SSC would not impact safe plant operation. Therefore, the review scope identified in DSRs Acceptance Criteria #6 is the primary criteria applicable to the B&W mPower design.</p>	The DSRs text should be clarified to focus the review scope on DSRs Acceptance Criteria #6.	
Generation	8/14/2013	2.	ALL	As noted in Comment #1 above, the B&W mPower	It is recommended that the NRC streamline	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.3, "Turbine Missiles"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower				design relies upon a robust engineered barrier to protect safety-related and risk-significant SSCs from postulated turbine missiles. As such, probabilities of turbine failures based on inspection program details are not relevant. Notwithstanding, the DSRS is not specific regarding the division of responsibility between a DC applicant and COL applicant with respect to descriptions and details for inservice inspection programs and responsibility for manufacturer data. The focus of the ISI program for the B&W mPower turbine will be on equipment reliability and other commercial concerns as opposed to the safety implications of potential turbine missiles and the DSRS should be much more narrowly focused as a result of the B&W mPower design approach.	this B&W mPower DSRS to the maximum extent possible to focus on review of the adequacy of the turbine missile barrier that is credited in the B&W mPower design. All discussions regarding ISI and its relevance to turbine missile probability should be eliminated.	
NEI	8/15/2013	3.	I. Areas of Review, 1st paragraph, p. 3.5.1.3-1; II. Acceptance Criteria, DSRS Acceptance Criterion 1, p. 3.5.1.3-3 & 4; VI. References, Reference 3, p. 3.5.1.3-11	Title of RG 1.115 should be, "Protection Against Turbine Missiles" rather than "Protection Against Low-Trajectory Turbine Missiles." Also, consistent with normal practice, the RG revision number should be omitted so the DSRS will not have to be revised if the RG is revised.	Revise RG title and delete revision number.	
NuScale	8/15/2013	4.	I. Areas of Review 1st paragraph	The title of RG 1.115 should be, "Protection Against Turbine Missiles" rather than "Protection Against Low-Trajectory Turbine Missiles."	Revise the title of RG.	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.3, "Turbine Missiles"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
			p. 3.5.1.3-1 II. Acceptance Criteria Item 1 p. 3.5.1.3-3 VI. References Item 3 p. 3.5.1.3-11			
NEI	8/15/2013	5.	I. Areas of Review, Item 1, p.3.5.1.3-1; II. Acceptance Criteria, DSRS Acceptance Criterion 1, p. 3.5.1.3-2 & 3	These sections refer to large steam turbines. "Large" is vague and a potentially important distinction for SMR designs.	Clarify what is meant by "large."	
NuScale	8/15/2013	6.	I. Areas of Review Item 1 p. 3.5.1.3-1 II. Acceptance Criteria Item 1 p. 3.5.1.3-3	Turbine Missiles, Sections I.1 and II.1. These sections refer to large steam turbines. Please clarify what is meant by "large."	Define "large" in the context of this section.	
Generation mPower	8/14/2013	7.	I	Paragraph 2 in "Areas of Review" includes the following statement: "An SSC may be classified as: Safety-related and risk-significant Safety-related and nonrisk-significant Nonsafety-related and risk-significant Regulatory Treatment of Nonsafety Systems (RTNSS) equipment Nonsafety-related nonrisk-significant equipment."	The following text implying the use of the listed type of classification structure for SSCs should be removed from Section I of DSRS 3.5.1.3: "An SSC may be classified as: Safety-related and risk-significant Safety-related and nonrisk-significant Nonsafety-related and risk-significant Regulatory Treatment of Nonsafety	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.3, "Turbine Missiles"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	8.	I & VI	<p>For the B&W mPower standard plant design, the classification of SSCs will be consistent with current regulatory practices and PRA insights will be used to identify both RTNSS SSCs and the risk-significant SSCs. Classification information for the B&W mPower SSCs will be provided in DCD Section 3.2, including a listing of RTNSS SSCs. Further details on the RTNSS SSCs will be provided in DCD Section 19.3 consistent with the guidance in draft SRP 19.3. Therefore, information related to how a B&W mPower SSC may be classified should instead be removed from this DSRS section.</p> <p>The 2nd sentence in the 1st paragraph of "Areas of Review" needs to be updated to reflect the correct title for Rev. 2 of RG 1.115, which has been changed to "Protection Against Turbine Missiles". Text reflecting this change also needs to be updated in the following locations:</p> <ul style="list-style-type: none"> - Item 1 of the "Acceptance Criteria" Section - Reference 3 in Section VI <p>Also a specific revision number should not be identified within the DSRS text or in the References section consistent with other DSRS Sections.</p>	<p>Systems (RTNSS) equipment Non-safety-related non-risk-significant equipment.</p>	
					<p>Revise the sentence in "Areas of Review" to read:</p> <p>'These include safety-related or risk-significant SSCs as listed in RG 1.115, "Protection Against Turbine Missiles," and Design-Specific Review Standard (DSRS) Section 3.2.2.'</p> <p>Revise the sentence in "Acceptance Criteria" to read:</p> <p>"...RG 1.115, "Protection Against Turbine Missiles," Revision-2..."</p> <p>Revise Reference 3 in the "References" Section to read:</p> <p>"Regulatory Guide 1.115, "Protection</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.3, "Turbine Missiles"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	9.	I	<p>In item 1 of "Areas of Review", text in last sentence (pg. 3.5.1.3-2) indicates that the primary area of review is turbine missile generation probability.</p> <p>In the B&W mPower design, safety-related and risk-significant SSCs are protected from the effects of turbine missiles by engineered barriers. As such, the B&W mPower plant does not rely on the calculation of turbine missile generation probability to assess the adequacy of protection on these SSCs.</p>	<p>Against Turbine Missiles, ". Delete the following sentence in Item 1: "The primary review area is the evaluation of the turbine missile generation probability".</p>	
Generation mPower	8/14/2013	10.	II	<p>In Item 5.C.i of "DSRS Acceptance Criteria", the first sentence indicates approximate 3-year duration between inservice inspection of turbine governor and overspeed protection systems. This sentence should be changed to state that the intervals for inspection of valves for the governor and overspeed protection systems should coincide with planned refueling or maintenance shutdowns for the B&W mPower plant.</p>	<p>Revise the first sentence of DSRS Acceptance Criteria Item 5.C.i to read: "For typical turbine governor and overspeed protection systems, at intervals of approximately 3-years during refueling or maintenance shutdowns, at least one main steam control valve, one main steam stop valve, one reheat intercept valve, one reheat stop valve, and one of each type of steam extraction valve should be dismantled for examination."</p>	
Generation mPower	8/14/2013	11.	II	<p>In Item 6 under "DSRS Acceptance Criteria", the first sentence should be revised to reflect use of engineered barriers to meet the requirements of GDC 4, and will not rely on the results of calculating missile generation probability to indicate protection of essential SSCs.</p>	<p>Revise the first sentence of Item 6 to read: "An applicant may propose to install barriers or to take credit for existing structures or features as barriers to meet the requirements of GDC 4."</p>	
Generation	8/14/2013	12.	III	<p>The following text was added as Item 1 under</p>	<p>Revise Item 1 to read as follows:</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.3, "Turbine Missiles"

Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower				<p><u>Review Procedures:</u></p> <p>"In accordance with 10 CFR 52.47(a)(8),(21), and (22), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and, (3) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p> <p>As required by 10CFR 52.47(a)(22), the information necessary to demonstrate how operating experience insights have been incorporated into the plant design is a generic programmatic issue for a design certification applicant and will be addressed in Chapter 1 of the B&W mPower DCD consistent with the guidance in NUREG-0800, Chapter 1. Based on the generic applicability of incorporating operating experience</p>	<p>"In accordance with 10 CFR 52.47(a)(8),and (21), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and (3)(2) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.3, "Turbine Missiles"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				into a standard plant design, this specific requirement need not be identified separately in each individual DSRS section as this information is already covered in SRP Chapter 1.		

Public Comments on mPower DSRs

mPower DSRs Section 3.5.1.4, "Missiles Generated by Tornadoes and Extreme Winds"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	I/2	<p>First sentence under Areas of Review states:</p> <p>"The mPower™ integral pressurized-water reactor (IPWR) includes the deeply embedded concrete reactor building, underground steel containment, and fully protected spent fuel pool below the grade level."</p> <p>Reference is made to "...concrete reactor building, underground steel containment..." B&W mPower specific structures' titles are "reactor service building" and "reactor containment vessel".</p>	<p>Change text to read:</p> <p>"The B&W mPower™ standard plant includes the deeply embedded concrete reactor service building, underground steel reactor containment vessel, and fully protected spent fuel pool below the grade level."</p>	
Generation mPower	8/14/2013	2.	I/2	<p>Second sentence under Areas of Review states:</p> <p>"The safety-related and risk-significant SSCs inside these structures are generally protected from direct hit of missiles generated from extreme wind conditions."</p> <p>Make text consistent with other related DSRs sections.</p>	<p>Change text to read:</p> <p>"For the purposes of this DSRs, safety-related SSCs and RTNSS-B SSCs are those SSCs subject to missile protection. The SSCs subject to missile protection inside these structures are generally protected from direct hit of missiles generated from extreme wind conditions."</p>	
NEI	8/15/2013	3.	I. Areas of Review, 2nd paragraph, p. 3.5.1.4-1	<p>This paragraph states that based on a "deeply embedded concrete reactor building" and a "fully protected spent fuel pool," the probability of a direct hit of missiles generated from extreme wind conditions is reduced. It is not clear what "deeply embedded" and "fully protected" mean. Clarification would assist a future applicant to understand how the review would be similarly affected for their design.</p>	<p>Clarify meaning of "deeply embedded" and "fully protected" as it relates to minimizing probability of missile hit.</p>	
NuScale	8/15/2013	4.	I. Areas of	<p>This paragraph mentions a "deeply embedded</p>	<p>Clarify terminology and applicability to</p>	

Public Comments on mPower DSRs

mPower DSRs Section 3.5.1.4, "Missiles Generated by Tornadoes and Extreme Winds"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
			Review 2nd paragraph p. 3.5.1.4-1	concrete reactor building" and a "fully protected spent fuel pool." It is not clear what "deeply embedded" and "fully protected" mean. Later in the paragraph it is noted that even though a direct hit of missiles generated from extreme wind conditions is reduced, the review cannot be eliminated, obviating the need to provide the mPower details. If this paragraph is deleted, Section 3.5.1.4 may be generically applied to all SMRs.	SMRs.	
Generation mPower	8/14/2013	5.	II/3	Item 1 under Technical Rationale (page 3.5.1.4-3) . The phrase "important to safety" occurs in three areas of Item 1. The first two instances can remain as-is because it refers to specific language in regulatory requirements. In the third instance, however, replace the reference to "important to safety" with "SSCs subject to missile protection."	Replace words "SSCs important to safety" with "SSCs subject to missile protection" as follows: "Designing a nuclear power plant to withstand the design-basis tornado and hurricane wind speeds and missiles discussed in RG 1.76 and RG 1.221, ensures that SSCs subject to missile protection will be capable of performing their safety function,..."	
Generation mPower	8/14/2013	6.	III/2	Item 8, second sentence under Review Procedures (page 3.5.1.4-5) states: "DCs have referred to the application as the design control document (DCD)." For consistency with other DSRs, replace the word "application" with "FSAR."	Change text to read: "DCs have referred to the FSAR as the design control document (DCD)."	
Generation mPower	8/14/2013	7.	V	In the first and second paragraphs under Implementation (page 3.5.1.4-6), the scope of the DSRs needs to be clarified as the scope is	Clarify applicability of this DSRs to B&W mPower certified design and COL applications referencing the B&W mPower	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.4, "Missiles Generated by Tornadoes and Extreme Winds"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				specific to the B&W mPower design certification application and COL applications referencing the B&W mPower certified design only not just any COL.	certified design only.	

Public Comments on mPower DSRs

mPower DSRs Section 3.5.1.5, "Site Proximity Missiles (Except Aircraft)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	All	This DSRs does not add any value to the B&W mPower™ design review and this DSRs should be deleted in its entirety. SRP 3.5.1.5 is already sufficient for the staff to perform its review of the B&W mPower design certification application and any COL application that references the B&W mPower certified design.	NRC should eliminate DSRs 3.5.1.5 and use the existing review guidance in SRP 3.5.1.5 instead.	
Generation mPower	8/14/2013	2.	1/1	Section 1, paragraph 1 includes the following statement: "An SSC may be classified as: Safety-related risk-significant Safety-related nonrisk-significant Nonsafety-related risk-significant Nonsafety-related nonrisk-significant" For the B&W mPower standard plant design, the classification of SSCs will be consistent with current regulatory practices and PRA insights will be used to identify both the RTNSS SSCs and the risk-significant SSCs. Classification information for the B&W mPower SSCs will be provided in DCD Section 3.2, including a listing of RTNSS SSCs. Further details on the RTNSS SSCs will be provided in DCD Section 19.3 consistent with the guidance provided in draft SRP 19.3. Therefore, information related to how a B&W mPower SSC may be classified should instead be removed from this DSRs Section.	Delete the following text implying the use of the listed type of classification structure for SSCs "An SSC may be classified as: • Safety-related risk-significant • Safety-related nonrisk-significant • Nonsafety-related risk-significant • Nonsafety-related nonrisk-significant "	
Generation mPower	8/14/2013	3.	1/2	In the second paragraph of Section 1, under Areas of Review, the term "safety-related and	Replace the words "safety-related and risk-significant SSCs" with safety-related and	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.5, "Site Proximity Missiles (Except Aircraft)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	4.	I/3	<p>RTNSS-B SSCs" should be used to signify "SSCs subject to protection from site proximity missiles" in place of terms like "safety-related and risk-significant SSCs."</p> <p>Item 1 under Areas of Review states:</p> <p>"The staff reviews the nature and extent of offsite activities identified in SRP Section 2.2.1-2.2.2 to determine whether any missiles resulting from such activities, other than aircraft (DSRS Section 3.5.1.6 reviews aircraft hazards), have the potential to adversely affect SSCs that are safety-related or risk-significant. In the event that an offsite activity has the potential for missile production (e.g., explosion) and is found to be a design basis event according to SRP Section 2.2.3, the staff responsible for evaluating missile effects on SSCs that are safety-related or risk-significant will review the plant design to determine whether the plant is adequately protected against the effects of postulated missiles."</p> <p>Consistent with Comment #3, replace the words "SSCs that are safety-related or risk-significant" with "SSCs that are safety-related or RTNSS-B."</p>	RTNSS-B SSCs (SSCs subject to protection from site proximity missiles).	
Generation mPower	8/14/2013	5.	II/2	<p>Item 2, under DSRS Acceptance Criteria (page 3.5.1.5-3) states:</p> <p>"The plant will meet the relevant requirements of GDC 4 and will be considered appropriately protected against site proximity missiles- design if</p>	<p>Change text to read:</p> <p>"The plant will meet the relevant requirements of GDC 4 and will be considered appropriately protected against site proximity missiles if the safety-related</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.5, "Site Proximity Missiles (Except Aircraft)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	6.	II/3	<p>the SSCs important to safety are capable of withstanding the effects of the postulated missiles without loss of safe-shutdown capability and without causing a release of radioactivity in excess of the 10 CFR Part 100 dose guidelines"</p> <p>Consistent with Comment #3, replace the words "SSCs important to safety" with "safety-related and RTNSS-B SSCs."</p> <p>Item 3, under Technical Rationale (page 3.5.1.5-4) states:</p> <p>"GDC 4 requires that SSCs important to safety be appropriately protected against dynamic effects, including the effects of missiles that may result from events and conditions outside the nuclear plant. Offsite activities that are determined to be a design-basis event, such as an explosion, could have the potential for initiation of externally generated missiles is a dynamic event and the effects of those missiles on SSCs important to safety must be evaluated. Protecting those SSC that are important to safety from the effects of externally generated missiles prevents failure of those systems required for safe-shutdown capabilities and prevents the release of radioactivity which might cause doses in excess of the 10 CFR Part 100 guidelines."</p> <p>Consistent with Comment #3, replace the words "SSCs important to safety" with "safety-related and RTNSS-B SSCs."</p>	<p>and RTNSS-B SSCs are capable of withstanding the effects of the postulated missiles without loss of safe-shutdown capability and without causing a release of radioactivity in excess of the 10 CFR Part 100 dose guidelines."</p>	
				Change text to read:	<p>"GDC 4 requires that SSCs important to safety be appropriately protected against dynamic effects, including the effects of missiles that may result from events and conditions outside the nuclear plant. Offsite activities that are determined to be a design-basis event, such as an explosion, could have the potential for initiation of externally generated missiles is a dynamic event and the effects of those missiles on safety-related and RTNSS-B SSCs must be evaluated. Protecting those SSCs that are safety-related or RTNSS-B from the effects of externally generated missiles prevents failure of those systems required for safe-shutdown capabilities and prevents the release of radioactivity which might cause doses in excess of the 10 CFR Part 100 guidelines."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.5, "Site Proximity Missiles (Except Aircraft)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	7.	IV/2	<p>Item 1, under Evaluation Findings (page 3.5.1.5-6) states:</p> <p>"The staff concludes that the protection for SSCs important to safety is acceptable and meets the requirements of GDC 4. This conclusion is based on the information provided by the applicant and reviewed by the staff which identified potential missiles that could adversely affect safety-related or risk-significant SSCs requiring protection from externally generated missiles and which demonstrates that these SSCs have adequate barriers protecting them from the effects of missiles such that radiation exposures in excess of those given in 10 CFR Part 100 will not be exceeded. SSCs important to safety are defined in SRP Section 3.2.2 and includes both safety-related and risk-significant nonsafety-related SSCs."</p> <p>Consistent with Comment #3, replace the words "SSCs important to safety" with "safety-related and RTNSS-B SSCs."</p>	<p>Change text to read:</p> <p>"The staff concludes that the protection for safety-related and RTNSS-B SSCs is acceptable and meets the requirements of GDC 4. This conclusion is based on the information provided by the applicant and reviewed by the staff which identified potential missiles that could adversely affect safety-related and RTNSS-B SSCs requiring protection from externally generated missiles and which demonstrates that these SSCs have adequate barriers protecting them from the effects of missiles such that radiation exposures in excess of those given in 10 CFR Part 100 will not be exceeded. SSCs important to safety are defined in SRP Section 3.2.2."</p>	
Generation mPower	8/14/2013	8.	IV/2	<p>Item 2, first sentence, under Evaluation Findings (page 3.5.1.5-6) states:</p> <p>"Information provided by the applicant and reviewed by the staff has led to the identification of potential missiles that could adversely affect safety-related or risk-significant SSCs important to safety which warrant detailed evaluation of their protection against such externally generated missiles."</p>	<p>Change text to read:</p> <p>"Information provided by the applicant and reviewed by the staff has led to the identification of potential missiles that could adversely affect SSCs subject to protection from site proximity missiles which warrant detailed evaluation of their protection against such externally generated missiles."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.5, "Site Proximity Missiles (Except Aircraft)"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NEI	8/15/2013	9.	VI. References, Reference 9, p. 3.5.1.5-8	Consistent with Comment #3, replace the words "SSCs important to safety" with "SSCs subject to protection from site proximity missiles." RG 1.91, "Evaluations of Explosions Postulated To Occur on Transportation Routes Near Nuclear Power Plants" title should be, "Evaluations of Explosions Postulated To Occur at Nearby Facilities and on Transportation Routes Near Nuclear Power Plants."	Revise title of RG.	
NuScale	8/15/2013	10.	VI. References item 9 p. 3.5.1.5-8	Currently, the title of Reference 9 is RG 1.91, "Evaluations of Explosions Postulated To Occur on Transportation Routes Near Nuclear Power Plants." Revise it to be, "Evaluations of Explosions Postulated To Occur at Nearby Facilities and on Transportation Routes Near Nuclear Power Plants."	Correct the title for RG 1.91.	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.6, "Aircraft Hazards"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	All	This DSRS does not add any value to the B&W mPower™ design review and this DSRS should be deleted in its entirety. SRP 3.5.1.6 is already sufficient for the staff to perform its review of the B&W mPower design certification application and any COL application that references the B&W mPower certified design.	NRC should eliminate DSRS 3.5.1.6 and use the existing review guidance in SRP 3.5.1.6 instead.	
Generation mPower	8/14/2013	2.	I/2	Text under Areas of Review states: "All structures, systems, and components (SSCs) important to safety are to be protected from aircraft hazards to ensure compliance with 10 CFR 50, Appendix A, General Design Criterion (GDC) 3 and 4 requirements." Remove reference to "important to safety" and replace with "safety-related and RTNSS-B" SSCs (i.e., SSCs subject to aircraft hazards).	Change text to read: "All safety-related and RTNSS-B SSCs (SSCs subject to aircraft hazards) are to be protected from aircraft hazards to ensure compliance with 10 CFR 50, Appendix A, General Design Criterion (GDC) 3 and 4 requirements."	
Generation mPower	8/14/2013	3.	I/4	Item 3 under Review Interfaces (page 3.5.1.6-2) states: "Requirements to protect plant SSCs important to safety from aircraft crashes (DSRS Section 3.5.2)." Refer to Comment # 2.	Change text to read: "Requirements to protect plant SSCs subject to aircraft hazards from aircraft crashes (DSRS Section 3.5.2)."	
Generation mPower	8/14/2013	4.	II/2	Item 2, first paragraph, fourth sentence under DSRS Acceptance Criteria (page 3.5.1.6-4) states: "The plant meets the relevant requirements of GDC 3 and GDC 4, and is considered appropriately protected against design-basis"	Change text to read: "The plant meets the relevant requirements of GDC 3 and GDC 4, and is considered appropriately protected against design-basis aircraft impacts and fires, if	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.6, "Aircraft Hazards"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	5.	II/2	<p>aircraft impacts and fires, if the SSCs important to safety are capable of withstanding the effects of the postulated aircraft impacts and fires without loss of safe-shutdown capability and without causing a release of radioactivity that could exceed the 10 CFR Part 100 dose guidelines."</p> <p>Refer to Comment # 2.</p> <p>Item 2, second paragraph, fourth sentence under DSRS Acceptance Criteria (page 3.5.1.6-4) states:</p> <p>"Protecting those SSCs important to safety from the effects of externally generated missiles due to aircraft hazards prevents failure of those systems required for safe shutdown and prevents the release of radioactivity with the potential for causing exposures in excess of the 10 CFR Part 100 guidelines."</p> <p>Refer to Comment # 2.</p>	<p>the SSCs subject to aircraft hazards are capable of withstanding the effects of the postulated aircraft impacts and fires without loss of safe-shutdown capability and without causing a release of radioactivity that could exceed the 10 CFR Part 100 dose guidelines."</p> <p>Change text to read:</p> <p>"Protecting those SSCs subject to aircraft hazards from the effects of externally generated missiles due to aircraft hazards prevents failure of those systems required for safe shutdown and prevents the release of radioactivity with the potential for causing exposures in excess of the 10 CFR Part 100 guidelines."</p>	
Generation mPower	8/14/2013	6.	III/1	<p>Second sentence under Review Procedures (page 3.5.1.6-5) states:</p> <p>"As applicable, reviews of COLs include a determination on whether the content of technical specifications related to is acceptable and whether the technical specifications reflect consideration of any identified unique conditions."</p> <p>Revise text as recommended.</p>	<p>Change text to read:</p> <p>"As applicable, reviews of COLs include a determination on whether the content of technical specifications related to the subject review area is acceptable and whether the technical specifications reflect consideration of any identified unique conditions."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.6, "Aircraft Hazards"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NEI	8/15/2013	7.	III. Review Procedures, 2. Airways, Item (3), p. 3.5.1.6-6	"Accident Analysis of Aircraft into Hazardous Facilities," DOE-STD-3014-96, October 1996 is now DOE-STD-3014-2006 as it was reaffirmed in 2006.	Revise to reflect current version of standard.	
NuScale	8/15/2013	8.	III. Review Procedures Item 2, Airways Sub paragraph (3) p. 3.5.1.6-6	DOE, "Accident Analysis of Aircraft into Hazardous Facilities," DOE-STD-3014-96, October 1996." This standard is now DOE-STD-3014-2006 as it was reaffirmed in 2006.	Update to the most recent revision of the standard as recommended.	
Generation mPower	8/14/2013	9.	III/2	Item 7.C, under Review Procedures (page 3.5.1.6-9) states: "The areas of those safety-related or risk-significant SSCs that are susceptible to impact or fire damage as a result of aircraft crashes." Refer to Comment # 2.	Change text to read: "The areas of those SSCs subject to aircraft hazards that are susceptible to impact or fire damage as a result of aircraft crashes."	
Generation mPower	8/14/2013	10.	III/2	Item 8.A, second paragraph, second sentence under Review Procedures (page 3.5.1.6-9) states: "Accordingly, the reviewer should ensure that all physical attributes of the site that could affect the design basis of SSCs important to safety are reflected in the site characteristics, design parameters, or terms and conditions of the early site permit." Refer to Comment # 2.	Change text to read: "Accordingly, the reviewer should ensure that all physical attributes of the site that could affect the design basis of SSCs subject to aircraft hazards are reflected in the site characteristics, design parameters, or terms and conditions of the early site permit."	
Generation mPower	8/14/2013	11.	IV/3	Third paragraph, first sentence under Evaluation Findings (page 3.5.1.6-11) states:	Change text to read:	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.6, "Aircraft Hazards"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	12.	IV/5	<p>"Specifically, the reviewer drafts an introductory paragraph for the evaluation findings describing the procedure used in evaluating the aircraft hazards with respect to the safety-related or risk-significant SSCs."</p> <p>Refer to Comment # 2.</p> <p>Fifth paragraph, second sentence under Evaluation Findings (page 3.5.1.6-11) states:</p> <p>"If the protection against aircraft impacts and fires is such that the plant safety-related or risk-significant SSCs meet the GDC 3 and GDC 4 criteria, then 10 CFR Part 100 requirements are considered to be met and a conclusion of the following type may be included in the staff's FSER."</p> <p>Refer to Comment # 2.</p>	<p>"Specifically, the reviewer drafts an introductory paragraph for the evaluation findings describing the procedure used in evaluating the aircraft hazards with respect to the safety-related SSCs and RTNSS-B SSCs (SSCs subject to aircraft hazards)."</p> <p>Change text to read:</p> <p>"If the protection against aircraft impacts and fires is such that the plant safety-related and RTNSS-B SSCs (SSCs subject to aircraft hazards) meet the GDC 3 and GDC 4 criteria, then 10 CFR Part 100 requirements are considered to be met and a conclusion of the following type may be included in the staff's FSER."</p>	
Generation mPower	8/14/2013	13.	IV/5	<p>Draft conceding statement, second sentence under Evaluation Findings (page 3.5.1.6-12) states:</p> <p>"This conclusion is based on the staff having independently verified the applicant's assessment of aircraft fires and impacts, at the site and that, if the appropriate safety-related or risk-significant SSCs are designed to withstand the aircraft selected as the design-basis aircraft, then the probability of an aircraft strike causing radiological</p>	<p>Change text to read:</p> <p>"This conclusion is based on the staff having independently verified the applicant's assessment of aircraft hazards, including aircraft fires and impacts, at the site and that, if the appropriate safety-related and RTNSS-B SSCs (SSCs subject to aircraft hazards) are designed to withstand the aircraft selected as the design-basis aircraft, then the probability of an aircraft strike causing</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.1.6, "Aircraft Hazards"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>consequences in excess of the exposure guidelines of 10 CFR Part 100 is less than about 10^{-7} per year."</p> <p>Refer to Comment # 2.</p>	<p>radiological consequences in excess of the exposure guidelines of 10 CFR Part 100 is less than about 10^{-7} per year."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.2, “Structures, Systems, and Components To Be Protected From Externally Generated Missiles”

Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	1/2	<p>The second paragraph under Areas of Review states:</p> <p>“The review of the SSCs to be protected from externally-generated missiles includes all plant site safety-related and risk significant SSCs supporting the reactor facility, such elements as essential service water intakes, buried components (e.g., essential service water piping, storage tanks), and structure access openings and penetrations.”</p> <p>This paragraph as written, does not reflect the B&W mPower™ standard plant design.</p> <p>The text should be revised to be more representative of the standard B&W mPower plant.</p>	<p>Change text to read:</p> <p>“The review of the SSCs to be protected from externally-generated missiles includes all plant site safety-related and RTNSS-B SSCs supporting the reactor facility, such as structure access openings and penetrations (e.g., control room air intakes).”</p>	
Generation mPower	8/14/2013	2.	1/3	<p>First sentence, under Areas Review states:</p> <p>“The B&W mPower integral pressurized-water reactor (IPWR) includes a deeply embedded concrete reactor building, underground steel containment, and fully protected spent fuel pool below the grade level.”</p> <p>Revise text for consistency with B&W mPower standard plant structures.</p>	<p>Change text to read:</p> <p>“The B&W mPower standard plant includes a deeply embedded concrete reactor service building, underground steel reactor containment vessels, and fully protected spent fuel pool below the grade level.”</p>	
Generation mPower	8/14/2013	3.	1/3	<p>Section 1, paragraph 3 includes the following statement:</p> <p>“An SSC may be classified as:</p>	<p>Delete the following text implying the use of the listed type of classification structure for SSCs</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.2, "Structures, Systems, and Components To Be Protected From Externally Generated Missiles"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<ul style="list-style-type: none"> Safety-related risk-significant Safety-related nonrisk-significant Nonsafety-related risk-significant Nonsafety-related nonrisk-significant <p>For the B&W mPower standard plant design, the classification of SSCs will be consistent with current regulatory practices and PRA insights will be used to identify both the RTNSS SSCs and the risk-significant SSCs. Classification information for the B&W mPower SSCs will be provided in DCD Section 3.2, including a listing of RTNSS SSCs. Further details on the RTNSS SSCs will be provided in DCD Section 19.3 consistent with the guidance provided in draft SRP 19.3. Therefore, information related to how a B&W mPower SSC may be classified should instead be removed from this DSRS Section.</p>	<p>"An SSC may be classified as:</p> <ul style="list-style-type: none"> Safety-related risk-significant Safety-related nonrisk-significant Nonsafety-related risk-significant Nonsafety-related nonrisk-significant" 	
NEI	8/15/2013	4.	I. Areas of Review, 3rd paragraph, p. 3.5.2-1	This paragraph states that based on a "deeply embedded concrete reactor building" and a "fully protected spent fuel pool," the probability of a direct hit of missiles generated from extreme wind conditions is reduced. It is not clear what "deeply embedded" and "fully protected" mean. Clarification would assist a future applicant to understand how the review would be similarly affected for their design.	Clarify meaning of "deeply embedded" and "fully protected" as it relates to minimizing probability of missile hit.	
NuScale	8/15/2013	5.	I. Areas of Review Paragraph 3 p. 3.5.2-1	This paragraph mentions a "deeply embedded concrete reactor building" and a "fully protected spent fuel pool." It is not clear what "deeply embedded" and "fully protected" mean. Later in	Define "deeply embedded concrete reactor building" and a "fully protected spent fuel pool".	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.2, "Structures, Systems, and Components To Be Protected From Externally Generated Missiles"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				the paragraph it is noted that even though a direct hit of missiles generated from extreme wind conditions is reduced, the review cannot be eliminated, obviating the need to provide the mPower details. This paragraph may be deleted without adversely impacting the Section, while at the same time eliminating the need to revise the paragraph for other SMRs.		
NEI	8/15/2013	6.	I. Areas of Review, Item 4, p. 3.5.2-2	"...related to this SRP section..." should read "related to this <u>DSRS</u> section..." and "...acceptance criteria contained in this SRP section" should read "...acceptance criteria contained in this <u>DSRS</u> section."	Revise as indicated.	
NuScale	8/15/2013	7.	I. Areas of Review Item 4 p. 3.5.2-2	Please revise "...acceptance criteria contained in this SRP section" to "...acceptance criteria contained in this DSRS section."	Revise the sentence accordingly.	
Generation mPower	8/14/2013	8.	1/4	The last sentence under Areas of Review states: "If the SSC belongs in the first two classifications above or if it is determined as part of the SRP 19.3, "Augmented Design Standard" review that the SSC is RTNSS "B", the review described in this DSRS Section 3.5.2 is applied (see Review Procedure 2 below). For the purpose of brevity in this section, the first two categories above and the RTNSS "B" SSCs will be designated as "SSCs subject to missile protection." SSCs in the 4th classification above are not subject to missile protection." Consistent with Comment #1 and draft SRP 19.3, the last two sentences should be revised to	Change text to read as follows: 'If the SSC belongs in the first two classifications above is safety-related or if it is determined as part of the SRP 19.3, "Augmented Design Standard" review that the SSC is RTNSS "B", the review described in this DSRS Section 3.5.2 is applied (see Review Procedure 2 below). For the purpose of brevity in this section, the first two categories above safety-related and the RTNSS-B SSCs will be designated as "SSCs subject to missile protection." SSCs in the 4th classification above are not subject to missile protection.'	

Public Comments on mPower DSRs

mPower DSRs Section 3.5.2, "Structures, Systems, and Components To Be Protected From Externally Generated Missiles"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	9.	I/6	<p>designate safety-related and RTNSS-B SSCs as the SSCs subject to missile protection.</p> <p>Item 3 under Review Interfaces (page 3.5.2-3) states:</p> <p>"Review of RTNSS is performed under (SRP) Section 19.3 as related to augmented design standards of missile protection for RTNSS-B SSCs."</p> <p>Refer to Comments 3 & 4.</p>	<p>Change text to read:</p> <p>"Review of RTNSS is performed under (SRP) Section 19.3 as related to augmented design standards of missile protection for RTNSS-B SSCs."</p>	
Generation mPower	8/14/2013	10.	III/2	<p>Item 3, under Review Procedures (pages 3.5.2-5 and 3.5.2-6):</p> <p>This paragraph, as written, does not reflect the B&W mPower standard plant design.</p>	<p>The text should be revised as follows to be more representative of the standard B&W mPower plant"</p> <p>"The review of the SSCs to be protected from externally-generated missiles includes all plant site safety-related and RTNSS-B SSCs supporting the reactor facility, such as structure access openings and penetrations (e.g., control room air intakes)."</p>	
Generation mPower	8/14/2013	11.	Various	<p>The DSRs has been revised to include guidance for hurricane design. What are the NRC's plans to update RG 1.117 to address both tornado- and hurricane-generated missiles?</p>		

Public Comments on mPower DSRs

mPower DSRs Section 3.5.3, "Barrier Design Procedures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	All	The B&W mPower™ standard plant design will employ the 2006 edition of the AISC N690 Specification, which is based on a Load and Resistance Factor Design (LRFD) methodology for the design of structural steel.	Modify language in the DSRs associated with AISC N690-1994 to allow the review of designs performed per the LRFD on a case-by-case basis.	
NEI	8/15/2013	2.	I. Areas of Review, Review Interfaces, Items 3 & 4, pg. 3.5.3-2	In item 3, the scope of SSCs to be protected from externally generated missiles was changed from "all plant site safety-related SSCs...reviewed in accordance with SRP section 3.5.2" to "all plant site safety-related SSCs or risk-significant non-safety-related SSCs. These SSCs are listed in DSRs section 3.2.2." The list of SSCs in DSRs section 3.2.2 is a generic list of normally important-to-safety (ITS) SSCs for PWRs; it is not limited to risk-significant SSCs, and some of the SSCs that are ITS in a large PWR will not be ITS for the mPower, or other, iPWRs. Moreover, not all risk-significant SSCs must be protected from externally generated missiles, only RTNSS-B SSCs per DSRs section 3.5.2. Thus, the existing interface with section 3.5.2 for determining the appropriate SSCs for external-missile protection should be maintained. In turn, DSRs section 3.5.2 refers to SRP section 19.3 for the RTNSS determination, such that DSRs section 3.5.3 item 4 should not refer to SRP section 19.0.	Revise item 3 to correctly state which SSCs need protection (safety-related and RTNSS-B risk-significant SSCs) and to refer to DSRs section 3.5.2 for that determination. Delete item 4.	
Generation mPower	8/14/2013	3.	1/3	Item 3, first sentence, under Review Interfaces (page 3.5.3-2) states:	Change text to read: "The review of the SSCs to be protected	

Public Comments on mPower DSRS

mPower DSRS Section 3.5.3, "Barrier Design Procedures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>"The review of the SSCs to be protected from externally-generated missiles includes all plant site safety-related SSCs or risk-significant non-safety-related SSCs."</p> <p>For the B&W mPower standard plant design, the classification of SSCs will be consistent with current regulatory practices and PRA insights will be used to identify both the RTNSS SSCs and the risk-significant SSCs. Classification information for the B&W mPower SSCs will be provided in DCD Section 3.2, including a listing of RTNSS SSCs. Further details on the RTNSS SSCs will be provided in DCD Section 19.3. Therefore, information related to how a B&W mPower SSC may be classified should be removed from this DSRS Section.</p> <p>In summary, although risk significance of the B&W mPower standard plant SSCs will be defined, there are no plans to use a risk categorization structure to classify the B&W mPower SSCs.</p>	<p>from externally-generated missiles includes all plant site safety-related and risk-significant SSCs."</p>	
NEI	8/15/2013	4.	I. Areas of Review, Item 4, p. 3.5.2-2	<p>"...related to this SRP section..." should read "related to this DSRS section..." and "...acceptance criteria contained in this SRP section" should read "...acceptance criteria contained in this DSRS section."</p>	Revise as indicated.	
NuScale	8/15/2013	5.	II. Acceptance Criteria Item 2, For the Overall Damage Prediction	Use the more recent 2006 version of the sub-tier guidance standard ANSI/AISC N690-1994 with Supplement 2 (2004).	A more recent updated version of the standard should be used.	

Public Comments on mPower DSRs

mPower DSRs Section 3.5.3, "Barrier Design Procedures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	6.	p. 3.5.3-4 II	SRP 3.5.3 Table 1 (Minimum Acceptable Barrier Thickness Requirements For Local Damage Prediction Against Tornado Generated Missiles) was deleted.	Reinstate SRP 3.5.3 Table 1 in the DSRs with associated text as it is still valid for tornado missiles per RG 1.76.	

Public Comments on mPower DSRs

mPower DSRs Section 3.6.2, "Determination of Rupture Locations and Dynamic Effects Associated with the Postulated Rupture of Piping"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	1.	I/2	<p>The second sentence in the second paragraph under Areas of Review contains the following text:</p> <p>"An SSC may be classified as: (1) Safety-related risk-significant; (2) Safety-related nonrisk-significant (3) Nonsafety-related risk-significant; or (4) Nonsafety-related non-risk significant"</p> <p>For the mPower standard plant design, the classification of SSCs will be consistent with current regulatory practices and PRA insights will be used to identify both the RTNSS SSCs and the risk-significant SSCs. Classification information for the mPower SSCs will be provided in DCD Section 3.2, including a listing of RTNSS SSCs. Further details on the RTNSS SSCs will be provided in DCD Section 19.3. Therefore, information related to how an mPower SSC may be classified should instead be removed from this DSRs Section.</p>	Text implying the use of the listed type of classification structure for SSCs should be removed from Section I of DSRs 3.6.2 and instead reference should be made to DSRs 3.2 on SSC classification and SRP 19.3 for a discussion of RTNSS SSCs in the DCD.	
Generation mPower	8/8/2013	2.	I/3	<p>The first sentence in the third paragraph under Areas of Review contains the following text:</p> <p>"If the SSC is safety-related or nonsafety-related and risk significant (Categories 1-3, above)(see Review Procedure 2 below), the review described in this Design-Specific Review Standard (DSRS) 3.6.2 is applied. Otherwise, those SSCs are not subject to protection against postulated pipe ruptures."</p>	<p>Revise text to read:</p> <p>"If the SSC is safety-related or RTNSS-B (see Review Procedure 3 below), the review described in this Design-Specific Review Standard (DSRS) 3.6.2 is applied. Otherwise, those SSCs are not subject to protection against postulated pipe ruptures."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.6.2, "Determination of Rupture Locations and Dynamic Effects Associated with the Postulated Rupture of Piping"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	3.	I/3	<p>Consistent with Draft SRP 19.3, risk-significant SSCs are limited to only RTNSS-B SSCs for protection from the effects of pipe break. Additionally the correct Review Procedure is 3.</p> <p>The first sentence in the third paragraph under Areas of Review contains the following text:</p> <p>"..... (see Review Procedure 2 below), the review described in this Design-Specific Review Standard (DSRS) 3.6.2 is applied."</p> <p>The correct Review Procedure is 3.</p>	<p>Revise text to read:</p> <p>"..... (see Review Procedure 3 below), the review described in this Design-Specific Review Standard (DSRS) 3.6.2 is applied."</p>	
Generation mPower	7/23/2013	4.	I/5	<p>The distinction between the following Items 1 and 4 under Areas of Review (page 3.6.2-2) is not immediately apparent:</p> <p>"1. The criteria used to define break and crack locations and configurations."</p> <p>"4. The criteria for defining pipe break and crack locations and configurations."</p>	<p>Suggest combining Items 1 and 4 into just 1 specific area of review.</p>	
Generation mPower	7/23/2013	5.	II	<p>The language in the DSRS is written to support its use for both the mPower DC and COLs that reference the mPower DC (see Sections II.3, III.2, III.8, and IV). As such, Section II should also include reference to the requirements of 10 CFR 52.47(a)...not just limited to 52.47(b)(1) which is ITAAC, and 10 CFR 52.79(a).</p>	<p>Include references to requirements on 10 CFR 52.47(a) and 10 CFR 52.79(a) for DC and COL application content.</p>	
Generation mPower	7/23/2013	6.	V	<p>See comment 4 above:</p> <p>Second paragraph should also include reference to 10 CFR 52.79(a)(41) to be consistent with</p>	<p>Add reference to 10 CFR 52.79(a)(41).</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.6.2, "Determination of Rupture Locations and Dynamic Effects Associated with the Postulated Rupture of Piping"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	7.	II/1	<p>DSRS for DC and COL.</p> <p>The second item under Acceptance Criteria (page 3.6.2-3) contains the following text:</p> <p>"Title 10 of Code of Federal Regulations (10 CFR) 52.47(b)(1), which requires that a DC application contain the proposed ITAAC that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a plant that incorporates the design certification is built and will operate in accordance with the design certification, the provisions of the Atomic Energy Act (AEA), and the Commission's rules and regulations."</p> <p>The word "accordance" should be replaced with "conformity", consistent with text in other draft DSRS Sections and with the specific language of the regulation at 10 CFR 52.47(b)(1).</p>	<p>Consistent with other Draft DSRS' change text to read as follows:</p> <p>"Title 10 of Code of Federal Regulations (10 CFR) 52.47(b)(1), which requires that a DC application contain the proposed ITAAC that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a plant that incorporates the design certification is built and will operate in conformity with the design certification, the provisions of the Atomic Energy Act (AEA), and the Commission's rules and regulations,"</p>	
Generation mPower	7/23/2013 8/8/2013	8.	II/3	<p>Item 2, under Technical Rationale (page 3.6.2-4) states:</p> <p>"Meeting the requirements of GDC 4 provides assurance that safety-related SSCs will be protected from dynamic effects of pipe-whip and discharging fluids that could result from expected environmental conditions, thereby ensuring the ability of these SSCs to perform their intended safety functions."</p> <p>The SSCs are being protected from the dynamic</p>	<p>Change text to read:</p> <p>"Meeting the requirements of GDC 4 provides assurance that safety-related SSCs and risk-significant SSCs (i.e. RTNSS-B SSCs) will be protected from dynamic effects of pipe-whip and discharging fluids that could result from expected operating or standby conditions, thereby ensuring the ability of these SSCs to perform their intended safety functions."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.6.2, "Determination of Rupture Locations and Dynamic Effects Associated with the Postulated Rupture of Piping"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	9.	III/1.A	<p>effects caused by the fluid inside the pipe being ruptured (as well as environmental conditions caused by break).</p> <p>Item 1.A under Review Procedures (page 3.6.2-5) includes a reference to RG 1.182, which was withdrawn in November 2012 per 77 FR 70846 and its contents included in Rev. 3 to RG 1.160. Reference to withdrawn RG 1.182 should be deleted.</p>	Delete reference to RG 1.182 as it has been withdrawn.	
NuScale	8/15/2013	10.	III. Review Procedures Item 1.A p. 3.6.2-5	<p>This item refers to Regulatory Guide (RG) 1.182. Regulatory Guide 1.182 was withdrawn in November 2012 (77 FR 70846 dated November 27, 2012) based on its substantive content being incorporated into RG 1.160, Revision 3. Thus, NuScale recommends deleting reference to this RG 1.182 in both the mPower and NuScale DSRS Sections 3.6.2. Regulatory Guide 1.182 is not listed in Section VI, <i>References</i>, and thus no conforming change to Section VI is needed to reflect this deletion.</p>	Remove withdrawn RG1.182 and replace it with the contents of RG 1.160.	
Generation mPower	7/23/2013	11.	III/2	<p>Item 1, under Review Procedures (page 3.6.2-5), third sentence, contains the following text:</p> <p>"It should be noted that the wording of "to augment or replace" applies to nonsafety-related risk-significant SSCs, but "to replace" applies to nonsafety-related nonrisk-significant SSCs according to the "graded approach" discussion in NUREG-0800 "Introduction," Part 2."</p> <p>As discussed in Comment # 1, for the mPower standard plant design, the classification of SSCs</p>	Text implying the use of a "graded approach" for the mPower classification structure for SSCs should be removed from the DSRS. Instead reference should be made to safety-related or risk-significant SSCs.	

Public Comments on mPower DSRS

mPower DSRS Section 3.6.2, "Determination of Rupture Locations and Dynamic Effects Associated with the Postulated Rupture of Piping"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	12.	III/2	<p>will be consistent with current regulatory practices and PRA insights will be used to identify both the RTNSS SSCs and the risk-significant SSCs. Although risk significance of the mPower standard plant SSCs will be defined, there are no plans to use a risk categorization "graded approach" to classify the mPower SSCs. Therefore, the third sentence under Item 1 should be removed.</p> <p>Item 4.B.ii under Review Procedures (page 3.6.2-6), contains the following text:</p> <p>"A summary of the data developed to select postulated break locations, including, for each point, the calculated stress intensity, the calculated cumulative usage factor, and the calculated primary plus secondary stress range as delineated in A. Giambusso letter of December 1972 and J.F. O'Leary letter of July 12, 1973 and BTP 3-4."</p> <p>BTP 3-3 includes the A. Giambusso letter of December 1972 the July 12, 1973 letter from J. F. O'Leary as Appendices B and C, respectively. Therefore, BTP 3-3 should be referenced instead of the individual Giambusso and O'Leary letters.</p>	<p>Revise Item 4. B.ii as follows:</p> <p>"A summary of the data developed to select postulated break locations, including, for each point, the calculated stress intensity, the calculated cumulative usage factor, and the calculated primary plus secondary stress range as delineated in BTP 3-3 and BTP 3-4."</p>	
Generation mPower	7/23/2013	13.	III/2	<p>Item 5.C.iv, under Review Procedures (3.6.2-10) last paragraph states:</p> <p>"To be acceptable, K values should not be less than 1.26 for steam, saturated water, or stream-</p>	<p>Text should read:</p> <p>"To be acceptable, K values should not be less than 1.26 for steam, saturated water, or steam-water mixtures or 2.0 for</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.6.2, “Determination of Rupture Locations and Dynamic Effects Associated with the Postulated Rupture of Piping”						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				water mixtures or 2.0 for subcooled, nonflashing water.”	ubcooled, nonflashing water.”	
Generation mPower	7/23/2013	14.	III/2	<p>“... stream... “ should be “ ...steam... “</p> <p>Item 6, under Review Procedures (page 3.6.2-10) states:</p> <p>“However, based on recent comments from the Advisory Committee on Reactor Safeguards (ACRS) (V. Ransom and G. Wallis), it appears that some assumptions related to jet expansion modeling in the ANSI/ANS 58.2 Standard may lead to nonconservative assessments of the jet impingement loads of postulated pipe breaks on neighboring SSCs.”</p>	This appears to correspond to Ref. #7 by V. Ransom, which is about GSI-191 debris generation – is this a correct reference?	
NEI	8/15/2013	15.	III. Review Procedures, Item 5.C.i, p. 3.6.2-10	Section III.5.C.i refers to “subsection III.2.C(iv)...” This reference should read “Subsection III.5.C.iv....”	Revise “subsection III.2.C(iv)...” to read “Subsection III.5.C.iv....”	
NuScale	8/15/2013	16.	III. Review Procedures Item 5.C.i p. 3.6.2-10	Reference to “Subsection III.2.C(iv)...” should be corrected to read “Subsection III.5.C.iv....”	Revise as indicated in comment.	
NEI	8/15/2013	17.	III. Review Procedures, Item 5.C.iv, p. 3.6.2-10.	Section III.5.C.iv refers to “subsection III.2.B(ii) or III.2.B(iii)...” This reference should read “Subsection III.5.B.ii or III.5.B.iii....”	Revise “subsection III.2.B(ii) or III.2.B(iii)...” to read “Subsection III.5.B.ii or III.5.B.iii....”	
NuScale	8/15/2013	18.	III. Review Procedures Item 5.C.iv p. 3.6.2-10	Reference to “Subsection III.2.B(ii) or III.2.B(iii)...” should be corrected to read “Subsection III.5.B.ii or III.5.B.iii....”	Revise as indicated in comment.	
NEI	8/15/2013	19.	III. Review Procedures, Item 6.C, p. 3.6.2-11.	Section III.6.C refers to “subsection III.2.C(iv)...” This reference should read “Subsection III.5.C.iv....”	Revise “subsection III.2.C(iv)...” to read “Subsection III.5.C.iv....”	

Public Comments on mPower DSRS

mPower DSRS Section 3.6.2, "Determination of Rupture Locations and Dynamic Effects Associated with the Postulated Rupture of Piping"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NuScale	8/15/2013	20.	III. Review Procedures Item 6.C p. 3.6.2-11	Reference to "Subsection III.2.C(iv)...." should be corrected to read "Subsection III.5.C.iv...."	Revise as indicated in comment.	
NEI	8/15/2013	21.	VI. References, p. 3.6.2-13.	The body of mPower DSRS section 3.6.2 includes references to subtler guidance that is not listed in Section VI, "References" (e.g., RG 1.160 and BTP 3-4).	Revise Section VI to include referenced guidance documents as appropriate.	
NuScale	8/15/2013	22.	VI. References p. 3.6.2-13	Section 3.6.2 of the SRP and mPower DSRS refers to guidance that is not listed in Section VI (e.g., RG 1.160 and BTP 3-4). Recommend adding references to Section VI as appropriate.	Revise as indicated in comment.	
NEI	8/15/2013	23.	Appendix A, 1st paragraph, p. 3.6.2-14	The first paragraph of Appendix A refers to "Section III.3...." This reference should read "Section III.6...."	Revise reference to "Section III.3" to read "Section III.6."	
NuScale	8/15/2013	24.	Appendix A Paragraph 1 p. 3.6.2-14	Reference to "Section III.3...." should be corrected to read "Section III.6...."	Revise reference to "Section III.3" to "Section III.6."	
Generation mPower	7/23/2013	25.	App. A / 8	Second sentence, under Distribution of Pressure within Jet Plume (page 3.6.2-15) states that ANSI/ANS 58.2 assumes that the pressure within a jet cross section is maximum at the jet centerline; far from the break, however, the pressure variation is quite different, often peaking near the outer edges of the jet. In Section III.6.D, under Review Procedures (page 3.6.2-11), the section states that ANSI/ANS 58.2 assumes the impingement force is uniformly distributed across the cross-sectional area of the jet.	Clarify the conflicting statements.	
Generation mPower	7/23/2013	26.	App. A / 13	Third sentence in paragraph 3 under Implications for NRC Staff Reviews (page 3.6.2-	Change text to read:	

Public Comments on mPower DSRS

mPower DSRS Section 3.6.2, "Determination of Rupture Locations and Dynamic Effects Associated with the Postulated Rupture of Piping"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				16), contains the following text: "Each applicant was requested to explain what analysis and/or testing has been used to substantiate its the jet expansion and jet loading modeling for their specific piping system design conditions and plant design configuration as described in the respective DCD." Text needs minor editorial correction.	"Each applicant was requested to explain what analysis and/or testing has been used to substantiate the jet expansion and jet loading modeling for their specific piping system design conditions and plant design configuration as described in the respective DCD."	
Generation mPower	7/23/2013	27.	App. A / 15	Fourth sentence, under Staff Review Process – 2nd paragraph (page 3.6.2-16) states that the staff has accepted consideration of oscillatory jet loading for SSCs within 10 pipe diameters of two-phase jets and 25 pipe diameters of steam jets. Does this mean that beyond 10 pipe diameters of two-phase jets and 25 pipe diameters of steam jets does not need to be considered?	Clarify the damage zone.	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.1, "Seismic Design Parameters"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	1.	General Throughout DSRS	<p>Random Vibration Theory (RVT) has been used for site response analysis to develop FIRS and GMRS which have been accepted by the NRC. RVT has also been used in the past for SSI analysis. Recently new and improved RVT methods have been developed, implemented, and accepted by the ASCE 4 committee.</p> <p>The inherent uncertainties of a time history based evaluation have lead the industry, and the NRC, to require the use of multiple time histories. Use of RVT avoids these uncertainties while providing a stable mean response for evaluation.</p>	Include a discussion of RVT as an acceptable option for SSI analysis in lieu of a time history approach including bases for review and acceptance of RVT.	
Generation mPower	9/12/13	2.	I/1.A Page 3.7.1-2 (1 st paragraph)	<p>Section I/1.A defines GMRS and FIRS as: "... free-field outcrop spectra (not including any soil layers above that elevation). . . ."</p> <p>This FIRS definition is not consistent with the definition in DC/COL- ISG-17.</p>	<p>Remove the parenthetical statement as shown below: "... Both the GMRS and the FIRS are defined as free-field outcrop spectra (not including any soil layers above that elevation). The FIRS . . ."</p>	
Generation mPower	9/12/13	3.	I/1.A Page 3.7.1.3 (4 th paragraph)	<p>The first sentence of the 3rd paragraph on page 3.7.1-2, requires additional performance-based response spectra (PBRS) be developed.</p> <p>In the case of a site having a relatively uniform variation of shear wave velocity, the calculation of PBRS at an intermediate depth is not necessary.</p> <p>The soil profiles used in evaluation of the standard plant design will likely differ from site-specific soil profiles, both in terms of layer properties and the contrast between layer properties. Since the COL</p>	<p>Revise the second sentence of the 3rd paragraph on page 3.7.1-3 as shown below: "For sites that have relatively uniform variation of shear wave velocity with depth, it is anticipated that the PBRS developed at the surface and at a central depth between the surface and foundation level of the deeply embedded facility should be adequate for verifying the adequacy of the soil columns. If the PBRS at ground surface</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.1, "Seismic Design Parameters"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	4.	III/1.B Page 3.7.1-10 (1 st paragraph)	<p>applicant is required to perform a site-specific evaluation for site conditions that differ from those used in the standard plant evaluation, the assessment of the applicability of the design will be based on the structural responses at the key locations in the structure and should be clarified in Section I/1.A.</p> <p>DSRS Acceptance Criteria Item 1.B suggests that seed time histories should be selected on the basis that their spectra shape is close to the target spectral shape. For high frequency CEUS target spectra, with limited recorded motions available, this approach may result in using vertical seed time histories to match the horizontal target spectra. This mismatch should be avoided.</p> <p>In addition, the seismic setting, geologic setting, and site conditions of the recorded motion should be considered as bases for selecting seed time histories for a site.</p>	<p>exhibits amplification above the FIRS at the foundation level, PBRS at intermediate elevations between foundation and ground surface are not required. For sites that have unusual velocity characteristics</p> <p>In order to support the development of additional PBRS when developed, the DSRS should also provide the following:</p> <ul style="list-style-type: none"> • The basis for the number of intermediate depths to be evaluated • Guidance regarding how intermediate depths are selected 	
Generation mPower	9/12/13	5.	III/1.B Page 3.7.1-10 (1 st paragraph)	<p>The first paragraph on page 3.7.1-10 states, "phasing characteristics of the real earthquake record should be preserved."</p> <p>This proposed addition is not practical. Current</p>	<p>Revise DSRS Acceptance Criteria Item 1.B to remove the discussion of similarity of spectra shape when selecting seed time histories.</p> <p>Revise DSRS Acceptance Criteria Item 1.B as shown below:</p> <p>" . . . spectra across the frequency range of interest to the analysis (e.g., Houston, et</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.1, "Seismic Design Parameters"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	6.	II/1.B Page 3.7.1-10 (1 st paragraph)	<p>methods for spectral matching change phasing characteristics, albeit some methods change phasing more than others. As a goal, the phasing characteristics of selected seed time histories should not change significantly.</p> <p>DSRS Acceptance Criteria Item 1.B states if the target spectra includes multiple characteristic events, then use of multiple time histories are preferred. FIRS for SSI analysis are typically comprised of a local high frequency component and a distant low frequency component.</p> <p>The suggested approach would require use of multiple time histories, all matched to same target FIRS. During the matching process, the characteristics of individual events would be changed such that the matched time histories may no longer be representative.</p>	<p>al., 2010) and phasing characteristics of the real earthquake records should be preserved. If the target spectra include multiple characteristic events, a single . . . "</p> <p>Revise DSRS Acceptance Criteria Item 1.B to remove the discussion of multiple characteristic events when selecting seed time histories.</p>	
Generation mPower	9/12/13	7.	II/1.B.i Page 3.7.1-12 (2 nd paragraph)	<p>Tabulated values in Appendix B are suggested as one approach to develop target PSD.</p> <p>Since soil column analysis typically considers hard rock high frequency (HF) and low frequency (LF) spectra (and associated M and R) as input, the associated hard rock HF and LF PSD could be used and amplified similar to the amplification of the hard rock spectra to GMRS and used as a companion target PSD for the GMRS and time history development for GMRS.</p>	<p>Revise DSRS Acceptance Criteria Item 1.B.i to indicate that alternate methods for development of target spectra for GMRS and FIRS are acceptable and will be reviewed on a case by case basis.</p>	
Generation mPower	9/12/13	8.	II/1.B.ii(d) Page 3.7.1-13 (2 nd paragraph)	<p>The wording in DSRS Acceptance Criteria Item 1.B.ii(d) does not clearly indicate which frequency range is designated for the power spectrum</p>	<p>Revise DSRS Acceptance Criteria Item 1.B.ii(d) to provide specific frequency range where significant gaps are not permitted</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.1, "Seismic Design Parameters"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				density requirement.		
Generation mPower	9/12/13	9.	II/1.B. Page 3.7.1-13 (Option 2-4 th paragraph)	DSRS Acceptance Criteria Item 1.B.ii, under Option 2: The basis for selecting 4 time histories for linear analysis is not clear. Recent studies show that obtaining stable mean responses may require either a RVT approach or use of a much larger set of time histories.	and further clarification regarding what constitutes a significant gap. Revise Option 2 under DSRS Acceptance Criteria Item 1.B.ii to provide the basis for selection of 4 time histories for linear analysis.	
Generation mPower	9/12/13	10.	II/4.A.v. Page 3.7.1-15	DSRS Acceptance Criteria Item 4.A.v. (last sentence) states: " ... or, alternatively, the three soil profiles can be suitably scaled to ensure that the envelope responses exceed the performance-based criteria." This is not consistent with DC/COL-ISG-017 and an NEI White Paper that describes one option for ground motion input to soil-structure interaction analyses (Accession No. ML091680715). The acceleration time histories are modified, not the soil profiles.	Revise DSRS Acceptance Criteria Item 4.A.v to be consistent with DC/COL-ISG-017 and the NEI white paper.	
Generation mPower	9/12/13	11.	II/4.A.vii Page 3.7.1-16	By definition, the B&W mPower™ CSDRS and FIRS are defined at the same elevation (foundation horizon). DSRS Acceptance Criteria Item 4.A.vii is not needed and Section II.4.A.vi addresses the acceptance criterion adequately.	Delete DSRS Acceptance Criteria Item 4.A.vii	
Generation mPower	9/12/13	12.	IV Page 3.7.1-20 Last paragraph	In Section IV, 4 th paragraph, the acronym "pga" is written in lower case, instead of upper case letters.	Revise Section IV, 4 th paragraph to capitalize acronym "PGA"	
Generation mPower	9/12/13	13.	Appendix B Table 1	The PSD values for CEUS rock sites in Appendix B to DSRS Section 3.7.1 (Table 1) are the same	Verify the PSD values in Appendix B, Table 1 to ensure correct values are presented.	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.1, "Seismic Design Parameters"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	14.	Appendix C	<p>for M = 6 - 7 and for M = 7+, it is not clear if the values listed are correct.</p> <p>Recent PEER Report 2012/01 dated July 2012 provides a strong correlation between magnitude and distance and spectral damping amplification, the values listed in Appendix C and the PEER recommendation are not consistent.</p>	<p>Verify the data in Appendix C to ensure correct correlation between magnitude and distance and spectral damping amplification.</p> <p>Alternative amplification functions should be considered.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.2, "Seismic System Analysis"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	1.	I Areas of Review, Item 4 (1 st paragraph)	<p>DSRS 3.7.2, Section I. Areas of Review, Item 4. (1st paragraph) requires additional performance-based response spectra (PBRS) be developed.</p> <p>In the case of a site having a relatively uniform variation of shear wave velocity, the calculation of PBRS at an intermediate depth is not necessary.</p> <p>The soil profiles used in evaluation of the standard plant design will likely differ from site-specific soil profiles, both in terms of layer properties and the contrast between layer properties. Since the COL applicant is required to perform a site-specific evaluation for site conditions that differ from those used in the standard plant evaluation, the assessment of the applicability of the design will be based on the structural responses at the key locations in the structure.</p>	<p>Revise Section I, Item 4 to add the following:</p> <p>"For sites that have relatively uniform variation of shear wave velocity with depth, it is anticipated that the PBRS developed at the surface-and foundation level of the deeply embedded facility should be adequate for verifying the adequacy of the soil columns."</p> <p>"If the PBRS at ground surface exhibits amplification above the FIRS at the foundation level, PBRS at intermediate elevations between foundation and ground surface are not required."</p> <p>In order to support the development of additional PBRS, the DSRS should also provide the following:</p> <ul style="list-style-type: none"> • The basis for the number of intermediate depths to be evaluated • Guidance regarding how intermediate depths are selected 	
Generation mPower	9/12/13	2.	I Areas of Review, Item 4 (1 st paragraph)	<p>DSRS 3.7.2, Section I. Areas of Review, Item 4. (1st paragraph). The second sentence contains the word "also" which is not necessary since discussion of GMRS has been deleted.</p>	<p>Revise DSRS 3.7.2, Section I. Areas of Review, Item 4 (1st paragraph), as follows:</p> <p>"... For a deeply embedded structure, performance-based response spectra (PBRS) are also defined at the surface and appropriate intermediate depth(s) to ensure</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.2, "Seismic System Analysis"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	3.	I Areas of Review, Item 5	DSRS 3.7.2, Section I. Areas of Review, Item 5. Recent studies have shown that Random Vibration Theory (RVT) can provide stable in-structure response spectra by avoiding issues related to the use of time histories.	Revise DSRS 3.7.2, Section I. Areas of Review, Item 5 to add a statement indicating that the use of the RVT method to generate in-structure response spectra will be reviewed on a case-by-case basis.	
Generation mPower	9/12/13	4.	II DSRS Acceptance Criteria 1.A	Section II. DSRS Acceptance Criteria Item 1.A. While this paragraph lists acceptable methods of analysis, it does not include Random Vibration Theory.	Revise DSRS Acceptance Criteria Item 1.A. to include Random Vibration Theory as an alternate method.	
Generation mPower	9/12/13	5.	II DSRS Acceptance Criteria 1.A.i	DSRS Acceptance Criteria Item 1.A.i list of seismic analysis methods does not include RVT.	Revise DSRS Acceptance Criteria Item 1.A.i to include RVT as an alternate method.	
Generation mPower	9/12/13	6.	II DSRS Acceptance Criteria 1.A.v	DSRS Acceptance Criterion Item 1.A.v refers to an old revision of Regulatory Guide 1.92; specific revision number should be deleted from the DSRS for consistency with other SRP/DSRS citations of RGs.	Revise DSRS Acceptance Criteria Item 1.A.v as follows: "... described in Regulatory Guide 1.92, Revision-2, Regulatory Positions C.1.4 and C.1.5."	
Generation mPower	9/12/13	7.	II DSRS Acceptance Criteria 3.B.ii	DSRS Acceptance Criteria Item 3.B.ii, appears to have a typo in Criterion ii, "0.8 ≥ R _f ≥ 1.25" should be 0.8 ≤ R _f ≤ 1.25.	Revise DSRS Acceptance Criteria Item 3.B.ii. as follows: "0.8 ≤ R _f ≤ 1.25"	
Generation mPower	9/12/13	8.	II DSRS Acceptance Criteria 3.C.iv	DSRS Acceptance Criteria Item 3.C.iv (last paragraph) states that for site-specific analysis, it should be demonstrated that the SSI frequencies are sufficiently below the amplified portion of the input design spectra so that further concrete cracking will not increase the seismic demand. However, if the state of concrete cracking has	Revise DSRS Acceptance Criteria Item 3.C.iv (last paragraph), as follows: "If any alternative methods are utilized, then adequate justification needs to be provided to demonstrate that the best estimate stiffness properties used for concrete are appropriate and that	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.2, "Seismic System Analysis"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NEI	8/15/2013	9.	II. Acceptance Criteria, DSRS Acceptance Criterion 4, p. 3.7.2-20	<p>already been determined by element stress level, further checking and potential artificially cracking of the concrete is unnecessary.</p> <p>Regarding percent-reductions of calculated in-structure response spectra (ISRS): For 30 Hz and above, a 30% maximum reduction in the amplitude of spectral accelerations acceptable for the ISRS has been proposed in both SRP 3.7.2 draft rev. 4 and the mPower DSRS 3.7.2. This limit is unduly restrictive as much higher reductions are found for very stiff soil or rock. In fact, as noted in the SRP 3.7.2 draft rev. 4, Description of Changes section, reductions as high as 40-50% are observed in an EPRI analytical study. While the proposed Acceptance Criterion would allow for larger reductions on a case-by-case basis, making such an individualized showing will likely face a high "burden of proof" as the unduly conservative maximum reduction proposed in the SRP/DSRS will prejudice the determination. Rather, the</p>	<p>uncertainty associated with the best estimate stiffness values have been considered. In addition, it should be demonstrated that the SSL frequencies in both the horizontal and vertical directions are sufficiently below the amplified portion of the input design spectra so that if further cracking were to occur, then any reduction in stiffness would not increase the seismic demand. If the SSL frequencies fall above the amplified portion of the input design response spectra, then the analysis needs to evaluate the effects of further concrete cracking since this may lead to higher demand loads on the structure."</p> <p>Revise to remove the 30% limitation on reductions for incoherency where stiff soil or rock is concerned.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.2, "Seismic System Analysis"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	10.	II DSRS Acceptance Criteria 4, Item C.iii (page 3.7.2-15)	acceptance criterion should not include a presumed maximum reduction, such that applicants aren't forced to overcome the presumed maximum as a matter of course. DSRS Acceptance Criteria 4, Item C.iii. (page 3.7.2-15) requires enveloping spectra at intermediate depths. This requirement is not necessary.	Revise Section II. DSRS Acceptance Criteria 4, Item C.iii to read as follows: "Using the FIRS as input to each of the deterministic soil profiles, the envelope of the computed response spectra at the ground surface and intermediate depth(s) should be shown to exceed the mean spectra (PBRs) at these depths at all frequencies of interest." "The computed response spectra at the ground surface should be shown to exceed the FIRS spectra at foundation level."	
Generation mPower	9/12/13	11.	II DSRS Acceptance Criteria 4, Specific Guidelines for SSI Analysis (4 th bullet)	DSRS Acceptance Criteria Item 4, under subheading, Specific Guidelines for SSI Analysis (4 th bullet) discusses comparison of site-specific GMRS to the CSDRS. For the B&W mPower™ standard plant the CSDRS is defined at the foundation level. The COL applicant will need to compare the site-specific FIRS to the CSDRS.	Revise DSRS Acceptance Criteria Item 4, under subheading, Specific Guidelines for SSI Analysis (4 th bullet), as follows: " . . . where the site specific ground motion response spectra (GMRS) foundation input response spectra (FIRS) fall below . . . "	
Generation mPower	9/12/13	12.	II DSRS Acceptance Criteria 4, Specific Guidelines for SSI Analysis	DSRS Acceptance Criteria Item 4, under subheading, Specific Guidelines for SSI Analysis, discusses the necessity of checking the frequencies of the excavated soil volume. This is not necessary. The excavated soil volume under fixed boundary conditions is not relevant to the excavated soil volume in the SSI model.	Revise DSRS Acceptance Criteria Item 4, under subheading, Specific Guidelines for SSI Analysis, to avoid unnecessary frequency calculation of excavated soil and use design parameters to justify the accuracy of the solution.	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.2, "Seismic System Analysis"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	13.	II DSRS Acceptance Criteria 4, Specific Guidelines for SSI Analysis	<p>The frequencies under a fixed base condition may be totally absent in the SSI solution making such a test much less relevant. Checking should be limited to careful inspection of transfer functions for the responses of interest supplemented by SSI analysis using the direct method with either a half or quarter model. These two measures are adequate to prevent spurious peaks from use of the SM.</p> <p>Furthermore, the effect of spurious peaks on design quantities must be assessed. A transfer function is a very sensitive measure of response, but it is never used for design. In-structure response spectra (ISRS) and seismic member forces are used for design.</p>	<p>Revise DSRS Acceptance Criteria Item 4, under subheading, Specific Guidelines for SSI Analysis, to allow alternate solutions for assessment of accuracy of the SM or MSM, on case by case basis.</p>	
Generation mPower	9/12/13	14.	II DSRS Acceptance Criteria 4, Specific Guidelines for SSI Analysis	<p>DSRS Acceptance Criteria Item 4, under subheading, Specific Guidelines for SSI Analysis. The results of subtraction method (SM) or modified subtraction method (MSM) can be verified by alternate computer programs using the same soil and structural model and input motion.</p> <p>Recognizing that use of other programs can be resource intensive and time consuming, use of other programs should be considered on a limited basis (e.g., comparison of transfer functions) in verifying the SM or MSM.</p>	<p>Revise DSRS Acceptance Criteria Item 4, under subheading, Specific Guidelines for SSI Analysis, to provide:</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.2, "Seismic System Analysis"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
			Guidelines for SSI Analysis	<p>amplitude reductions due to incoherency. This cap is specified without discussing how these limiting values were developed.</p> <p>As discussed in DC/COL-ISG-01, two separate computer programs with entirely different formulations used the same verified ground motion incoherency model. These separate evaluations resulted in very close SSI responses, for the same SSI model, and showed that the reduction for incoherency may be much more than the 30% specified.</p>	<ul style="list-style-type: none"> The basis for limiting incoherency reduction values to those listed. Performing incoherency SSI analysis is not required and should be an option. 	
Generation mPower	9/12/13	15.	II Acceptance Criteria, DSRS Acceptance Criteria 5	DSRS Acceptance Criteria Item 5, Development of In-Structure Response Spectra, presents a discussion focused on time history analysis and does not address other methodologies such as use of RVT for generation of ISRS.	Revise DSRS Acceptance Criteria Item 5, Development of In-Structure Response Spectra, to allow for RVT to be used for development of ISRS.	
Generation mPower	9/12/13	16.	II Acceptance Criteria, DSRS Acceptance Criteria 11	DSRS Acceptance Criteria Item 11, Methods Used to Account for Torsional Effects, in cases where a detailed structural model is developed that accounts for stiffness and mass distribution in the structure additional consideration for Accidental Torsion is not necessary.	Revise DSRS Acceptance Criteria Item 11, Methods Used to Account for Torsional Effects, to state that when stiffness and mass distributions are adequately represented in the structural model, further consideration for Accidental Torsion is not required.	
Generation mPower	9/12/13	17.	II Acceptance Criteria, DSRS Acceptance Criteria 13.	DSRS Acceptance Criteria Item 13, Analysis Procedure for Damping, should use symbols consistent with those in the equations.	Revise DSRS Acceptance Criteria Item 13, to define K and M with bars over the top of the letters as used in the equations in 13.C.	
Generation mPower	9/12/13	18.	V Implementation (3 rd paragraph)	Section V, Implementation (3 rd paragraph). The term "DCD FSAR" as used in the text is confusing.	Suggest that DSRS 3.7.2 be revised to use the term DCD to refer to the SAR submitted as part of the standard plant design	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.2, "Seismic System Analysis"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
					certification and use FSAR when referring to other licensed facilities or to a COLA.	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.3, "Seismic Subsystem Analysis"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	1.	II/12.A	<p><u>Seismic Category I Buried Piping, Conduits, and Tunnels</u></p> <p>The sentence comprising Item A was changed from:</p> <p>"Two types of ground shaking-induced loadings must be considered for design."</p> <p>to</p> <p>"Two types of ground shaking-induced loadings must be considered in the design analysis."</p> <p>Draft Revision 4 of SRP Section 3.7.3 does not contain the word "analysis".</p>	<p>Delete the word "analysis" in DSRS Acceptance Criteria 12.A as shown below:</p> <p>"Two types of ground shaking-induced loadings must be considered in the design analysis."</p>	
Generation mPower	9/12/13	2.	III/1	<p>The following text was added as Item 1 under Review Procedures:</p> <p>"In accordance with 10 CFR 52.47(a)(8),(21), and (22), and 10 CFR 52.79(a)(17) and (20) for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues that are identified in NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and, (3) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile</p>	<p>Reword Item 1 to delete statement number (2) as follows:</p> <p>"In accordance with 10 CFR 52.47(a)(8), (21) and (22), and 10 CFR 52.79(a)(17) and (20) for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and (3)(2) provide information necessary to demonstrate compliance with any technically relevant portions of the</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.7.3, "Seismic Subsystem Analysis"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p> <p>As required by 10CFR 52.47(a)(22), the information necessary to demonstrate how operating experience insights have been incorporated into the plant design is a generic programmatic issue for a design certification applicant and will be addressed in Chapter 1 of the B&W mPower™ DCD consistent with the guidance in NUREG-0800, Chapter 1.</p> <p>Based on the generic applicability of incorporating operating experience into a standard plant design, this specific requirement need not be identified separately in each individual DSRS section.</p>	<p>Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p>	
Generation mPower	9/12/13	3.	V	<p>In the fourth line of the third paragraph, DCD and FSAR are used as a single item. We typically differentiate between the word FSAR (which is more typically associated with a COLA) and DCD (which is associated with a Design Certification).</p>	<p>In the fourth line of the third paragraph under Implementation, delete "FSAR" as shown below: "... as long as the B&W mPower DCD FSAR does not . . ."</p>	

Public Comments on mPower DSRs

mPower DSRs Section 3.8.2, "Steel Containment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	1.	All	Use of the term "containment" versus "steel containment" is inconsistent throughout DSRs 3.8.2	Suggest using "steel containment" throughout DSRs 3.8.2.	
Generation mPower	9/12/13	2.	All	Use of term "dome" is not fully descriptive or reflects the B&W mPower™ standard plant design.	Suggest replacing "dome" with "elliptical dome" or "semi-ellipsoidal dome" throughout DSRs 3.8.2.	
Generation mPower	9/12/13	3.	I/1.A	Paragraph 2: Wording description is awkward.	Suggest a general reword.	
Generation mPower	9/12/13	4.	I/1.A	Paragraph 3: The B&W mPower standard plant design does not utilize a typical external ultimate heat sink (UHS). The Passive Containment Cooling Tank (PCCT) functions as the primary means of heat removal from the core.	Replace the word "resisting" with "retaining" Revise I/1.A as follows: "The Passive Containment Cooling Tank (PCCT) ultimate heat sink (UHS), . . ." Also, replace "UHS" with "PCCT" throughout DSRs 3.8.2.	
Generation mPower	9/12/13	5.	I/1.B.ii	The B&W mPower standard plant design does not contain external cooling flow channels.	Revise Item I/1.B.ii as follows: "The cylindrical portion of the shell, including major structural attachments to the inside and outside surface of the shell, such as beam seats, pipe restraints, crane brackets, shell stiffeners (if any) in the hoop and vertical directions, and external cooling flow channels, if applicable."	
Generation mPower	9/12/13	6.	III/2	In DSRs Acceptance Criteria 2, the design of the steel containment will comply with the ASME B&PV Code, Section XI. However, the ASME Code referenced is not applicable to the B&W mPower standard plant design.	Revise the Section XI citation as follows: "Section XI, Subsection IWE, "Requirements for Class MC and Metallic Liners of Class CC Components of Light Water Cooled Plants Rules for In-Service Inspection of Nuclear Power Plant Components"	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.2, "Steel Containment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	7.	II/3.A (P _s , T _s , R _s) II/3.B. Items: iii.(1)(b) iii.(1)(d) iii.(2)(c) iii.(3)(c) iii.(4)(b) II/4.A	Throughout the DSRS Acceptance Criteria, the original reference to SRV (safety/relief valves) has been replaced by ADV (automatic depressurization valves), which does not reflect the B&W mPower standard plant design.	Revise the text of the referenced sections as follows: "ADV" to "ADV and/or SRV"	
Generation mPower	9/12/13	8.	II/3.B.iii(2)(d)	Under DSRS Acceptance Criteria Item 3.B.iii(2)(d) [Level B Service Limits], the text should indicate "SRV" instead of "ADV" to reflect the B&W mPower standard plant design.	Revise DSRS Acceptance Criteria Item 3.B.iii(2)(d) as follows: " ..ADV SRV discharge"	
Generation mPower	9/12/13	9.	II/3.A	In DSRS Acceptance Criteria Item 3.A, the definitions for pressure loads P _{g1} and P _{g2} should be consistent with the definitions in RG 1.57.	The pressure load definitions should be revised as follows for consistency with RG 1.57: P _{g1} - Pressure load from an accident that releases hydrogen generated from 100-percent fuel clad metal-water reaction P _{g2} - Pressure load resulting from uncontrolled hydrogen burning	
Generation mPower	9/12/13	10.	II/4.B	ASME Code Case N-284, Revision 1 is referenced. However, RG 1.84, Rev. 35 cites ASME Code Case N-284, Revision 2.	Revise DSRS Acceptance Criteria Item 4.B text to reference ASME Code Case N-284, Revision 2, and delete the following words: " . . . with guidance provided in RG 1.193. Each application of ASME Code Case N-284, Revision 1, is subject to review on a	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.2, "Steel Containment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	11.	II/4.D	<p>DSRS Acceptance Criteria Item 4.D includes the following statement on determination of the ultimate capacity of the containment:</p> <p>"In accordance with GDC 50 and 10 CFR 50.44, a determination of the internal pressure capacity for containment structures, as a measure of the safety margin above the design-basis accident pressure, is needed. The design and analysis procedures are acceptable if performed in accordance with RG 1.216."</p> <p>RG 1.216 was issued in August of 2010 and references RG 1.57, Rev. 1, 2007. RG 1.57, Rev. 2, issued in May of 2013, added an extensive discussion on determination of ultimate capacity, but does not reference RG 1.216.</p> <p>Please explain differences between the two RGs relative to the determination of containment ultimate capacity as the present guidance is confusing. Revise the DSRS, as appropriate, to reflect NRC guidance.</p>	<p>case-by-case basis."</p> <p>Revise DSRS Acceptance Criteria Item 4.D to clarify NRC guidance.</p>	
Generation mPower	9/12/13	12.	II/7.B	<p>The citation of 10 CFR 50.55a, Section (b)(2)(viii)(E) is for concrete containments, which does not reflect the B&W mPower standard plant design and should instead refer to 10 CFR 50.55a(b)(2)(ix)(A) for metal containments, Class MC applications.</p>	<p>Revise the 10 CFR 50.55a citation in DSRS Acceptance Criteria Item 7.B as follows:</p> <p>"... 10 CFR 50.55a (b)(2)(viii)(E) (b)(2)(ix)(A) requires that . . ."</p>	
Generation mPower	9/12/13	13.	III/1	<p>The following text was added as Item 1 under Review Procedures:</p>	<p>Reword Item 1 to delete statement number (2) as follows:</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.2, "Steel Containment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>"In accordance with 10 CFR 52.47(a)(8),(21), and (22), and 10 CFR 52.79(a)(17) and (20) for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and, (3) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p> <p>As required by 10CFR 52.47(a)(22), the information necessary to demonstrate how operating experience insights have been incorporated into the plant design is a generic programmatic issue for a design certification applicant and will be addressed in Chapter 1 of the B&W mPower DCD consistent with the guidance in NUREG-0800, Chapter 1.</p> <p>Based on the generic applicability of incorporating</p>	<p>"In accordance with 10 CFR 52.47(a)(8), (21) and (22), and 10 CFR 52.79(a)(17) and (20), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and (3)(2) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.2, "Steel Containment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	14.	VI	<p>operating experience into a standard plant design, this specific requirement need not be identified separately in each individual DSRS section.</p> <p>Two references mentioned in the DSRS text appear not to be included in the Reference Section VI.</p>	<p>Suggest revision of the references to add the following items: RG 1.136 SECY 93-087</p>	

Public Comments on mPower DSRs

mPower DSRs Section 3.8.3, "Concrete and Steel Internal Structures of Steel or Concrete Containments"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	1.	General	The terms SAR/FSAR/DCD FSAR as used in DSRs 3.8.3 are confusing.	Suggest that the DSRs be revised to use the term DCD to refer to the SAR submitted as part of the standard plant design certification and use FSAR when referring to other licensed facilities or to a COLA associated with this DSRs.	
Generation mPower	9/12/13	2.	I/1.i Paragraph 1	The B&W mPower™ standard plant design employs an integral reactor/steam generator/pressurizer.	Revise Item 1.1.i, paragraph 1 as follows: "The B&W mPower integral reactor vessel..."	
Generation mPower	9/12/13	3.	General	References to "Primary Shield Wall," such as in the title and first paragraph of Items 1.ii should be replaced with the text "Integral Reactor Support Structure" throughout DSRs 3.8.3 to reflect the B&W mPower standard plant design.	Revise as shown below: Replace "Primary Shield Wall" with "Integral Reactor Support Structure"	
Generation mPower	9/12/13	4.	I/1.ii/ Paragraph 1	Text in the second sentence of paragraph 1 under Item 1.1.ii should be deleted to reflect the B&W mPower standard plant design.	Revise Item 1.1.ii, paragraph 1 as follows: " ... and may be anchored through the liner plate to the containment base slab. "	
Generation mPower	9/12/13	5.	I/1.iii/ I/3.B	References to a "concrete refueling pool," should instead refer to "refueling canal walls" to reflect the B&W mPower standard plant design.	Revise Item 1.1.iii as follows: " ... concrete refueling pool canal walls... " A similar revision to the text in Item 1.3.B should also be made.	
Generation mPower	9/12/13	6.	I/1.iii	Modular construction methods for the containment internal structures should be addressed in DSRs 3.8.3, similar to DSRs 3.8.4.	revise Item 1.iii to include the following paragraph: "The B&W mPower design may use modular construction methods as part of the containment internal structures. Wall modules are typically constructed from	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.3, "Concrete and Steel Internal Structures of Steel or Concrete Containments"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NEI	8/15/2013	7.	I. Areas of Review, Item 3.A, p. 3.8.3-3	<p>Addition of "loads induced by the proposed construction sequence and differential settlements" to the list of loads encountered during construction in "Loads and Loading Combinations".</p> <p>This issue is not applicable to an SMR design, where the containment and its internal structures are fabricated in factory controlled conditions offsite, and the containment is not placed in the building until the foundation and walls are in place, e.g., NuScale design.</p>	<p>large prefabricated sections of steel plates spaced apart with intermittent steel members, joined with other modules at the site, and then filled with concrete. The concrete fill used in wall modules could be structural concrete (composite construction), or fill concrete of low strength, or heavy concrete for radiation shielding. The design of modules, fabrication, configuration, layout, and connections will be reviewed on a case-by-case basis."</p> <p>Clarify applicability of this provision for SMR designs.</p>	
NuScale	8/15/2013	8.	II. Acceptance Criteria DSRS Acceptance Criteria Item 3.A p. 3.8.3-10	<p>Addition of "loads induced by the proposed construction sequence and differential settlements" to the list of loads encountered during construction in <i>Loads and Load Combinations</i> Part A: This issue is not applicable to SMR designs where the containment and its internal structures are fabricated in factory-controlled conditions offsite, and the containment</p>	<p>Verify the applicability to SMR design.</p>	

Public Comments on mPower DSRs

mPower DSRs Section 3.8.3, "Concrete and Steel Internal Structures of Steel or Concrete Containments"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	9.	I/3.B	References to a "reactor water storage tank" should instead refer to the "refueling water storage tank" to be consistent with the B&W mPower standard plant design.	Revise Item 3.B as follows: "...such as those in the refueling pool and refueling water storage tank (RWST)."	
Generation mPower	9/12/13	10.	I/4.A.ii Paragraph 3	Item 1.4.A.ii, paragraph 3 referring to LOCA loads from a pipe break in the vicinity of the reactor nozzles should be deleted as this does not reflect the B&W mPower standard plant design.	Delete Item 1.4.A.ii, paragraph 3.	
Generation mPower	9/12/13	11.	I/6.B	Item I.6.B regarding the welding of reinforcing bars needing to comply with ASME BPV Section III, Div. 2 (Concrete Containments), Subsection CC, subject to the limitations of RG 1.136, seems circuitous. RG 1.136 provides clarification on ASME BPV Article CC-4352 and cites ACI 349 as the appropriate guidance for welding of reinforcing bars. ACI 349, in turn, cites AWS D1.4 as the appropriate guidance for welding of reinforcing bars. Therefore, as Item I.6.A of this Subsection already cites ACI 349, subject to the limitations of RG 1.142, for general guidance on materials, construction techniques and quality control, there is no need for the citation to ASME BPV Section III, Div. 2.	Delete Item I.6, B as Item I.6.A already discusses compliance with ACI 349. Additionally, remove all other citations of ASME BPV Section III, Div. 2, Subsection CC throughout the DSRs as identified in the following sections: II/2, ASME Code listing Technical Rationale, Item 1, paragraph 2 Technical Rationale, Item 2, paragraph 3 Technical Rationale, Item 7, paragraph 2 IV, first paragraph after the number items VI, Reference # 13	
Generation mPower	9/12/13	12.	I/ Review Interfaces, Item 4	Review Interfaces Item 4 should be updated to include DSRs 3.7.3 which also addresses seismic analysis criteria of cable tray, conduit, and HVAC distribution systems.	Revise Review Interfaces Item 4, as follows: "... in accordance with SRP Sections 3.9.2 and 3.9.3, and DSRs Section 3.7.3."	
Generation	9/12/13	13.	II/1	Descriptive information should use criteria from	Delete the citations of RG 1.70 in DSRs	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.3, "Concrete and Steel Internal Structures of Steel or Concrete Containments"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower				RG 1.206 not RG 1.70.	Acceptance Criteria 1 as shown below: " ...meets the criteria set forth in Section 3.8.3.1 of RG-1.70 of 1.206." " ...not specifically covered in RG 1.70 of RG 1.206 may..."	
Generation mPower	9/12/13	14.	III/3.B	Under DSRS Acceptance Criteria, Item 3.B should be expanded to reflect the use of newer industry guidance for the design of composite structures.	Revise the language in Item 3.B under DSRS Acceptance Criteria as follows: "All loads and load combinations are to be in accordance with AISC N690-1994 including Supplement 2 (2004) for the Allowable Stress Design (ASD) method or AISC N690-2006 for the Load and Resistance Factor Design (LRFD) method, or newer guidance incorporated into AISC N690 for composite structures. This specification uses the allowable stress design (ASD) method. Use of the load and resistance factor design (LRFD) version of the specification (N690L) is reviewed on a case-by-case basis. The supplemental criteria on the use of loads and load combinations presented above for concrete structures also apply to steel structures."	
Generation mPower	9/12/13	15.	II.4.C III.5/ Paragraph 2	NUREG/CR-6486, published in 1997, does not address more recent industry guidance for modular construction. DSRS 3.8.3 should be updated to acknowledge use of other industry documents on modular construction methods.	Under DSRS Acceptance Criteria, revise Item II.4.C as follows: "NUREG/CR-6486, or other industry documents, provide guidance related to the use of modular construction methods."	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.3, "Concrete and Steel Internal Structures of Steel or Concrete Containments"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	16.	III/1	<p>The following text was added as Item 1 under Review Procedures:</p> <p>"In accordance with 10 CFR 52.47(a)(8),(21), and (22), and 10 CFR 52.79(a)(17) and (20), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and, (3) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p>	<p>Revise III.5, paragraph 2, as follows:</p> <p>"... the use of modular construction methods is reviewed on a case-by-case basis using guidance provided in NUREG/CR-6486 or other industry documents."</p> <p>Reword Item 1 to delete statement number (2) as follows:</p> <p>"In accordance with 10 CFR 52.47(a)(8), (21), and (22), and 10 CFR 52.79(a)(17) and (20), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and (3)(2) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.3, "Concrete and Steel Internal Structures of Steel or Concrete Containments"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>As required by 10CFR 52.47(a)(22), the information necessary to demonstrate how operating experience insights have been incorporated into the plant design is a generic programmatic issue for a design certification applicant and will be addressed in Chapter 1 of the B&W</p> <p>mPower DCD consistent with the guidance in NUREG-0800, Chapter 1.</p> <p>Based on the generic applicability of incorporating operating experience into a standard plant design, this specific requirement need not be identified separately in each individual DSRS section.</p>	<p>conclusions documented in the corresponding safety evaluation report (SER) section."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.4, "Other Seismic Category I Structures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	1.	General	The terms SAR/FSAR/DCD FSAR as used in the text are confusing.	Suggest that DSRS 3.8.4 be revised to use the term DCD to refer to the SAR submitted as part of the standard plant design certification and use FSAR when referring to other licensed facilities or to a COLA.	
Generation mPower	9/12/13	2.	I/ Paragraph 1	The revised text in the scope description is confusing and should be clarified to be consistent with text in SRP 3.8.4, Rev. 3 and the Draft Rev. 4 of SRP 3.8.4.	Revise I, paragraph 1 as follows: "This section describes the review of areas relating to all seismic Category I structures and other structures important to safety that may not be classified as seismic Category I, other than the containment and its interior structures."	
Generation mPower	9/12/13	3.	I/1.A Paragraph 1	References to the Ultimate Heat Sink (UHS) should refer to the Passive Containment Cooling Tank (PCCT) to reflect the B&W mPower™ standard plant design.	Revise I/1.A, paragraph 1, as follows: ". . . , ultimate heat sink (UHS) passive containment cooling tank (PCCT)"	
Generation mPower	9/12/13	4.	I/1.A Paragraph 1	References to a separate "new fuel pool" should be deleted to reflect the B&W mPower standard plant design.	Revise I/1.A, paragraph 1, as follows: ". . . , new and spent fuel pools"	
Generation mPower	9/12/13	5.	I/1.A Paragraph 3	The statement "...the applicant needs to provide information such that an adequate review and evaluation can be performed" is vague and should be clarified.	Revise paragraph 3 as follows: ". . . Any special features of the RSB including modular construction shall be included in the description of the structures. are also reviewed. For unique features such as passive systems with pools and use of modular construction, the applicant needs to provide information such that an adequate a review and evaluation can be performed."	
Generation	9/12/13	6.	I/1.A	The text in Item 1.A, paragraph 6 provides a	Revise paragraph 6 as follows:	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.4, "Other Seismic Category I Structures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower			Paragraph 6	description of the RSB that should be revised to reflect the B&W mPower standard plant design.	<p>Portions of the RSB may be constructed of structural steel and metal siding which surround the exposed portion of the RSB above grade. In such a situation, the steel enclosure may be supported on individual or combined footings at grade level, supported on the concrete portion of the RSB, or roof of the buildings adjacent to or surrounding the RSB. The review in this DSRS section includes the general arrangement of the steel structures, with particular emphasis on methods of isolating the building enclosure from other buildings in a lateral direction when this is preferable to minimize seismic interaction."</p>	
Generation mPower	9/12/13	7.	I/1.B	The text in item 1.B related to the fuel storage structure should be revised to reflect the potential use of modular construction technology.	<p>Revise I/1.B as shown below:</p> <p>"The fuel storage structure, which is inside the RSB, is also constructed of reinforced concrete and may contain structural steel or utilize modular construction technology. It houses the new fuel storage area and the spent fuel pool. In addition to the information reviewed for the RSB, the staff will evaluate the general arrangement of the spent fuel pool, including its walls and floor."</p>	
Generation mPower	9/12/13	8.	I/1.D Paragraph 1	The scope description is confusing and should be clarified to be consistent with text in the existing SRP 3.8.4, Rev.3 and draft Rev. 4 of SRP 3.8.4 and to delete reference to the Radwaste Building,	<p>Revise Item I/D, paragraph 1 as follows:</p> <p>"Other miscellaneous seismic Category I structures and other structures that may be</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.4, "Other Seismic Category I Structures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	9.	General	which is a non-seismic Category I structure for the B&W mPower standard plant design.	important to safety but, because of other design provisions, may not be classified as seismic Category I may exist. These structures are usually made either of reinforced concrete or structural steel, or a combination of the two. The descriptive information reviewed for such structures is similar to that reviewed for the RSB. Such structures may include pipe and electrical conduit tunnels, water and fuel tanks, waste storage facilities, stacks, intake structures, pumping stations, and cooling towers. Also, reviewed is the radwaste building which is located next to the RSB.	
Generation mPower	9/12/13	10.	I/1.D Paragraph 2	DSRS 3.8.4 should be revised to reflect the use of newer industry guidance for the design of composite structures.	Revise the language in DSRS 3.8.4 as follows: "All loads and load combinations are to be in accordance with AISC N690-1994 including Supplement 2 (2004) for the Allowable Stress Design (ASD) method, or AISC N690-2006 for the Load and Resistance Factor Design (LRFD) method, or newer guidance incorporated into AISC N690 for composite structures. Revise I/1.D as follows: " . . . in accordance with NUREG-0800 Standard Review Plan (SRP) Sections 3.9.2 and 3.9.3, and DSRS Section 3.7.3."	
Generation mPower	9/12/13	11.	I/1.F Paragraph 2	Add reference to DSRS 3.7.3, which also addresses seismic analysis criteria for cable tray, conduit, and HVAC distribution subsystems.	Create a new item "1.G. Modular Construction Methods" and include the text	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.4, "Other Seismic Category I Structures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				and should be addressed as a separate item in DSRS 3.8.4.	of Item 1.F, paragraph 2, as revised below: "The B&W mPower design may use modular construction methods for the major seismic Category I structures. Wall modules are typically constructed from large prefabricated sections of steel plates spaced apart with intermittent steel members, joined with other modules at the site, and then filled with concrete. The concrete fill used in wall modules could be structural concrete with reinforcing (composite construction) , or fill concrete of low strength and no reinforcing , or heavy concrete for radiation shielding. Floor modules consist of prefabricated steel members and plates which are combined with poured concrete to create a composite section. The design of modules to nuclear power plants, structural module design, fabrication, configuration, layout, and connections will be reviewed on a case-by-case basis."	
NEI	8/15/2013	12.	I. Areas of Review, Item 3.A, p. 3.8.4-4	Addition of "loads that are induced by the proposed construction sequence and by the differential settlements of the soil" to Loads and Loading Combinations: Construction sequence may be, and settlement will be, site specific. Thus, consideration of these specific loads in a design certification (DC) application using generic site parameters may be premature. Inclusion of these loads in	Clarify applicability of this provision for DC applications, as this requirement should apply only to COLA applicants. See also, comment #26 [Section 3.8.4 Comment 2].	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.4, "Other Seismic Category I Structures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NEI	8/15/2013	13.	II. Acceptance Criteria, DSRS Acceptance Criterion 4.H, p. 3.8.4-12	<p>confirmatory analysis in the combined license (COL) application (when the site properties are better known) provides a more certain evaluation without jeopardizing the adequacy of the DC analysis, or departing from the DC due to a change in construction sequence planning that may occur at the COL phase.</p> <p>Three methods (two linear or equivalent-linear, one accounting for inelastic strains) are provided to calculate seismically induced lateral soil pressures on embedded walls, where the governing pressure is to be used. If the dynamic soil pressure due to the seismic event is calculated in the SSI analysis, it is unclear whether it is necessary to check the pressures using the other two methods.</p>	Clarify if staff intends to not accept the SSI-generated dynamic soil pressure, but instead to require additional work using other methods to generate soil pressure values and then compare those additional results with SSI results to select a bounding lateral soil pressure.	
Generation mPower	9/12/13	14.	I/6.B	<p>Item I.6.B regarding welding of reinforcing bars needing to comply with ASME BPV Section III, Div. 2 (Concrete Containments), subject to the limitations of RG 1.136, seems inappropriate for application to "Other Seismic Category I Structures," i.e., non-containment. Furthermore, the RG 1.136 clarification on ASME BPV Article CC-4352 cites ACI 349 as the appropriate guidance for welding of reinforcing bars.</p> <p>ACI 349, in turn, cites AWS D1.4 as the appropriate guidance for welding of reinforcing bars. Therefore, as Item I.6.A of this Subsection already cites ACI 349, subject to the limitations of RG 1.142, for general guidance on materials, construction techniques and quality control, there</p>	Delete Item I.6.B as Item I.6.A already discusses compliance with ACI 349.	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.4, "Other Seismic Category I Structures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	15.	II/1	Descriptive information should use criteria from RG 1.206 not RG 1.70.	Delete the citation of RG 1.70 in DSRS Acceptance Criteria 1 as shown below: " . . . not specifically covered in RG 1.70 or RG 1.206 may . . . "	
Generation mPower	9/12/13	16.	II/3.A Paragraph 5	Under DSRS Acceptance Criteria 3.A, the discussion of hydrodynamic loads resulting from actuation of ADVs into the RWST is addressed in DSRS 3.8.3 and should be removed from DSRS 3.8.4.	Revise DSRS Acceptance Criteria Item 3.A to delete paragraph 5 as shown below: "Hydrodynamic loads resulting from LOCA and/or actuation of ADVs into the refueling water storage tank (RWST) including wall pressure loads; direct loads such as drag loads, jet impingements, impact loads, and reaction loads; and building dynamic response loads, need to be considered. Fluid structure interaction associated with these hydrodynamic loads and those from earthquakes should be taken into account. The definition of the loads, phasing of the loads, and method for combination of the loads (e.g., absolute sum, square root of the sum of the squares) are reviewed on a case-by-case basis."	
Generation mPower	9/12/13	17.	II/3.A Paragraph 6	The inclusion of the words "construction loads" in a paragraph dedicated to construction loads is not necessary.	Revise DSRS Acceptance Criteria Item 3.A, paragraph 6 as shown below: " . . . such as material loads, personnel and equipment loads, horizontal and construction loads, erection and fitting forces, equipment reactions, and form	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.4, "Other Seismic Category I Structures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	18.	II/3.B	DSRS Acceptance Criteria Item 3.B should be revised to reflect the use of newer industry guidance for the design of composite structures.	pressure. Revise the language in DSRS Acceptance Criteria Item 3.B as follows: "All loads and load combinations are to be in accordance with AISC N690-1994 including Supplement 2 (2004) for the Allowable Stress Design (ASD) method, or AISC N690-2006 for the Load and Resistance Factor Design (LRFD) method, or newer guidance incorporated into AISC N690 for composite structures. This specification uses the allowable-stress design (ASD) method. The supplemental criteria on the use of loads and load combinations presented above for concrete structures also apply to steel structures."	
NuScale	8/15/2013	19.	II. Acceptance Criteria DSRS Acceptance Criteria Item 4.H p.3.8.4-12	Three methods (two linear or equivalent-linear and one accounting for inelastic strains) to calculate seismically induced lateral soil pressures on embedded walls are to be used. Please clarify if the intent is not to accept the SSI- generated dynamic soil pressure, but to require additional work using all three methods to generate soil pressure values and then compare those additional results with SSI results to select a bounding lateral soil pressure.	Clarify if additional work using all three calculation methods is necessary.	
Generation mPower	9/12/13	20.	II/4.H	Under DSRS Acceptance Criteria, the discussion of seismic soil pressure is complex and the road map for the designer is confusing in Item 4.H. The need for separate analyses (case 3) is not	Revise DSRS Acceptance Criteria Item 4.H to clearly explain if three separate analyses of seismic soil pressure are necessary. Also explain how seismic soil pressure	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.4, "Other Seismic Category I Structures"							
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution	
Generation mPower	9/12/13	21.	II/4.H	<p>Under DSRS Acceptance Criteria 4.H, the second method identified for case 3, involves direct determination of dynamic soil pressure from SSI/FEM analysis. This approach is more accurate than the Wood method (first method identified for case 3) when an adequately detailed SSI finite element model is used. (Note that the results from an SSI/FEM analysis are more realistic since they account for the timing effect and spatial variation.)</p> <p>Since the main purpose of seismic earth pressure determination is to use it as a load to calculate the design forces and moments on embedded walls, an even better advantage of the SSI/FEM analysis can be realized by directly harvesting the seismic-induced forces in the walls from the SSI analysis.</p> <p>This avoids a two-step analysis approach of computing maximum seismic soil pressure with a follow up structural analysis. As noted above, the</p>	<p>clearly explained.</p>	<p>should be obtained in the following situations:</p> <p>(1) When an adequate SSI/FEM model is used</p> <p>(2) When the SSI model is not refined sufficiently such that a DSRS specified method needs to be used</p> <p>(3) When the soil's (relative displacement dependent) passive resistance is relied upon for stability against seismic loads</p> <p>Revise DSRS Acceptance Criteria Item 4.H to acknowledge that wall member forces may be obtained directly from a SSI/FEM analysis.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.4, "Other Seismic Category I Structures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	22.	II/4.H	<p>results from an SSI/FEM analysis are more realistic since they account for the timing effect. The member forces should be computed for the range of soil profiles used in the SSI analysis with proper consideration of soil-wall separation.</p> <p>Under DSRS Acceptance Criteria Item 4.H, it is not clear why the third method (case 3) for passive pressure should be used. It is understood that if passive pressure is used for stability analysis, part of the passive pressure mobilized must be calculated and used for design of the wall. However, for cases where stability does not require mobilizing the passive soil pressure, the calculation and use of passive pressure is not clear.</p>	Revise DSRS Acceptance Criteria Item 4.H to specify the circumstances under which calculation of relative displacement dependent passive soil pressure should be performed for wall design.	
NuScale	8/15/2013	23.	II. Acceptance Criteria DSRS Acceptance Criteria Item 4.K p. 3.8.4-13	<p>Addition of "loads induced by the proposed construction sequence and differential settlements" to <i>Loads and Load Combinations</i>, and SRP Acceptance Criteria, 11.4, <i>Design and Analysis Procedures</i>, Item K, added guidance for considering these loads in the standard design process that postulates generic geotechnical site parameters:</p> <p>Construction sequence may be, and settlement will be site dependent; inclusion of these specific loads in a DC application using generic site parameters may be premature. Inclusion of these loads in confirmatory analysis in the COL application (when the site properties are better known) provides a more certain evaluation without jeopardizing the adequacy of the DC analysis, or requiring re-certification due to a</p>	Revise the contents to ensure it is for DC application, and not COL.	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.4, "Other Seismic Category I Structures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	24.	II/4.K	change in construction sequence planning that may occur at the COL phase. The text related to the Radwaste Building, a non-seismic Category I structure for the B&W mPower standard plant design, should be deleted from DSRS 3.8.4.	Delete DSRS Acceptance Criteria Item 4.K.	
Generation mPower	9/12/13	25.	III/ Technical Rationale Item 4, Paragraph 3	A typographical error exists in the last sentence of Item 4 under Technical Rationale.	Revise Technical Rationale, Item 4, paragraph 3 as shown below: " ... against loss of their structural integrity."	
Generation mPower	9/12/13	26.	III/1	The following text was added as Item 1 under Review Procedures: "In accordance with 10 CFR 52.47(a)(8),(21), and (22), and 10 CFR 52.79(a)(17) and (20), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and, (3) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical	Reword Item 1 to delete statement number (2) as follows: "In accordance with 10 CFR 52.47(a)(8), (21), and (22), and 10 CFR 52.79(a)(17) and (20), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and (3)(2) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.4, "Other Seismic Category I Structures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	27.	III/5 Paragraph 4	<p>subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p> <p>As required by 10CFR 52.47(a)(22), the information necessary to demonstrate how operating experience insights have been incorporated into the plant design is a generic programmatic issue for a design certification applicant and will be addressed in Chapter 1 of the B&W mPower DCD consistent with the guidance in NUREG-0800, Chapter 1.</p> <p>Based on the generic applicability of incorporating operating experience into a standard plant design, this specific requirement need not be identified separately in each individual DSRS section.</p>	<p>(f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p>	
Generation mPower	9/12/13	27.	III/5 Paragraph 4	<p>NUREG/CR-6486, published in 1997, does not address more recent industry guidance for modular construction. DSRS 3.8.4, Review Procedures, Item 5, paragraph 4, should be revised to acknowledge the use of later industry documents on modular construction methods and to correct an editorial error.</p>	<p>Under Review Procedures, revise Item 5, paragraph 4 as follows:</p> <p>"As discussed in Subsection H.4.1 II.4.J of this DSRS section, reviewers evaluate the use of modular construction methods on a case-by-case basis utilizing guidance provided in NUREG/CR-6486 or other applicable industry documents."</p>	
Generation mPower	9/12/13	28.	IV/6	<p>RG 1.94 has been withdrawn and should not be referenced.</p>	<p>Revise Item IV.6 as shown below:</p> <p>"... the positions of RGs 1.69, 1.91, 1.94, 1.115, 1.127, 1.136, 1.142, 1.143, 1.160, 1.199, and 1.221, and industry standards ACI 349 and ANSI/AISC N690-1994,</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.4, "Other Seismic Category I Structures"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	29.	IV/ Appendix C, item VI.1	It is unclear which structural sections the NRC considers "required".	including Supplement 2 (2004)." Revise the text to specify where "required" sections are identified.	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.5, "Foundations"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	1.	General	The terms SAR/FSAR/DCD FSAR as used in DSRS 3.8.5 are confusing.	Suggest that the DSRS be revised to use the term DCD to refer to the SAR submitted as part of the standard plant design certification and use FSAR when referring to other licensed facilities or to a COLA.	
Generation mPower	9/12/13	2.	General	DSRS 3.8.5 should be revised to reflect the use of newer industry guidance.	Revise the language in DSRS 3.8.5, Section I.4, as follows: "The review assesses design procedures used for seismic Category I foundations, emphasizing the extent of compliance with American Concrete Institute (ACI) 349, with additional guidance provided by Regulatory Guide (RG) 1.142, for concrete structures and the American National Standards Institute/American Institute of Steel Construction (ANSI/AISC N690-1994) including Supplement 2 (2004) for the Allowable Stress Design (ASD) method, or AISC N690-2006 for the Load and Resistance Factor Design (LRFD) method specifications for steel structures." Revise other citations of N690 in a similar fashion.	
Generation mPower	9/12/13	3.	General	Two different spellings are used for the same word: "floatation" vs. "floatation".	Revise spelling to maintain consistency.	
Generation mPower	9/12/13	4.	I/1.A Paragraph 2	The statement "...the applicant needs to provide information such that an adequate review and evaluation can be done" is vague and should be clarified.	Revise Item 1.A, paragraph 2, as follows: "The staff review identifies the types of concrete structures associated with the	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.5, "Foundations"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	5.	I/6.B	<p>Item I.6.B regarding the welding of reinforcing bars needing to comply with ASME BPV Section III, Div. 2 (Concrete Containments), Subsection CC, subject to the limitations of RG 1.136, seems circuitous. RG 1.136 clarification on ASME BPV Article CC-4352 cites ACI 349 as the appropriate guidance for welding of reinforcing bars. ACI 349, in turn, cites AWS D1.4 as the appropriate guidance for welding of reinforcing bars.</p> <p>Therefore, as Item I.6.A of this Subsection already cites ACI 349, subject to the limitations of RG 1.142, for general guidance on materials, construction techniques and quality control, there is no need for the citation of ASME BPV Section III, Div. 2.</p>	<p>RSB concrete foundation and examines their structural and functional characteristics. The types of concrete structures include the RSB basemat and any associated reinforced concrete structures integrally connected to the RSB foundation. Any special features of the RSB foundation are also reviewed including: For unique features such as modular construction; passive systems with pools on the foundation; single foundation for multiple structures; and concrete walls and floors integrally connected to the RSB foundation; the applicant needs to provide information such that an adequate review and evaluation can be done."</p> <p>Delete Item I.6 B from as Item I.6.A already requires compliance with ACI 349.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.5, "Foundations"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	6.	I/4.G	In the paragraph under Item I.4.G, the second sentence uses the term "foundation walls." It is unclear what is meant by the term "foundation wall."	Revise the second sentence in the paragraph under Item I.4.G as shown below: ". . . and soil on the side of the foundation embedded walls."	
Generation mPower	9/12/13	7.	I/ Review Interfaces Item 5	The references to "DSRS Sections 3.8.5 II.4 I, N and O" appear to be incorrect.	Confirm DSRS Section references.	
Generation mPower	9/12/13	8.	II/1 Paragraph 1	Descriptive information should use criteria from RG 1.206 not RG 1.70.	Delete the citation of RG 1.70 in DSRS Acceptance Criteria Item 1 as shown below: ". . . not specifically covered in RG 1.70 or RG 1.206 may . . ."	
NEI	8/15/2013	9.	II. Acceptance Criteria, DSRS Acceptance Criterion 3, 1st paragraph, p. 3.8.5-7	Addition of "loads that are induced by the proposed construction sequence and by the differential settlements of the soil" to Loads and Loading Combinations: see comment #24.	Clarify applicability of this provision for DC applications, as this requirement should apply only to COLA applicants. See also, comment #24 [Section 3.8.3 Comment 1].	
Generation mPower	9/12/13	10.	II/3 Paragraph 1	DSRS Acceptance Criteria Item 3 refers to loads associated with combustible gas generation as a design consideration for the containment vessel, but these loads do not have an appreciable effect, if any, on the foundation design. This does not reflect the B&W mPower™ standard plant design and should be removed.	Revise DSRS Acceptance Criteria Item 3, Paragraph 1, as shown below: ". . . and loads associated with combustible gas generation from a metal-water reaction of the fuel cladding. . . ."	
Generation mPower	9/12/13	11.	II/3 bullet list	Under DSRS Acceptance Criteria Item 3, the list of load combinations is meant to correlate to the list of "Minimum Factors of Safety" specified later in the second DSRS Acceptance Criteria Item 5 on	Reinstate the letter designations for each load combination in DSRS Acceptance Criteria Item 3.	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.5, "Foundations"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NEI	8/15/2013	12.	II. Acceptance Criteria, DSRS Acceptance Criterion 4.H, p. 3.8.4-12	<p>page 3.8.5-13 titled "Structural Acceptance Criteria". The use of bullets instead of letter designations eliminates this correlation.</p> <p>DSRS Acceptance Criteria has two items numbered 5, the second number 5 should be revised to number 6 and subsequent items renumbered.</p> <p>Three methods (two linear or equivalent-linear, one accounting for inelastic strains) are provided to calculate seismically induced lateral soil pressures on embedded walls, where the governing pressure is to be used. If the dynamic soil pressure due to the seismic event is calculated in the SSI analysis, it is unclear whether it is necessary to check the pressures using the other two methods.</p>	<p>Renumber the DSRS Acceptance Criteria to eliminate duplication of DSRS Acceptance Criteria Item 5 (one on page 3.8.5-8 without a subheading, and another on page 3.8.5-13 with a subheading of "Structural Acceptance Criteria").</p> <p>Correct all cross-references as appropriate</p> <p>Clarify if staff intends to not accept the SSI-generated dynamic soil pressure, but instead to require additional work using other methods to generate soil pressure values and then compare those additional results with SSI results to select a bounding lateral soil pressure.</p>	
Generation mPower	9/12/13	13.	II/5.D	<p>DSRS Acceptance Criteria Item 5.D refers to DSRS 3.8.4 for methods acceptable for calculating dynamic soil pressures on the basemat and embedded walls, but should be further clarified.</p>	<p>Revise DSRS Acceptance Criteria Item 5.D as follows:</p> <p>"Consideration of dynamic lateral soil pressures on the RSB foundation (basemat and embedded walls connected to the basemat) is acceptable if the lateral earth pressure loads are evaluated for the three cases identified following the guidance in DSRS Section 3.8.4-H.4-H. If the methods identified in DSRS Section 3.8.4-H.4-H are shown to be overly conservative for the cases considered, then any alternative methods proposed will be reviewed on a case-by-case basis."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.5, "Foundations"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	9/12/13	14.	II/5.N Paragraph 4	DSRS Acceptance Criteria Item 5.N references to "item E above" appear to be incorrect and instead should refer to "item H above" (related to settlement). Please confirm cross-references to other DSRS Acceptance Criteria.	Confirm DSRS Acceptance Criteria cross-references.	
Generation mPower	9/12/13	15.	III/1	<p>The following text was added as Item 1 under Review Procedures:</p> <p>"In accordance with 10 CFR 52.47(a)(8),(21), and (22), and 10 CFR 52.79(a)(17) and (20), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and, (3) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p> <p>As required by 10CFR 52.47(a)(22), the information necessary to demonstrate how operating experience insights have been</p>	<p>Reword Item 1 to delete statement number (2) as follows:</p> <p>"In accordance with 10 CFR 52.47(a)(8), (21), and (22), and 10 CFR 52.79(a)(17) and (20), for new reactor license applications submitted under Part 52, the applicant is required to (1) address the proposed technical resolution of unresolved safety issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before application and that are technically relevant to the design; (2) demonstrate how the operating experience insights have been incorporated into the plant design; and (3)(2) provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding safety evaluation report (SER) section."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.8.5, "Foundations"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>incorporated into the plant design is a generic programmatic issue for a design certification applicant and will be addressed in Chapter 1 of the B&W mPower DCD consistent with the guidance in NUREG-0800, Chapter 1.</p> <p>Based on the generic applicability of incorporating operating experience into a standard plant design, this specific requirement need not be identified separately in each individual DSRS section.</p>		

Public Comments on mPower DSRS

mPower DSRS Section 3.9.1, "Special Topics for Mechanical Components"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NuScale	8/15/2013	16.	Throughout section	<p>The NUREG-0800 <i>Introduction</i>, Part 2, states: "However, the graded review approach commences at the A2 level for design- based and performance-based acceptance criteria. The reviewer identifies programmatic requirements that may be considered for use in lieu of some analysis and evaluation techniques to demonstrate satisfaction of specific acceptance criteria."</p> <p>Please clarify why programmatic requirements are not considered to augment or replace review procedures for safety-related not risk-significant SSCs. Recommend stating that programmatic requirements can be met by using programmatic requirements to augment or replace analytical or evaluation- based acceptance criteria.</p>	Clarify the issue around the programmatic requirements as described.	
Generation mPower	8/14/2013	17.	I/1	Revise the B&W mPower™ plant description to reflect the current design and use the recommended description in this DSRS and other similar DSRSs.	<p>"The B&W mPower™ reactor is a simplified, passive, light-water-cooled, pressurized water reactor nuclear power plant that uses an integral arrangement in which the reactor core, steam generator and pressurizer are combined into a common pressure vessel. The control rod drive mechanisms (CRDMs) are also located inside the pressure vessel and the reactor coolant pumps are attached directly to the integral vessel. This limits the size of piping connected to the reactor vessel and the number of mechanical components outside the reactor vessel. Other than small connections such as instrument sensing</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.1, "Special Topics for Mechanical Components"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
					<p>lines, the only B&W mPower reactor vessel penetrations exposed to reactor coolant are the following:</p> <ul style="list-style-type: none"> Upper vessel connections such as the primary and auxiliary pressurizer spray lines, nuclear sampling lines, emergency core cooling system (ECC) automatic depressurization lines, fill and drain lines, and American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) pressurizer relief valve lines. Lower vessel connections comprising the reactor coolant makeup and letdown lines, ECC makeup lines, and CRDM hydraulic latching pressure lines." 	
Generation mPower	8/14/2013	18.	I/4	<p>Item 2, under Review Interfaces (page 3.9.1-2) states:</p> <p>"The review of programs for ensuring bolting and integrity are reviewed is performed under DSRS Section 3.13."</p>	<p>Change text to read:</p> <p>"The review of programs for ensuring bolting and threaded fastener adequacy and integrity are reviewed-is performed under DSRS Section 3.13."</p>	
Generation mPower	8/14/2013	19.	II/2	<p>Item 1, second sentence in the last paragraph under Acceptance Criteria (page 3.9.1-4) states:</p> <p>"Also, environmental conditions to which equipment important to safety will be exposed (e.g., chemistry of the coolant water) should be</p>	<p>Change text to read:</p> <p>"Also, environmental conditions to which safety-related or risk-significant equipment will be exposed (e.g., chemistry of the coolant water) should be considered to</p>	

Public Comments on mPower DSRs

mPower DSRs Section 3.9.1, "Special Topics for Mechanical Components"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	20.	II/2	<p>considered to minimize the degradation of materials due to corrosion."</p> <p>As stated in comments on other DSRs sections, the term "SSCs that are safety-related or risk-significant", or final analogous descriptive term, should be used throughout all DSRs sections in place of terms like "SSCs important to safety" or "SSCs subject to missile protection" unless the latter are a) used in a quote, or b) referenced in the GDC.</p>	<p>minimize the degradation of materials due to corrosion."</p>	
Generation mPower	8/14/2013	20.	II/2	<p>Item 2.C, second sentence in the last paragraph under Acceptance Criteria (page 3.9.1-5) states:</p> <p>"For source (v), the complete computer printout of the input and the solution should be submitted for every benchmark problem."</p> <p>This sentence is no longer applicable as source (v) has been deleted from the DSRs.</p>	<p>Delete the sentence:</p> <p>"For source (v), the complete computer printout of the input and the solution should be submitted for every benchmark problem."</p>	
NEI	8/15/2013	21.	III. Review Procedures, Item 1, p. 3.9.1-7	<p>This paragraph states that proposed programs may be used to augment or replace some of the review procedures for nonsafety-related SSCs (either risk- or non-risk-significant). In accordance with NUREG-0800 "Introduction," Part 2, "the graded review approach commences at the A2 level for design-based and performance-based acceptance criteria. The reviewer identifies programmatic requirements that may be considered for use in lieu of some analysis and evaluation techniques to demonstrate satisfaction of specific acceptance</p>	<p>Revise to state that that programmatic requirements can be used to augment or replace review procedures for safety-related not risk-significant SSCs as well, i.e., A2, B1, and B2 SSCs.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.1, "Special Topics for Mechanical Components"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NuScale	8/15/2013	22.	III. Review Procedures p. 3.9.1-7	criteria." Thus, programmatic requirements should also be considered to augment or replace review procedures for safety-related not risk-significant SSCs. It is not clear how programmatic requirements can be used to augment or replace the acceptance criteria in this section. Please provide adequate examples of how the risk-informed review can be implemented through the use of programmatic requirements as listed in 3.9.1-7, Review Procedures.	Provide examples for applying the Programmatic Requirements.	
NEI	8/15/2013	23.	III. Review Procedures, Item 1, pg. 3.9.1-7	Commensurate with proposed NUREG-0800 Introduction - Part 2, it is not clear how programmatic requirements can be used to augment or replace the acceptance criteria in this section.	Clarify by including some examples of how the risk informed review can be implemented through the use of programmatic requirements as listed.	
Generation mPower	8/14/2013	24.	III/1	Item 1 under Review Procedures includes a reference to RG 1.182, which was withdrawn in November 2012 per 77 FR 70846 and its contents included in Rev. 3 to RG 1.160. Reference to withdrawn RG 1.182 should be deleted from Section III.1.	Delete reference to RG 1.182 in Section III as it has been withdrawn.	
Generation mPower	8/14/2013	25.	III/2	Item 1, third sentence under Review Procedures (page 3.9.1-7) states: "It should be noted that the wording of "to augment or replace" applies to nonsafety-related risk-significant SSCs, but "to replace" applies to nonsafety-related nonrisk-significant SSCs according to the "graded approach" discussion in NUREG-0800 "Introduction," Part 2."	Make appropriate revision to the text to reflect the fact that there are no plans to use a risk categorization structure to classify the B&W mPower SSCs.	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.1, "Special Topics for Mechanical Components"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	26.	I/3	<p>For the B&W mPower standard plant design, the classification of SSCs will be consistent with current regulatory practices and PRA insights will be used to identify both the RTNSS SSCs and the risk-significant SSCs. Although risk significance of the B&W mPower standard plant SSCs will be defined, there are no plans to use a risk categorization "graded approach" to classify the B&W mPower SSCs. Therefore, the third sentence under Item 1 should be removed.</p> <p>Item 1 under Areas of Review:</p> <p>In this statement, the text phrase "...and core support components, supports, and reactor internals" appears to have been replaced by "components, component supports, reactor core support structures and reactor vessel internal components." Text replacement also appears in II. Acceptance Criteria 4 (pg. 3.9.1-5).</p> <p>There are other sections in the DSRS where this same phrase occurs but has not been changed as in I.1. These locations are: II. Acceptance Criteria 1 (first paragraph, pg. 3.9.1-4); II. Technical Rationale 1 (second paragraph, pg. 3.9.1-5); II. Technical Rationale 3 (fourth paragraph, pg. 3.9.1-6); and, IV. Evaluation Findings 3 (pg. 3.9.1-9). Please review for consistency and applicability and revise as necessary.</p>	<p>Review change from "...and core support components, supports, and reactor internals" to "components, component supports, reactor core support structures and reactor vessel internal components" for consistency and applicability throughout DSRS.</p>	
Generation	8/14/2013	27.	III/2	Item 7, second paragraph under Review	Clarify the specific applicability of the B&W	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.1, "Special Topics for Mechanical Components"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower				<p>Procedures (page 3.9.1-9), the DSRS provides a general statement regarding review of a COL application as follows:</p> <p>"For review of a COL application, the scope of the review is dependent on whether the COL applicant references a DC, an early site permit or other NRC approvals (e.g., manufacturing license, site suitability report, or topical report)."</p>	<p>mPower DSRS in Item 7 as follows:</p> <p>"In general, for review of a COL application, the scope of the review is dependent on whether the COL applicant references a DC, an early site permit or other NRC approvals (e.g., manufacturing license, site suitability report or topical report). However, the scope of this DSRS section only addresses the B&W mPower DC application and COL applications that reference the B&W mPower certified design.</p>	
Generation mPower	8/14/2013	28.	V/1	<p>Under Implementation (page 3.9.1-9):</p> <p>Implementation of the DSRS should be specific to COL applications that reference the B&W mPower certified design not just a generic COL.</p>	<p>Replace "COL" with "COL that references the B&W mPower certified design".</p>	

Public Comments on mPower DSRs

mPower DSRs Section 3.9.4, "Control Rod Drive Systems"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NuScale	8/15/2013	1.	Throughout section	The DSRs should provide for alternative latching mechanism design such as electrical latching mechanisms.	Provide alternative latching mechanism in the DSRs.	
Generation mPower	8/14/2013	2.	Throughout section	The B&W mPower™ trademark is used improperly throughout. <ul style="list-style-type: none"> • 5 instances of "mPower" without "B&W" • one place (V) where the trademark is used as a noun (it is always supposed to be used as an adjective) 	Remove the "TM" mark with the exception of first time use of "B&W mPower™".	
Generation mPower	8/14/2013	3.	I.AOR	In Section I, Area of Review, First Paragraph: this discussion calls out GDC 14, which is the Reactor Coolant Pressure Boundary GDC. However; since the entire CRDS is internal to the reactor vessel, this GDC is not applicable to the B&W mPower™ reactor design.	Remove GDC 14.	
Generation mPower	8/14/2013	4.	I.AOR Item 3	In Section I, Area of Review, Item 3, last paragraph: The DSRs does not reflect the B&W mPower™ standard plant design.	Revise the following as shown: "The review of the design includes the electrical penetrations for power supply to the control rod drive mechanism (CRDM) DC motors and the mechanical penetrations for the fluid line assemblies. "	
Generation mPower	8/14/2013	5.	I.RI Item 13	In Section I, Review Interfaces, Item 13: The DSRs does not reflect the B&W mPower™ standard plant design.	Revise the following as shown: "The hydraulic electrical supply to the CRDM latching mechanism by the RCIPS is reviewed under DSRs Section 8.3.2 9-3-6. "	
Generation	8/14/2013	6.	II.AC Item 4	In Section II, Acceptance Criteria, Item 4: As	Remove GDC 14.	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.4, "Control Rod Drive Systems"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower				noted previously, GDC 14 should not be applicable to the B&W mPower design, since the entire CRDS is internal to the reactor vessel.		
Generation mPower	8/14/2013	7.	II.DAC Item 2.C	In Section II, DSRS Acceptance Criteria, Item 2.C: The second paragraph is incorrect - i.e., the CRDM is not a core support structure. The third paragraph properly defines the requirements for the CRDM.	Delete the second paragraph below. "The design and construction of the nonpressurized portions of the CRDS should comply with the requirements of Subsection NG, "Core Support Structures," of the ASME Code and SRP Section 3.9.3."	
Generation mPower	8/14/2013	8.	II.DAC Item 3	In Section II, DSRS Acceptance Criteria, Item 3: This requirement does not apply to the B&W mPower reactor design. It is also noted that if this requirement had actually applied to the B&W mPower Reactor design, than reference to SRP 3.9.3 should have been DSRS 3.9.3.	Delete this item below. 3. For the various design and service conditions defined in NB-3113 of Section III of the ASME Code, load combination sets are as given in SRP Section 3.9.3. The stress limits applicable to pressurized and nonpressurized portions of the control rod drive systems should be as given in SRP Section 3.9.3 for the response to each loading set.	
Generation mPower	8/14/2013	9.	II.TR Item 1	In Section II, Technical Requirements, Item 1: as a result of design changes, certain discussion in this paragraph need to be deleted. Please provide clarification as to how the CRDS provides a barrier to the release of fission products or delete the one sentence. (The fuel cladding	Delete the text in the paragraph below: "1. GDC 1 and 10 CFR 50.55a establish requirements regarding the quality standards to be applied to the CRDS. Specifically, 10 CFR 50.55a identifies the ASME Code	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.4, "Control Rod Drive Systems"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				provides a barrier to the release of fission products and the CRDS provides protection to the fuel from exceeding SAFDLs, but the CRDS does not directly prevent release of fission products.)	<p>requirements, Code editions, and addenda that must be applied to pressure-retaining portions of the CRDS that are of the highest importance to safety. RG-1.26 identifies acceptable standards to be applied for pressure-retaining portions of the CRDS that are less important to safety but which may contain radioactive material. The CRDS is an independent reactivity control system designed to ensure the capability to control reactivity changes in the reactor under normal operating and accident conditions. The fuel cladding is protected by CRDS safety functions, including insertion of adequate negative reactivity to preserve these fission product barriers under specified conditions. In addition, the CRDS provides a barrier to the release of fission products. The application of GDC 1 and 10 CFR 50.55a requirements to the design, fabrication, installation, and testing ensures the CRDS meets quality standards that are adequate to provide assurance that these safety functions will be performed."</p>	
Generation mPower	8/14/2013	10.	II. TR Item 4	In Section II, Technical Requirements, Item 4: Since the entire CRDS is internal to the reactor vessel, this GDC is not applicable to the B&W mPower reactor design.	Delete Item 4 as shown below. <p>"4. GDC 14 establishes requirements regarding the RCPB portion of the</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.4, "Control Rod Drive Systems"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	11.	III.RP Item 5	In Section III, Review Procedure, Item 5: The text was modified to delete "water hammer for BWR loads" to "water hammer". Please provide clarification since there is no credible ways for water hammer to occur on the primary side of the B&W mPower reactor.	CRDS. The CRDM is relied on, in part, to provide a barrier to the release of fission products to the containment through proper design of the control rod drive housing and components that are part of the RCPB. Application of the GDC 14 criteria to the CRDM components functioning as a RCPB enhances safety by ensuring that the RCPB will have an extremely low probability of failure.	
Generation mPower	8/14/2013	12.	III.RP Item 6	In Section III, Review Procedure, Item 6: The DSRS does not reflect the B&W mPower reactor design.	Delete the statement about "water hammer" all together. Revise the following as below: "6. The CRDM should be subjected to a life cycle test program to determine the ability of the drive components to function during and after normal operation, anticipated operational occurrences, seismic events, and postulated accident conditions over the full range of temperatures, pressures, loadings, and misalignment expected in service. The tests should include functional tests to determine insertion and withdrawal times,	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.4, "Control Rod Drive Systems"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	13.	IV.EF Item 2	In Section IV, Evaluation Findings, Item 2: Delete reference to GDC 14 since the entire CRDS is internal to the reactor vessel, this GDC is not applicable to the B&W mPower reactor design.	latching operation, scram operation and time, system valve operation and scram accumulator leakage for hydraulic latching mechanism, ability to overcome a stuck rod condition, misalignment testing, and wear. Rod travel and number of operational trips and test trips expected during the mechanism operational life should be duplicated in the tests." Delete GDC 14.	
Generation mPower	8/14/2013	14.	VI.REF	In Section VI, References, Reference 5: Delete reference to GDC 14 since the entire CRDS is internal to the reactor vessel, this GDC is not applicable to the B&W mPower reactor design.	Delete Reference 5 related to GDC 14.	

Public Comments on mPower DSRs

mPower DSRs Section 3.9.5, "Reactor Pressure Vessel Internals"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	1.	I. Areas of Review	This DSRs does not accurately reflect the design.	Add to the start of the first paragraph: "The mPower reactor is divided into two sections, an upper vessel and a lower vessel, connected by a flanged joint. The Reactor pressure vessel (RPV) is the lower vessel portion of the reactor"	
Generation mPower	7/23/2013	2.	I. Areas of Review / Para 1	Need to clarify what the reactor vessel consists of.	Add to the end of first sentence "including the upper internals, core support structures, and the lower vessel"	
Generation mPower	7/23/2013	3.	I. / Para 1	2nd sentence change "reactor internal" to "reactor internals" - make similar changes throughout the DSRs		
Generation mPower	7/23/2013	4.	I. / Para 1	This DSRs does not accurately reflect the design. In the fourth sentence, the steam generator tubes and riser are not part of the reactor vessel. They are part of the steam generator.	Delete from the fourth sentence "the steam generator (including tubes and tubesheet), the riser, and"	
Generation mPower	7/23/2013	5.	I. / Para 2	Delete last sentence of 2nd para, Duplicates first line of the paragraph		
Generation mPower	7/23/2013	6.	I. / Para 3	The following information is contained in paragraph 3 on pages 3.9.5-1 and 3.9.5-2: "The mPower™ reactor pressure vessel (RPV) internals include the following classifications of equipment: 1. Safety-related and risk-significant equipment 2. Safety-related and nonrisk-significant equipment 3.9.5-2 Revision 0 - May 2013 3. Nonsafety-related and risk-significant Regulatory Treatment of Nonsafety Systems (RTNSS) equipment	The text in quotations should be removed from Section I. of DSRs 3.9.5 and instead reference should be made to DSRs 3.2 for SSC classification, SRP 17.4 for reliability assurance program equipment, and SRP 19.3 for a discussion of RTNSS SSCs in the DCD.	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.5, "Reactor Pressure Vessel Internals"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	7.	I. / Areas of Review	<p>4. Nonsafety-related nonrisk-significant equipment.</p> <p>The mPower™ application will include the classification of systems, structures, and components (SSCs); a list of risk significant SSCs; and a list of RTNSS equipment. In accordance with DSRS Section 3.2 and Standard Review Plan (SRP) Sections 17.4 and 19.3, the staff will review this information and confirm the determination of safety-related and risk-significant SSCs."</p> <p>This DSRS does not accurately reflect the design.</p>	<p>add back in the following language from SRP 3.9.5: For the purpose of this DSRS, the term "reactor internals" includes core support and other internal structures and refers to all structural and mechanical elements inside the RPV with the exception of the following: 1. Reactor fuel elements and the reactivity control elements out to the coupling interfaces with the drive units (the fuel system design is covered in SRP Section 4.2, but the structural aspects of reactor fuel assemblies are reviewed with the reactor internals in this SRP section). 2. Control rod drive elements (the drive elements inside the guide tubes are covered in SRP Section 3.9.4, but the guide tubes are reviewed with the reactor internals in this SRP section). 3. In-core instrumentation (in-core</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.5, "Reactor Pressure Vessel Internals"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	8.	II. DSRS Acceptance Criteria, item 5.	<p>This DSRS does not accurately reflect the design. Blowdown loads on mPower internals are symmetric, not asymmetric.</p> <p>(Same comment for item III.5, 2nd paragraph)</p>	<p>instrumentation support structures are reviewed with the reactor internals in this SRP section).</p> <p>Modify item 5 as follows:</p> <p>The reactor internals should be designed to accommodate asymmetric blowdown loads from postulated pipe ruptures, unless, as stated in Section II, Requirements, paragraph 3, "analyses demonstrate that the probability of fluid system piping rupture is extremely low under conditions consistent with the design basis for piping." The applicant's evaluation of such loads should demonstrate that they do not exceed the limits imposed by the applicable codes and standards. Where double-ended guillotine break of reactor coolant piping is postulated, criteria for evaluating loading transients and structural components are specified in NUREG-0609.</p>	
Generation mPower	7/23/2013	9.	II. DSRS Acceptance Criteria, item 7.	<p>This DSRS acceptance criteria item 7 does not accurately reflect the design. This paragraph appears to be based on the belief that the steam generator tubes and riser are part of the reactor internals. They are part of the steam generator and not reactor internals. The ASME rules for pressure boundary construction must be used for all pressure boundary components. Other sections of the DCA, such as chapter 5, address pressure boundary components.</p>	<p>Delete item 7 from the DSRS Acceptance Criteria.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.5, "Reactor Pressure Vessel Internals"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	10.	III. Review Procedures item 3	Item 3 is not relevant to mPower since the internals are somewhat different and there are no "previously licensed similar plants"	Delete item 3 from Review Procedures.	
Generation mPower	7/23/2013	11.	III.	Items in this section are not numbered correctly		
NEI	8/15/2013	12.	VI. References, Reference 8, p. 3.9.5-11	Only Reference 8 (RG 1.20) has a revision number. Consistent with normal practice, recommend deleting the revision number so DSRS revision will not be required upon RG revision.	Revise to delete the revision number.	
NuScale	8/15/2013	13.	VI. References Items 8, 12 p. 3.9.5-11	RG 1.182 has been withdrawn and should be deleted as a reference.	Delete the withdrawn RG.	
Generation mPower	7/23/2013	13.	App A	Delete references to BWR		
Generation mPower	7/23/2013	15.	App A / Technical Evaluation, Para 1, page 3.9.5-12	<p>Delete the following sentence in the first paragraph: "For example, reactor vessel and main steam system piping and safety related components can be damaged by pressure fluctuations and vibration from flow-excited acoustic resonances within the main steam system or reactor vessel."</p> <p>This statement in SRP 3.9.5 was related to BWRs and is not applicable to mPower. The acoustic resonance phenomenon to which it refers is associated with BWR steam separation equipment within the reactor vessel. Delete this whole section but still leave the modified sentence that follows.</p>	<p>Revise paragraph 1 as follows:</p> <p>Potential adverse flow effects on nuclear power plant SSCs can ensue from various flow excitation mechanisms like fluid-elastic instability, vortex-induced vibration, flow-excited acoustic resonance, and turbulent buffeting. For example, reactor vessel and main steam system piping and safety-related components can be damaged by pressure fluctuations and vibration from flow-excited acoustic resonances within the main steam system of reactor vessel. The flow-excited acoustic resonance phenomenon also can occur in mPower™ nuclear power plants</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.5, "Reactor Pressure Vessel Internals"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
					with damage to plant piping and components. Sampling probes in feedwater and condensate systems in nuclear power plants are also susceptible to adverse flow effects.	
Generation mPower	7/23/2013	16.	App A	Page 3.9.5-13, 2nd paragraph, "reactor internal components" should be singular.		
Generation mPower	7/23/2013	17.	App A	Page 3.9.5-13, item 1, first sentence insert "mPower" before "nuclear power plant." same comment for item 2 on following page		
Generation mPower	7/23/2013	18.	App A	Page 3.9.5-14, item 5, delete references to Quad Cities and Dresden since they are BWRs		
Generation mPower	7/23/2013	19.	App A, item 4	The following paragraph from the end of this paragraph in SRP 3.9.5 appears to be inadvertently deleted: "The applicant/licensee is expected to provide a summary of its evaluation of plant startup and power ascension to the staff within 90 days of reactor criticality. If full licensed power is not achieved in that time period, the applicant/licensee is expected to provide a supplemental report within 30 days of achieving full licensed power. The extent of NRC staff interaction will depend on the evaluation results and plant experience."		

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	1.		<p>General Comments:</p> <p>Clearer delineation of the regulatory responsibilities between DC and COL applicants regarding operational programs should be provided in the DSRS sections. Much of the DSRS write-up is not specific enough regarding which applicant is responsible for providing operational program descriptions.</p> <p>The DSRS includes a discussion of past practices and recent experiences/lessons learned from new reactor application reviews which have also blurred the division of regulatory responsibility between DC and COL applicants. Past practice on some DCDs has included descriptions of some operational programs. Those descriptions were provided because of practicality and consistency. It is practical for the DC applicant to provide a certain amount of programmatic information to be used by a COL because the design vendor is most knowledgeable about their particular design. And the design vendor can promote consistency among the COL applicants that reference their design by including programmatic information in their DCD. Note that this has been done for DCAs despite the fact that there is no regulatory requirement for a DC applicant to do so. The drivers were practicality and the desire for consistency not compliance with regulatory requirements.</p>	<p>The NRC needs to establish a position on operational program information included in a DCA and reviewed by staff and whether or not that information is considered conceptual design information or information that receives finality per 10 CFR 52.63 as a result of the staff's reliance on that information to make a reasonable assurance determination.</p> <p>Add introductory language for this DSRS as follows:</p> <p>"The requirement to provide descriptions of operational programs is applicable to a COL applicant and not a DC applicant. Although the NRC's regulations do not require a DC applicant to provide a description of operational programs such as the Inservice Inspection and Inservice Testing programs discussed in this DSRS section, a DC applicant is not prohibited from providing such information. The operational program information provided in a DC application will be reviewed by the NRC staff in accordance with this DSRS section, however, the operational program information will not receive finality in accordance with 10 CFR 52.63."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	2.	I. Areas of Review	<p>Should the NRC continue to rely on programmatic information included in a DCA, the NRC should clearly communicate via ISG or other appropriate vehicle whether or not the programmatic information included in a DCA that is reviewed by the staff is considered conceptual design information or if it will receive finality in accordance with 10 CFR 52.63. Note that this determination will have an impact on whether or not COL applicants must request a departure for any changes to such programmatic information included in a certified design that is referenced in their COL application.</p> <p>AREAS OF REVIEW – first full paragraph on pg. 3.9.6-3 states:</p> <p>"In their FSARs, COL applicants have incorporated by reference the descriptions of the functional design, qualification, and IST programs provided in the DCD or FSAR submitted by the design certification applicant with supplemental information or departures. The NRC reviews the program descriptions provided in the design certification DCD/FSAR for acceptability for reference by COL applicants in preparing the safety evaluation report (SER) on the design certification application. The NRC reviews the program descriptions provided in the COL FSAR in preparing its SER on the COL application for reasonable assurance that pumps, valves, and dynamic restraints are capable of performing their safety functions. Therefore, the full descriptions of the functional</p>	<p>The NRC needs to provide clear delineation of the regulatory responsibilities between DC and COL applicants regarding the IST program.</p> <p>Same recommended language provided in Comment #1 - no additional delineation of regulatory responsibilities should be necessary.</p>	

Public Comments on mPower DSRs

mPower DSRs Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>design, qualification, and IST programs are provided by the combination of the design certification DCD/FSAR and the COL FSAR, together with the NRC SERs on the design certification application and the COL application."</p> <p>SECY-05-0197 and RG 1.206, as referenced in this DSRs, clearly identifies the IST program as an operational program that is reviewed in a COL application. The NRC should clearly identify in this DSRs that there are no regulatory requirements for a DC applicant to provide a discussion of operational programs including the IST program. The COL applicant is required to provide a description of the operational programs in accordance with 10 CFR 52.79(a)(11) associated with the ASME B&PV Code and O&M Code required by 10 CFR 50.55a. The DSRs should clearly identify the division of responsibility between a DC applicant and a COL applicant with respect to these programs. For example, a DC applicant would be expected to identify the equipment and components that must be included in the program whereas the COL applicant would be expected to describe the program and its implementation. The DSRs currently integrates these aspects and confuses the regulatory responsibilities of the DC and COL applicants and thus causes undue confusion for staff reviewers as to expectations.</p> <p>The DSRs states that "the full descriptions of the ...IST programs are provided by the combination</p>		

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	3.	I. / item 1.E	<p>of the design certification DCD/FSAR and the COL FSAR, together with the NRC SERs on the design certification application and the COL application." As previously discussed, there is no regulatory requirement for a DC applicant to provide a description of the IST program. This DSRS statement implies that the NRC cannot make a reasonable assurance finding on the IST program without reviewing the DC application and COL application together. This is inconsistent with the NRC regulatory process.</p> <p>The DSRS statements discussed above are also inconsistent with the DSRS statement included in I.9 on Operational Program Description and Implementation.</p>	<p>Revise the statement in item 1.E to be consistent with the regulatory language as follows: "The staff may conduct an audit of the information developed by an applicant that would be used to generate procurement specifications and construction and installation specifications ..."</p> <p>The NRC needs to resolve the discrepancy between this guidance which communicates clear requirements for the staff to conduct an audit in an area where the regulations only included a conditional requirement. That is, 10 CFR 52.47 states that "the Commission will require, before design certification, that</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>specifications if this level of detail is needed for the NRC to make its safety determination. There is no requirement for a DC applicant or a COL applicant to develop procurement specifications. Is the NRC requiring the staff through this review guidance that audits must be performed and that procurement specifications are the necessary level of detail for the staff to make its safety determination in the area of review for 3.9.6 for a DC applicant?</p>	<p>information normally contained in certain procurement specifications and construction and installation specifications be completed and available for audit if the information is necessary for the Commission to make its safety determination. {emphasis added}</p> <p>Clarify whether or not the development of procurement specifications has been determined to be the necessary level of detail for the staff to make its safety determination for the DC applicant review.</p> <p>Clearly identify for which applicant (i.e., DC or COL) the conduct of audits is required, if the NRC has determined that procurement specifications are the necessary level of detail to make its safety determination for the 3.9.6 review.</p>	
Generation mPower	7/23/2013	4.	I. / item 2.A	<p>Item 2.A under Inservice Testing Program Scope and Description (page 3.9.6-4):</p> <p>See comment 2 above on clear delineation of regulatory responsibilities between DC and COL applicants for program information.</p>	<p>Clarify that the program description is provided by the COL applicant.</p> <p>Revise Item 2.A as follows: "The staff will review the scope of the IST program specified in the description provided by the COL applicant."</p>	
Generation mPower	7/23/2013	5.	I./ item 2.B	<p>Item 2.B under Inservice Testing Program Scope and Description (page 3.9.6-4):</p> <p>See comment 2 above on clear delineation of regulatory responsibilities between DC and COL</p>	<p>Clarify that the program description is provided by the COL applicant.</p> <p>Revise Item 2.B as follows: "The staff will review the description of the</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	6.	I. / item 2.F	<p>applicants for program information.</p> <p>Item 2.F under Inservice Testing Program Scope and Description (page 3.9.6-4) states:</p> <p>"The staff will conduct an audit of the implementation of the IST program implementation for compliance with 10 CFR 52.79(a)(11)."</p> <p>The DSRS statement is confusing because implementation of the IST is described in the COL application and a milestone date for implementation is typically provided in Table 13.4-201 of the COL FSAR section.</p> <p>The NRC has identified that implementation of operational programs by COLs will be <u>inspected</u> for compliance with the licensing basis.</p>	<p>IST program provided by the COL applicant..."</p> <p>Item 2.F should be clarified as indicated below:</p> <p>"The staff will review the COL applicant's IST program description that includes a discussion of its implementation for compliance with 10 CFR 52.79(a)(11)."</p>	
Generation mPower	7/23/2013	7.	I. / item 3.A	<p>Item 3.A under Inservice Testing Program for Pumps (page 3.9.6-4):</p> <p>See comment 2 above on clear delineation of regulatory responsibilities between DC and COL applicants for program information.</p>	<p>Revise Item 3.A as follows:</p> <p>"The staff will review the scope of the IST program as described in the COL application, including those..."</p>	
Generation mPower	7/23/2013	8.	I. / item 3.B	<p>Item 3.B under Areas of Review (page 3.9.6-4):</p> <p>See comment 2 above on clear delineation of regulatory responsibilities between DC and COL applicants for program information.</p>	<p>Revise Item 3.B as follows:</p> <p>"The staff will review the pump IST program description provided by the COL applicant for compliance with..."</p>	
Generation mPower	7/23/2013	9.	I. / item 4.A	<p>Item 4.A under Inservice Testing Program for Valves (page 3.9.6-</p>	<p>Revise Item 4.A as follows:</p> <p>"The staff will review the scope of the</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				5): See comment 2 above on clear delineation of regulatory responsibilities between DC and COL applicants for program information.	valve IST program as described in the COL application, including those..."	
Generation mPower	7/23/2013	10.	I. / item 4.B	Item 4.B under Inservice Testing Program for Valves (page 3.9.6-5): See comment 2 above on clear delineation of regulatory responsibilities between DC and COL applicants for program information.	Revise Item 4. B as follows: "The staff will review the description of the IST methods for valves provided by the COL applicant for compliance with..."	
Generation mPower	7/23/2013	11.	I. / item 5.A	Item 5.A under Inservice Testing Program for Dynamic Restraints (page 3.9.6-5): See comment 2 above on clear delineation of regulatory responsibilities between DC and COL applicants for program information.	Revise Item 5.A as follows: "The staff will review the scope of the dynamic restraint IST program (including inservice testing and inspection) as described in the COL application, including those..."	
Generation mPower	7/23/2013	12.	I. / item 5.B	Item 5.B under Inservice Testing Program for Dynamic Restraints (page 3.9.6-5): See comment 2 above on clear delineation of regulatory responsibilities between DC and COL applicants for program information.	Revise Item 5.B as follows: "The staff will review the program description for IST activities related to dynamic restraints provided by the COL applicant for compliance with..."	
Generation mPower	7/23/2013	13.	I. / item 6.B	Item 6.B first sentence under Relief Requests and Alternative Authorizations to ASME OM Code (page 3.9.6-6) states: "Pursuant to 10 CFR 50.55a(f)(6)(i) for pumps and valves, and 10 CFR 50.55a(g)(6)(i) for	Revise the first sentence of Item 6.B as shown below: "Pursuant to 10 CFR 50.55a(f)(6)(i) for pumps and valves, and 10 CFR 50.55a(g)(6)(i) for dynamic restraints, the	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	14.	I. / item 6.B	<p>dynamic restraints, the Commission may grant relief from the OM Code requirements if conformance would be impractical for the facility and may impose such alternative requirements as it determines is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest, giving due consideration to the burden upon the licensee that could result from imposing the requirements."</p> <p>Change "license" to "licensee."</p>	<p>Commission may grant relief from the OM Code requirements if conformance would be impractical for the facility and may impose such alternative requirements as it determines is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest, giving due consideration to the burden upon the licensee that could result from imposing the requirements."</p>	
Generation mPower	7/23/2013	15.	I. / item 7	<p>Item 6.B last sentence under Relief Requests and Alternative Authorizations to ASME OM Code (page 3.9.6-6) states:</p> <p>"Commission policy is that new reactors should be designed to avoid the need for relief from ASME OM Code requirements."</p>	<p>There is no Commission Policy Statement that limits the applicability of the requirements under 10 CFR 50.55a on relief requests for the mPower design. Although this may be a goal of the NRC, limiting the applicability of an existing regulation through a guidance document is not appropriate. The NRC should delete the referenced statement.</p>	
Generation mPower	7/23/2013	15.	I. / item 7	<p>Item 7 fourth sentence under Inspections, Test, Analysis, and Acceptance Criteria (ITAAC) (page 3.9.6-6) states:</p> <p>"The DCD Tier 1 needs to include ITAAC to verify the functional design and qualification for all safety-related pumps and valves to be capable of performing their intended function for the full range of operating conditions up to design-basis conditions."</p>	<p>The DSRS statement should be revised to refer to guidance in SRP 14.3 for the SSCs that should be included in ITAAC.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	16.	I. / item 10	<p>This DSRS statement inappropriately limits the ITAAC to just safety-related pumps and valves. The guidance on ITAAC in SRP 14.3 is not limited to just safety-related SSCs but rather includes also SSCs that are risk-significant and also those that are necessary to comply with NRC regulations.</p> <p>Item 10, first sentence under Application of Risk Insights (page 3.9.6-7) states:</p> <p>"The NRC regulations in 10 CFR 52.47(a)(27) and 52.79(a)(46) require DC and COL applicants, respectively, to submit a description of the plant-specific probabilistic risk assessment (PRA) and its results in their applications."</p> <p>DC applicants provide standard plant and not plant-specific PRA.</p>	<p>Revise the first sentence under Item 10 as shown below:</p> <p>"The NRC regulations in 10 CFR 52.47(a)(27) and 52.79(a)(46) require DC and COL applicants, respectively, to submit descriptions of their standard plant and plant-specific probabilistic risk assessment (PRA), respectively, and the results in their respective applications."</p>	
Generation mPower	7/23/2013	17.	I. / item 10	<p>Item 10, third sentence under Application of Risk Insights (page 3.9.6-7) states:</p> <p>"When applying risk insights in its application review, the applicable NRC Office of New Reactors (NRO) technical branch will focus its review on components important to safety categorized as having high risk significance."</p> <p>Clarify that the term "important to safety SSCs" as applicable to mPower means safety-related SSCs and risk-significant SSCs.</p>	<p>Revise the third sentence under Item 10 as shown below:</p> <p>"When applying risk insights in its application review, the applicable NRC Office of New Reactors (NRO) technical branch will focus its review on components categorized as safety-related and components having high risk significance."</p>	
Generation mPower	7/23/2013	18.	I. / Review Interfaces, item 12	<p>Item 12 under Review Interfaces (page 3.9.6-8) states:</p>	<p>Revise Item 12 as follows:</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	19.	II. / DSRS Acceptance Criteria, item 1	<p>"DSRS Sections 5.4.7 and 6.3 address residual heat remove and emergency core cooling systems piping, respectively that is connected to the reactor coolant system and is subject to thermally stratified flow, thermal striping, and/or thermal cyclic effects."</p> <p>Change "remove" to "removal" and "striping" to "stratification."</p>	<p>"DSRS Sections 5.4.7 and 6.3 address residual heat removal and emergency core cooling systems piping, respectively that is connected to the reactor coolant system and is subject to thermally stratified flow, thermal stratification, and/or thermal cyclic effects."</p>	
				<p>Item 1, under DSRS Acceptance Criteria (page 3.9.6-10 and 11) states:</p> <p>"10 CFR Part 50, Appendix A, GDC 1 requires that SSCs be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety function to be performed. For those SSCs defined as safety-related, the NRC regulations specify special treatment requirements to provide reasonable assurance of the capability of those SSCs to perform their safety-related functions. One special treatment requirement is that applicable components meet the requirements in the ASME B&PV Code and ASME OM Code as incorporated by reference in 10 CFR 50.55a. In addition to its application for safety-related components, the staff will apply this position in its review of nonsafety-related components that are categorized as having high risk significance, where risk insights are applied in the integral</p>	<p>Delete last sentence of Item 1 under DSRS Acceptance Criteria (as highlighted in comment) to ensure consistency with the acceptance criteria for specific review areas.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	20.	II. / Functional Design and Qualification ..., item 1.1	<p>pressurized water reactor (IPWR) application review."</p> <p>The ASME Code and 10 CFR 50.55a does not require addressing "nonsafety-related components that are categorized as having high risk significance."</p> <p>Item 1.1, under Functional Design and Qualification of Pumps, Valves, and Dynamic Restraints (page 3.9.6-12):</p> <p>In the section DSRS Acceptance Criteria, 1. Functional design and Qualification of Pumps, Valves, and Dynamic Restraints, Item 1, the DSRS states:</p> <p>"During an audit, the applicant should make available procurement specifications as discussed in the introduction of 10 CFR 52.47 to support a demonstration of compliance with 10 CFR 52.79(a)(11) for a description of the programs and their implementation necessary to ensure that components meet the requirements of the ASME B&PV Code and ASME OM Code."</p> <p>This DSRS statement is referring to a conditional requirement for a DC applicant being used by the staff to perform an audit of a COL applicant and needs to be clarified. There is no requirement for a DC applicant to provide a description of operational programs and their implementation and any procurement</p>	<p>The DSRS should clarify that audit is being performed on the COL applicant, if that is the intent. Also, the requirement for information used in a procurement specification for a COL referencing a DC is discussed in 10 CFR 52.73(b).</p> <p>Revise the statement in Item 1.1 to be consistent with the regulatory language as follows: "The staff may conduct an audit of the information developed by an applicant that would be used to generate procurement specifications and construction and installation specifications ..."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, “Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints”						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	21.	II. / Inservice Testing Program Scope..., item 2.B	<p>specifications developed by a DC applicant are not expected to provide this information. There is no requirement for a DC applicant or a COL applicant to develop procurement specifications. See also comment 3.</p> <p>Item 2.B, under Inservice Testing Program Scope and Description (page 3.9.6-13) states: “The Commission specified that the applicant must fully describe the IST program in terms of scope and level of detail to allow a reasonable assurance finding of acceptability. The applicant will need to describe the IST program at a functional level and an increasing level of detail where implementation choices could materially and negatively affect the program effectiveness and acceptability.</p> <p>The DSRS statement should be revised to specify that the requirement for fully describing the IST program is for the COL applicant.</p>	<p>Revise Item 2.B as shown below: “The Commission specified that the COL applicant must fully describe the IST program in terms of scope and level of detail to allow a reasonable assurance finding of acceptability. The COL applicant will need to describe the IST program at a functional level and an increasing level of detail where implementation choices could materially and negatively affect the program effectiveness and acceptability.</p>	
Generation mPower	7/23/2013	22.	II. / Inservice Testing Program Scope..., item 2.C	<p>Item 2.C, under Inservice Testing Program Scope and Description (page 3.9.6-13): See comment # 21. This is applicable to COL applicant.</p>	<p>Revise Item 2.C as follows: “The COL applicant must consider...”</p>	
Generation mPower	7/23/2013	23.	II. / Inservice Testing Program Scope..., item 2.E	<p>Item 2.E, under Inservice Testing Program Scope and Description (page 3.9.6-13) states: This is applicable to COL applicant. Also see comments 20 and 2.</p>	<p>The DSRS should clarify that audit is being performed on the COL applicant, if that is the intent. Also, the requirement for a procurement specification for a COL referencing a DC is discussed in 10 CFR 52.73(b).</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	24.	II. / Inservice Testing Program for Pumps, item 3.A	<p>Second sentence in item 3.A under Inservice Testing Program for Pumps (page 3.9.6-13):</p> <p>See comment 2. There is no requirement in 10 CFR 52.47 for a DC applicant to include a discussion of a testing program.</p>	<p>Revise Item 3.A as follows: "The scope of the COL applicants test program is acceptable if it includes..."</p>	
Generation mPower	7/23/2013	25.	II. / Inservice Testing Program for Pumps, item 3.B	<p>First sentence in item 3.B under Inservice Testing Program for Pumps (page 3.9.6-14) states:</p> <p>"The description of the pump IST program is acceptable for the COL application if it meets the requirements specified Subsection ISTB of the ASME OM Code as incorporated by reference in 10 CFR 50.55a, and incorporates lessons learned from operating experience and research programs to provide reasonable assurance that pumps are capable of performing their safety functions in accordance with Appendices A and B to 10 CFR Part 50."</p>	<p>Change the text to read: "The description of the pump IST program is acceptable for the COL application if it meets the requirements specified in Subsection ISTB of the ASME OM Code as incorporated by reference in 10 CFR 50.55a, and incorporates lessons learned from operating experience and research programs to provide reasonable assurance that pumps are capable of performing their safety functions in accordance with Appendices A and B to 10 CFR Part 50."</p>	
Generation mPower	7/23/2013	26.	II. / Inservice Testing Program for Power-Operated Valves..., item 4.C.ii.(2)	<p>Add the word "in" after "specified."</p> <p>Item 4.C.ii.(2), paragraph 2, under Inservice Testing Program for Power-Operated Valves Other Than Motor Operated Valves (page 3.9.6-16) states:</p> <p>"The COL FSAR together with the design certification DCD/FSAR should specify that the IST program will incorporate the attributes for a</p>	<p>Revise Item 4.C.ii(2) as shown below: "The COL FSAR together with the design certification DCD/FSAR should specify that the IST program will incorporate the attributes for a successful long-term POV periodic verification program as described</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	27.	II. / Inservice Testing Program for Check Valves, item 4.C iii.(5)	<p>successful long-term POV periodic verification program as described in RIS 2000-03 by applying lessons learned from previous nuclear power plant operations and research programs as they relate to the periodic testing of Air Operated Valves (AOVs) and other POVs included in the IST program."</p> <p>See comment 2 above, There is no requirement in 10 CFR 52.47 for a DC applicant to include a discussion of a testing program.</p> <p>Item 4.C iii.(5), under Inservice Testing Program for Check Valves (page 3.9.6-18):</p> <p>The DSRS should specify whether the applicant referenced in this section is the DC applicant or the COL applicant. See also Comment 1 above.</p>	<p>in RIS 2000-03 by applying lessons learned from previous nuclear power plant operations and research programs as they relate to the periodic testing of Air Operated Valves (AOVs) and other POVs included in the IST program."</p>	
Generation mPower	7/23/2013	28.	II./ Inservice Testing Program for Safety and Relief Valves, item 4.C vi.(3)	<p>Item 4.C vi.(3), under Inservice Testing Program for Safety and Relief Valves (page 3.9.6-19) states:</p> <p>"Stroke tests should be performed for dual-function safety and relief valves (e.g., boiling-water reactor main steam automatic depressurization system safety/relief valves)."</p> <p>The mPower standard plant does not use dual-function safety and relief valves and reference to BWR main steam automatic depressurization system safety/relief valves should be deleted</p>	<p>To resolve the division of responsibility for all the discussions under Item 4.C it is suggested that Item 4.C should be clarified that this is COL Applicant scope as follows: "The following provides additional acceptance criteria for specific valve or actuator types, and leak testing to be addressed by the COL applicant:</p> <p>Delete Item 4.C.vi(3) and renumber remaining items under Item 4.C.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, “Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints”						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	29.	II. / Inservice Testing Program for Explosively Actuated Valves, item 4.C.viii.(2)	Item 4.C.viii.(2), under Inservice Testing Program for Explosively Actuated Valves (page 3.9.6-20): The mPower standard plant design does not include squib valves.	Remove reference to squib valves by deleting Item 4.C.viii.(2).	
Generation mPower	7/23/2013	30.	II. / Inservice Testing Program for Explosively Actuated Valves, item 4.C.viii.(3)	Item 4.C.viii.(3), under Inservice Testing Program for Explosively Actuated Valves (page 3.9.6-20): mPower does not use squib valves.	Remove reference to squib valves by deleting Item 4.C.viii.(3).	
Generation mPower	7/23/2013	31.	II. / Inservice Testing Program for Explosively Actuated Valves, item 4.C.viii.(4)	Item 4.C.viii.(4), under Inservice Testing Program for Explosively Actuated Valves (page 3.9.6-21): mPower does not use squib valves.	Remove reference to squib valves by deleting Item 4.C.viii.(4).	
Generation mPower	7/23/2013	32.	II. / Inservice Testing Program for Explosively Actuated Valves, item 4.C.viii.(5)	Item 4.C.viii.(5), under Inservice Testing Program for Explosively Actuated Valves (page 3.9.6-23): mPower does not use squib valves.	Remove reference to squib valves by deleting Item 4.C.viii.(5).	
Generation mPower	7/23/2013	33.	II./ Inservice Testing for Dynamic Restraints, item 5.A	Item 5.A, under Inservice Testing Program for Dynamic Restraints (page 3.9.6-23): See comment 2. There is no requirement in 10 CFR 52.47 for a DC applicant to include a discussion of a testing program.	Revise Item 5.A by deleting reference to design certification application as follows: “The description of the IST program for dynamic restraints is acceptable for COL applications...”	
Generation mPower	7/23/2013	34.	II. / Inservice Testing for Dynamic	Item 5.C, under Inservice Testing Program for Dynamic Restraints (page 3.9.6-24) states:	Item 5.C should be clarified as shown below:	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
			Restraints, item 5.C	<p>"The applicant should provide assurance that all snubbers are properly installed before preoperational piping vibration and plant startup tests."</p> <p>The DSRS should clarify the expectation of how a COL applicant can provide assurance that all snubbers are properly installed. Is this through a commitment to include ITAAC for all snubbers or some other construction verification program described in the COL application.</p>	"The COL applicant should provide a description of their program that provides assurance that all snubbers are properly installed before preoperational piping vibration and plant startup tests."	
Generation mPower	7/23/2013	35.	II. / Inservice Testing for Dynamic Restraints, item 5.D	Item 5.D (page 3.9.6-24) refers to the applicable technical specifications, which do not currently exist for the mPower reactor.	<p>Revise item 5.D as follows:</p> <p>The applicant should discuss accessibility provisions for maintenance, inservice inspection and testing, and possible repair or replacement of snubbers consistent with the provisions of the applicable NRC standard technical specifications.</p>	
Generation mPower	7/23/2013	36.	II. / Operational Programs, item 7.B	Item 7.B, under Operational Programs (page 3.9.6-26) states:	<p>Delete reference to DCD in Item 7.B as shown below:</p> <p>"The table in the FSAR should also indicate that appropriate portions of the IST program will be implemented as necessary to support the system operability requirements of the technical specifications."</p>	
Generation	7/23/2013	37.	III. / Review	<p>There is no requirement in 10 CFR 52.47 for a DC applicant to include information on implementation of the IST program.</p> <p>Item 1, third sentence, under Review Procedures</p>	Text implying the use of a "graded	

Public Comments on mPower DSRs

mPower DSRs Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower			Procedures, item 1	<p>(page 3.9.6-30) states:</p> <p>"It should be noted that the wording of "to augment or replace" applies to nonsafety-related risk-significant SSCs, but "to replace" applies to nonsafety-related nonrisk-significant SSCs according to the "graded approach" discussion in NUREG-0800 "Introduction," Part 2. Commission regulations and policy mandate programs applicable to SSCs that include:"</p> <p>For the mPower standard plant design, the classification of SSCs will be consistent with current regulatory practices and PRA insights will be used to identify both the RTNSS SSCs and the risk-significant SSCs. Although risk significance of the mPower standard plant SSCs will be defined, there are no plans to use a risk categorization "graded approach" to classify the mPower SSCs. Therefore, the third sentence under Item 1 should be removed.</p>	<p>approach" for the mPower classification structure for SSCs should be removed from the DSRs. Instead reference should be made to safety-related or risk-significant SSCs.</p>	
Generation mPower	7/23/2013	38.	III. / Review Procedures, item 3.C	<p>Item 3.C, under Functional Design and Qualification of Pumps, Valves, and Dynamic Restraints (page 3.9.6-31):</p> <p>Item 3.C specifies that the staff will conduct an audit that includes procurement specifications. This is not consistent with the regulatory language in 10 CFR 52.73 that indicates an audit of information normally contained in certain procurement specifications be performed only if necessary for the Commission to make its safety</p>	<p>Revise Item 3.C as follows:</p> <p>"As part of the COL review, the NRC staff may conduct an audit of <u>information normally contained in ...</u>"</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, “Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints”						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/2013	39.	III. / Review Procedures, item 3.D	<p>finding. This is a conditional requirement but the DSRS guidance removes the condition and instead states that the staff <u>will</u> conduct an audit. This doesn't appear to be consistent with the regulations. In addition there is no requirement for a DC applicant or a COL applicant to prepare procurement specifications. See also comments 3 and 20 above.</p> <p>Item 3.D, under Functional Design and Qualification of Pumps, Valves, and Dynamic Restraints (page 3.9.6-31) states:</p> <p>“The reviewer should pay particular attention to new designs of components (such as squib valves, nozzle check valves, and gas- hydraulic actuated valves).”</p> <p>The mPower standard plant design does not include squib valves. Delete reference to squib valves.</p>	<p>Change text to read:</p> <p>“The reviewer should pay particular attention to new designs of components (such as squibvalves, nozzle check valves, and gas-hydraulic actuated valves).”</p>	
Generation mPower	7/23/2013	40.	III. / Review Procedures, item 3.E.ii	<p>Item 3.E.ii, under Functional Design and Qualification of Pumps, Valves, and Dynamic Restraints (page 3.9.6-31) states:</p> <p>“Ensure that adequate design was demonstrated for pumps, valves, and dynamic restraints important to safety.”</p> <p>The review scope should be clarified to limit the review scope for Item 3.E.ii to <u>safety-related</u> pumps, valves and dynamic restraints.</p>	<p>Revise Item 3.E.ii as follows:</p> <p>“Ensure that adequate design was demonstrated for safety- related pumps, valves, and dynamic restraints important to safety.”</p>	
Generation	7/23/2013	41.	III. / Review	Item 4.E, under Inservice Testing Program	Revise Item 4.E as follows:	

Public Comments on mPower DSRS

mPower DSRS Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower			Procedures, item 4.E	<p>Scope and Description (page 3.9.6-32):</p> <p>The staff should clarify the statement as it appears to be confusing an audit of the IST program with review of the IST program. If the intent was on inspection of the implementation of the program such inspection of the implementation of the IST program does not occur until after the COL has been issued and should not be addressed as part of the DSRS.</p>	<p>"The staff will review the COL applicant's description of the IST program for implementation milestones in accordance with 10 CFR 52.79(a)(11)."</p>	
Generation mPower	7/23/2013	42.	III. / Review Procedures, item 7.C	<p>Item 7.C, under Inservice Testing Program for Dynamic Restraints (page 3.9.6-33):</p> <p>Delete reference to construction permit review stage.</p>	<p>Delete reference to construction permit review stage.</p>	
Generation mPower	7/23/2013	43.	III. / Review Procedures, item 7.D	<p>Item 7.D, under Inservice Testing Program for Dynamic Restraints (page 3.9.6-33):</p> <p>Delete reference to operating license review.</p>	<p>Delete reference to operating license review.</p>	
Generation mPower	7/23/2013	44.	III. / Review Procedures, item 10	<p>Item 10, under Operational Programs (page 3.9.6-33):</p> <p>DSRS should specify that reviews of Operational Programs are for COL applications only.</p>	<p>Revise first sentence in Item 10 as follows: "The reviewer verifies that the PST program, IST program, ISI program, and the MOV testing program are fully described in the COL application and that implementation milestones have been identified.</p>	
Generation mPower	7/23/2013	45.	V.	<p>Under Implementation (page 3.9.6-35):</p> <p>The DSRS should clarify that it's use will be for COLs that reference the mPower certified design and not any COL.</p>		

Public Comments on mPower DSRS

Public Comments on mPower DSRS

mPower DSRS Section 3.11, "Environmental Qualification of Mechanical and Electrical Equipment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	1.	I., 8 th paragraph	Under AREAS OF REVIEW, eighth paragraph, the last sentence of the paragraph should read: " ...environmental qualification program..." rather than, "...environmental program..."	The last sentence of the paragraph should be revised as follows: "Therefore, the full description of the environmental qualification program is provided by the combination of the design certification DCD/FSAR and the COL FSAR, together with the NRC SERs on the design certification application and the COL application."	
Generation mPower	8/8/2013	2.	I., Item 3	Under specific areas of review – Item 3: Remove comma after the word "approach" in the first sentence.	The first sentence of Item 3 should be revised as follows: "The staff's...(i.e., approach, and methodology) for..."	
Generation mPower	8/8/2013	3.	I., Item 2.	Under Review Interfaces – Item 2: Reference to "the Reactor Core Isolation Cooling system," a BWR system not part of the B&W mPower™ standard plant design, should be deleted. The reference to the related SRP Section 5.4.6 has already been deleted in this DSRS section. The B&W mPower standard plant design does not have a separate Residual Heat Removal "system." Delete the word "system" after "Residual Heat Removal."	Item 2 should be revised as follows: "Review of the adequacy of the design, installation, inspection and testing of the Reactor Core Isolation Cooling system, the Residual Heat Removal system function, and the Emergency Core Cooling System, and the accident analysis is performed under DSRS Sections 5.4.7, 6.3, and applicable sections of Chapter 15, respectively."	
Generation mPower	8/8/2013	4.	I., Item 7.A.	Under Review Interfaces – Item 7.A: Replace the BWR example with an iPWR example or at least delete the BWR example.	Item 7.A should be revised as follows: "DSRS Section 3.9.5 includes evaluation of potential adverse flow effects on	

Public Comments on mPower DSRS

mPower DSRS Section 3.11, "Environmental Qualification of Mechanical and Electrical Equipment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	5.	I., Item 7.C.	Under Review Interfaces – Item 7.C: Reference to DSRS Section 3.10 should be to "SRP" Section 3.10 since SRP Section 3.10 has been categorized by the NRC as "Use SRP Section 'as is' (minor comments, if necessary)."	mechanical and electrical equipment (such as electromagnetic relief valves in BWR systems) from pressure fluctuations and vibration caused by acoustic resonances and hydrodynamic forces. The second sentence of Item 7.C should be revised as follows: "DSRS SRP Section 3.10 includes seismic and dynamic qualification of mechanical and electrical equipment."	
Generation mPower	8/8/2013	6.	I., Item 10.	Under Review Interfaces – Item 10: Add 10 or 10 CFR" before the respective regulation references and revise DSRS Section 12 to DSRS Chapter 12.	Item 10 should be revised as follows: "Review of the types of radiation...with 10 CFR 50.49(e)(4), and identifying the kinds and quantities of radioactive materials expected to be produced in the operation, consistent with 10 CFR 50.34)(3), 10 CFR 52.47(a)(5), 10 CFR 52.79(a)(3) and 10 CFR 52.157(e), are performed under DSRS Section-Chapter 12."	
Generation mPower	8/8/2013	7.	II., Items 7. & 8.	Under Requirements – Items 7 and 8: Add a blank line between Items 7 and 8.	Add a blank line between Items 7 and 8 on page 3.11-6.	
Generation mPower	8/8/2013	8.	II., Item 9.	Under Requirements – Item 9: This DSRS section added: "10 CFR 52.47, which states that 'the Commission will require, before design certification, that information normally contained in certain procurement specifications and construction and installation specifications be completed and available for audit if the	The NRC needs to resolve the discrepancy between this guidance which communicates clear requirements for the staff to conduct an audit in an area where the regulations only included a conditional requirement. That is, 10 CFR 52.47 states that "the Commission will require, before design certification, that information normally contained in certain	

Public Comments on mPower DSRS

mPower DSRS Section 3.11, "Environmental Qualification of Mechanical and Electrical Equipment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>information is necessary for the Commission to make its safety determination."</p> <p>The DSRS is mixing up requirements for a DC applicant and a COL applicant. The requirement in 52.47 cannot be satisfied by an audit performed for the COL applicant. The requirement also states that an audit will be performed (of the DC applicant) on procurement specifications if this level of detail is needed for the NRC to make its safety determination. There is no requirement for a DC or COL applicant to develop procurement specifications. Is the NRC requiring, through this review guidance, that audits must be performed and that procurement specifications are the necessary level of detail for the staff to make its safety determination in the area of review for Section 3.11 for a DC applicant?</p>	<p>procurement specifications and construction and installation specifications be completed and available for audit if the information is necessary for the Commission to make its safety determination. {emphasis added}</p> <p>The NRC should clarify whether or not the development of procurement specifications has been determined to be the necessary level of detail for the staff to make its safety determination for the DC applicant review.</p> <p>The NRC needs to clearly identify for which applicant (i.e., DC or COL) the conduct of audits is required, if the NRC has determined that procurement specifications are the necessary level of detail to make its safety determination for the Section 3.11 review.</p>	
Generation mPower	8/8/2013	9	II., Item 15.	<p>Under Requirements – Item 15:</p> <p>The Item 15 numeral is not directly followed by any text.</p>	<p>If the intent is to associate the text paragraph following the numeral "15", which was unnumbered in the SRP section, with the numeral, then move the text up to follow the numeral "15."</p>	
Generation mPower	8/8/2013	10	II., Item 1.	<p>Under DSRS Acceptance Criteria – Item 1:</p> <p>Delete unnecessary information regarding the applicability of NUREG-0588 Category 1 qualification criteria for plants with construction permit SERs. The remaining text clearly points out the applicability of Category 1 qualification</p>	<p>Item 1 should be revised as follows:</p> <p>"...NUREG-0588 includes two sets of qualification criteria, Category I and Category II. Category I refers to IEEE Std 323-1974, 'IEEE Standard for Qualifying Class IE Equipment for Nuclear Power</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.11, "Environmental Qualification of Mechanical and Electrical Equipment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	11	II., Item 11.	Under DSRS Acceptance Criteria – Item 11: Divide the first sentence of Item 11 into two sentences for clarity.	Generating Stations.' Category I applies to plants whose construction permit (CP) SERs were dated after July 1, 1974. Category II refers to IEEE Std 323-1971, and is not applicable to any future plants." Item 11 should be revised as follows: "RG 1.211, "Qualification of Safety-Related Cable and Field Splices for Nuclear Power Plants" replaces RG 1.131, "Qualification Tests of Electric Cables and Field Splices for Light-Water-Cooled Nuclear Power Plants." RG 1.211 endorses, with some exceptions..."	
Generation mPower	8/8/2013	12	II., Item 17.	Under DSRS Acceptance Criteria – Item 17: Remove the example of containment spray since the B&W mPower standard plant design does not include containment spray.	The second sentence of Item 17 should be revised as follows: "The concentration of chemicals used for qualification must be equivalent to, or more severe than that resulting from the most limiting mode of plant operation (e.g., containment-spray, emergency core cooling, or recirculation phase)."	
Generation mPower	8/8/2013	13.	II., Item 19., 2 nd paragraph	Under DSRS Acceptance Criteria – Item 19: This DSRS section, in discussion of environmental qualification of mechanical components, makes the following statement: "For mechanical equipment, the staff concentrates its review on materials that are sensitive to environmental effects (e.g., seals, gaskets, lubricants, fluids or hydraulic systems,	Item 19, paragraph 2, should be revised as follows: "... The reviewer confirms that the applicant has (1) identified safety-related mechanical equipment located in harsh or harsh environment areas..."	

Public Comments on mPower DSRS

mPower DSRS Section 3.11, "Environmental Qualification of Mechanical and Electrical Equipment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				and diaphragms). The reviewer confirms that the applicant has (1) identified safety-related mechanical equipment located in harsh or mild environment areas including its required operating time; (2) identified nonmetallic subcomponents of such equipment; (3) identified the environmental conditions and process parameters for which this equipment must be qualified; (4) identified nonmetallic material capabilities; and (5) evaluated environmental effects."		
Generation mPower	8/8/2013	14.	II., Item 25.	Safety-related mechanical equipment located in a mild environment is to be identified; however no specialized analysis is to be provided. Acceptable environmental design is demonstrated by the design and purchase specifications. The maintenance and surveillance program for this type of equipment will be established based on operating experience and vendor recommendation. Under DSRS Acceptance Criteria – Item 25: Add a space after the RG 1.206 subsection reference.	The first sentence of Item 25 should be revised as follows: "Consistent with the guidance contained within RG 1.206 subsection C.1.3.11.5, the applicant..."	
Generation mPower	8/8/2013	15.	II., Item 1., 2 nd paragraph	Under Technical Rationale – Item 1, second paragraph: Reference to "52.47(a)(5)" should be to "10 CFR 52.47(a)(5)." Add comma after "10 CFR	The first sentence of the second paragraph of Item 1 should be revised as follows: "Consistent with 10 CFR 50.49(e)(4), 10	

Public Comments on mPower DSRS

mPower DSRS Section 3.11, "Environmental Qualification of Mechanical and Electrical Equipment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				50.49(e)(7)."	CFR 50.49(e)(6), 10 CFR 50.49(e)(7), 10 CFR 50.34(b)(3), 10 CFR 52.47(a)(5), 10 CFR 52.79(a)(3), and 10 CFR 52.157(e) the applicant..."	
Generation mPower	8/8/2013	16.	II., Item 1., 2 nd paragraph	Under Technical Rationale – Item 1, second paragraph: Add line before "In addition to the design requirements in Appendix A to 10 CFR Part 50,..."	The second paragraph of Item 1 should end and the third paragraph should begin as follows: "... The applicant should list all assumptions used in the calculation. In addition to the design requirements in Appendix A to 10 CFR Part 50,..."	
Generation mPower	8/8/2013	17.	II., Item 1., last paragraph	Under Technical Rationale – Item 1, last paragraph: Delete "and" between 10 CFR 50.49 and 10 CFR 50.34(b)(3).	The last paragraph of Item 1 should be revised as follows: "Meeting the requirements of 10 CFR 50.49, and 10 CFR 50.34(b)(3), 10 CFR 52.47(a)(5), 10 CFR 52.79(a)(3), and 10 CFR 52.157(e) provides..."	
Generation mPower	8/8/2013	18.	III., Item 1.A	Item 1.A under Review Procedures includes a reference to RG 1.182, which was withdrawn in November 2012 per 77 FR 70846 and its contents included in Rev. 3 to RG 1.160. Reference to withdrawn RG 1.182 should be deleted.	Delete reference to RG 1.182 as it has been withdrawn.	
Generation mPower	8/8/2013	19.	III., Item 2.	The following text was added as Item 2 under Review Procedures: "For new reactor license applications submitted under Part 52, the applicant is required (1) by 10 CFR 52.47(a)(21) to address the proposed	Suggest revising Item 2 to read as follows: "For new reactor license applications submitted under Part 52, the applicant is required (1) by 10 CFR 52.47(a)(21) to address the proposed technical resolution	

Public Comments on mPower DSRS

mPower DSRS Section 3.11, "Environmental Qualification of Mechanical and Electrical Equipment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>technical resolution of unresolved safety issues (USIs) and medium- and high-priority generic safety issues (GSIs) that are identified in the version of NUREG-0933 current on the date 6 months before the application and that are technically relevant to the design; (2) by 10 CFR 52.47(a)(22) to demonstrate how the operating experience insights have been incorporated into the plant design; and (3) by 10 CFR 52.47(a)(8) to provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding SER section."</p> <p>As required by 10CFR 52.47(a)(22), the information necessary to demonstrate how operating experience insights have been incorporated into the plant design is a generic programmatic issue for a design certification applicant and will be addressed in Chapter 1 of the B&W mPower DCD consistent with the guidance in NUREG-0800, Chapter 1. Based on the generic applicability of incorporating operating experience into a standard plant design, this specific requirement need not be identified separately in each individual DSRS section as this information is already covered in SRP Chapter 1.</p>	<p>of unresolved safety issues (USIs) and medium- and high-priority generic safety issues (GSIs) that are identified in the version of NUREG-0933 current on the date 6 months before the application and that are technically relevant to the design; (2) by 10 CFR 52.47(a)(22) to demonstrate how the operating experience insights have been incorporated into the plant design; and (3)(2) by 10 CFR 52.47(a)(8) to provide information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), except paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v). These cross-cutting review areas should be addressed by the reviewer for each technical subsection and relevant conclusions documented in the corresponding SER section."</p>	

Public Comments on mPower DSRS

mPower DSRS Section 3.11, "Environmental Qualification of Mechanical and Electrical Equipment"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	20.	VI., Reference 9	Under REFERENCES – Reference 9: Delete "and" between Regulatory Guide 1.89 and NUREG 0588 and add a dash between "NUREG" and "0588."	Reference 9 should be revised as follows: "IEEE Std. 323-1974 and 2003, "IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations," Institute of Electrical and Electronics Engineers (endorsed by Regulatory Guide 1.89, and NUREG-0588, and Regulatory Guide 1.209)."	
Generation mPower	8/8/2013	21.	VI., References 11 and 12	Under REFERENCES – References 11 and 12: Delete one of the two lines between References 11 and 12.	Delete one of the two lines between References 11 and 12 on page 3.11-20.	
Generation mPower	8/8/2013	22.	VI., References 30, 32, and 34	Under REFERENCES – References 30, 32, and 34: Correct the indents for References 30, 32, and 34.	Correct the indents for References 30, 32, and 34 on pages 3.11-21 and 22.	

Public Comments on mPower DSRs

mPower DSRs Section 3.13, "Threaded Fasteners - ASME Code Class 1, 2, and 3"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/15/2013	1.	I/2	Item 2 (page 3.13-2): The DSRs should clarify that this review is for a COL applicant. The PSI and ISI programs have been identified as operational programs in SECY-05-0197 that are the responsibility of the COL applicant. There are no requirements for a DC applicant to describe operational programs.	Add the following text to Item 2: "The staff should review the description of the PSI and ISI programs provided by the COL applicant in accordance with guidance contained in RG 1.206 and SECY-05-197. In addition, the staff should review the design described in a DC application to ensure that threaded fasteners for ASME Code Class 1, 2, and 3 systems assemblies are appropriately identified for inclusion in the COLs PSI and ISI program."	
Generation mPower	8/15/2013	2.	I/3	Item 2 under Review Interfaces (Pg. 3.13-3). SRP 3.8 is referenced, but does not exist.	Clarify which SRPs are applicable to the B&W mPower™ design, such as DSRs Sections 3.8.2, 3.8.3, 3.8.4, and 3.8.5 and not SRP 3.8.1.	
Generation mPower	8/15/2013	3.	II/2	Note 1 to Table 3.13-1 under DSRs Acceptance Criteria (page 3.13-6) contains a reference to 2001 code year for ASME Section III. Later versions of Section III have been endorsed by the NRC in 10 CFR 50.55a and a specific code year should be removed from DSRs 3.13.	Note 1 to Table 3.13-1 should be revised to remove the 2001 code year listed for Section III.	
Generation mPower	8/15/2013	4.	II/2	Second line in the Table 3.13-2 heading under DSRs Acceptance Criteria (page 3.13-6)states: "ASME Code Class 1, 2, and 3 Systems that Are Secured by Threaded Fasteners" Should correct "Fastners" to "Fasteners."	Change text to read: "ASME Code Class 1, 2, and 3 Systems that Are Secured by Threaded Fasteners"	
Generation mPower	8/15/2013	5.	II/2	Note 1 to Table 3.13-2 under DSRs Acceptance Criteria (page 3.13-6) contains a reference to 2001	Note 1 to Table 3.13-2 should be revised to remove the 2001 code year listed for	

Public Comments on mPower DSRs

mPower DSRs Section 3.13, “Threaded Fasteners - ASME Code Class 1, 2, and 3”

Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/15/2013	6.	III/1	<p>code year for ASME Section XI. Later versions of Section XI have been endorsed by the NRC in 10 CFR 50.55a and a specific code year should be removed from DSRs 3.13.</p> <p>Item 3 under Preservice and Inservice Inspection Requirements (page 3.13-10) states:</p> <p>“The reviewer should ensure that the applicant commits to complying with...ASME Code Class 1, 2, and 3 systems.”</p> <p>See comment # 1 above.</p>	<p>Section XI.</p> <p>Clarify Item 3 as follows:</p> <p>“The reviewer should ensure that the DC applicant and the COL applicant commits to complying with...ASME Code Class 1, 2, and 3 systems consistent with the scope of their applications. A description of the PSI and ISI programs and their implementation should be provided by the COL applicant. The DC applicant should identify the systems and components specific to its design that should be included in the PSI and ISI program.”</p>	
Generation mPower	8/15/2013	7.	III/1	<p>Review Procedures Item #4 (page 3.13-11) states:</p> <p>“For review of a COL application, the scope of the review is dependent on whether the COL applicant references a DC, an early site permit or other NRC approvals (e.g., manufacturing license, site suitability report or topical report).</p> <p>The DSRs is applicable to DCs and COLs that reference the B&W mPower DC only. The first paragraph on pg. 3.13-11 should be clarified.</p> <p>This is a generic comment.</p>	<p>NRC should consider revising the 2nd paragraph under Item 4 as follows:</p> <p>“In general, for review of a COL application, the scope of the review is dependent on whether the COL applicant references a DC, an early site permit or other NRC approvals (e.g., manufacturing license, site suitability report or topical report). However, the scope of this DSRs section only addresses the B&W mPower DC application and COL applications that reference the B&W mPower certified design.”</p>	
Generation	8/15/2013	8.	IV/1	<p>Item 6 under Evaluation Findings (page 3.13-11):</p>	<p>Revise Item 6 as follows: “The staff</p>	

Public Comments on mPower DSRs

mPower DSRs Section 3.13, "Threaded Fasteners - ASME Code Class 1, 2, and 3"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
mPower				DSRS should clarify that PSI and ISI program description is specific to a COL applicant.	concludes that the COL applicant's preservice and inservice inspection program for threaded fasteners is acceptable..."	
Generation mPower	8/15/2013	9.	VI	Reference 1 under References (page 3.13-12): 2001 code year is not the latest version endorsed for ASME Sections III and XI. Later versions have been endorsed by the NRC in 10 CFR 50.55a and a specific code year should be removed from the DSRs section for consistency with references in other SRP and DSRs sections.	Delete 2001 code year for ASME Sections II, III and XI.	
NEI	8/15/2013	10.	VI. References, Reference 2, p. 3.13-12	Reference 2 is listed as RG 1.37 (March 1973); the current version of RG 1.37 is Revision 1 dated March 2007.	Revise the reference to RG 1.37 to delete the revision number.	
NuScale	8/15/2013	11.	VI. References Reference 2 p. 3.13-12	Both SRP and mPower DSRs include RG 1.37 (dated March 1973) as Reference 2. This reference should be updated to the current Revision 1 of RG 1.37 dated March 2007.	Revise to reflect current revision of RG 1.37.	
Generation mPower	8/15/2013	12.	VI	Reference 2 under References (page 3.13-12): RG 1.37 issue date of March 1973 is not the current revision of this RG and should be deleted from this reference for consistency with RG references identified in other DSRs and SRP Sections.	Delete issue date for RG 1.37.	
NEI	8/15/2013	13.	VI. References, Reference 3, p. 3.13-12	Reference 3 is listed as RG 1.65 (October 1973); the current version of RG 1.65 is Revision 1 dated April 2010. Further, Position C.1 of RG 1.65 is discussed on page 3.13-8 of mPower DSRs section 3.13 and page 3.13-9 of SRP	Revise the reference to RG 1.65 to delete the revision number. Also, consider conforming changes, if/as appropriate, to page 3.13-8 of mPower DSRs section 3.13 and page 3.13-9 of SRP section 3.13	

Public Comments on mPower DSRS

mPower DSRS Section 3.13, “Threaded Fasteners - ASME Code Class 1, 2, and 3”						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
NuScale	8/15/2013	14.	VI. References Reference 3 p. 3.13-12	<p>section 3.13. That discussion may warrant revision to conform to the content of RG 1.65 Revision 1.</p> <p>Both SRP and mPower DSRS include RG 1.65 (dated October 1973) as Reference 3. This reference should be updated to the current Revision 1 of RG 1.65 dated April 2010. It is noted that Position C.1 of RG 1.65 is discussed on page 3.13-8 of mPower DSRS Section 3.13 and page 3.13-9 of SRP Section 3.13. This discussion may warrant revision to conform to the content of RG 1.65, Revision 1.</p>	<p>(which currently refer to Position C.1 of RG 1.65 from the previous version dated October 1973).</p> <p>Revise to reflect current revision of RG 1.65 and revise the contents of page 3.13-8 according to the updated version.</p>	
Generation mPower	8/15/2013	15.	VI	<p>Reference 3 under References (page 3.13-12):</p> <p>RG 1.65 issue date of October 1973 is not the current revision of this RG and should be deleted from this reference for consistency with RG references identified in other DSRS and SRP Sections.</p>	Delete issue date for RG 1.65.	

Public Comments on mPower DSRS

mPower DSRS Section 4.2, "Fuel System Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	1.		The B&W mPower™ trademark is used improperly throughout 13 instances of "mPower" without "B&W" 11 places where the trademark is used as a noun (it is always supposed to be used as an adjective)	Remove the "TM" mark with the exception of first time use of "B&W mPower™".	
Generation mPower	8/8/2013	2.	I	In Section I, Page 1, third paragraph, the second sentence calls out "and the critical power ratio (CPR)". However, in many other places throughout the DSRS reference to BWRs has been removed.	Delete "and the critical power ratio (CPR)" for consistency.	
Generation mPower	8/8/2013	3.	I.5	The discussion specifically calls out ITAAC. However, in DSRS Section 14.3, fuel is specifically excluded from ITAAC. It is unclear why this discussion is included if ITAAC is excluded for the fuel.	Delete this discussion.	
Generation mPower	8/8/2013	4.	I.RI	In the first paragraph of Section I, Review Interfaces, it calls out "or CPR limits". However, in many other places throughout the DSRS reference to BWRs has been removed.	Delete "or CPR limits" for consistency.	
NEI	8/15/2013	5.	II. Acceptance Criteria, Requirements, Item 2, 4.2-4	The basis is not clear for the added language: "For sites with multiple mPower modules, appropriate consideration for fission product releases from multiple reactors shall be included in the site suitability source term based on NRC staff guidance." Releases from multiple reactors should be considered when accidents in one reactor could realistically lead to accidents in co-located units – consistent with 10 CFR 100.	Clarify requirement to consider releases from multiple reactors.	
NuScale	8/15/2013	6.	II. Acceptance Criteria Requirements Item 2 p.4.2-4	What is the basis for adding that "For sites with multiple mPower modules, appropriate consideration for fission product releases from multiple reactors shall be included in the site	Revise the requirement to be consistent with 10 CFR 100.	

Public Comments on mPower DSRS

mPower DSRS Section 4.2, "Fuel System Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>suitability source term based on NRC staff guidance."?</p> <p>NuScale recommends that the DSRS should state that multiple reactors should be considered when accidents in one reactor could realistically lead to accidents in co-located units – consistent with 10 CFR 100.</p>		
Generation mPower	8/8/2013	7.	II.AC.Reqmnt.6	<p>The discussion in item 6 of the Acceptance Criteria Requirements calls out ITAAC. However, as noted above, ITAAC does not apply to the fuel. It is unclear why this discussion is included if ITAAC is excluded for the fuel.</p>	Delete this discussion.	
Generation mPower	8/8/2013	8.	II.AC.Reqmnt.7	<p>The discussion in item 7 of the Acceptance Criteria calls out ITAAC. However, as noted above, ITAAC does not apply to the fuel. It is unclear why this discussion is included if ITAAC is excluded for the fuel.</p>	Delete this discussion.	
Generation mPower	8/8/2013	9.	II.DAC.1.A.iv	<p>Under the section on DSRS Acceptance Criteria, Design Basis, Fuel System Damage, Item iv: The last sentence in item iv calls out "The effect of crud on thermal-hydraulic considerations and neutronic (AOA) considerations are reviewed as described in DSRS Sections 4.3 and 4.4." However, B&W mPower SMR does not use soluble boron, which means that from a neutronics standpoint, the plant cannot experience AOA/CIPS (Axial Offset Anomaly / Crud Induced Power Shifts).</p>	<p>Revise the following as shown:</p> <p>"The effect of crud on thermal-hydraulic considerations and neutronic (AOA) considerations are reviewed as described in DSRS Sections 4.3 and 4.4."</p>	
Generation mPower	8/8/2013	10.	II.DAC.1.A.v	<p>Under the section on DSRS Acceptance Criteria, Design Basis, Fuel System Damage, Item v: The second paragraph, item (2) calls out</p>	<p>Revise the following as shown:</p> <p>"Control rod and guide tube bow as a</p>	

Public Comments on mPower DSRS

mPower DSRS Section 4.2, "Fuel System Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				"shadow corrosion (hydrogen uptake results in swelling)". Shadow corrosion is a BWR phenomenon that does not occur in PWRs with Zircaloy-4 cladding. Since BWR discussions have been removed, it would make sense to remove this discussion.	result of (1) differential irradiation growth (from fluence gradients), and (2) shadow corrosion (hydrogen uptake results in swelling), and (3) -stress relaxation, which can impact control rod insertability from interference problems between these components."	
Generation mPower	8/8/2013	11.	II.DAC.1.B.i	Under the section on DSRS Acceptance Criteria, Design Basis, Fuel Rod Failure, Item i: The paragraph cites ASTM C776-89 with a 2 ppm limit on hydrogen from all sources. However, ASTM C776-06 (Reapproved in 2011) cites in Section 4.1.4 and Table 1 a limit of 1.3 ppm hydrogen from all sources.	Request clarification	
Generation mPower	8/8/2013	12.	II.DAC.1.B.iii	Under the section on DSRS Acceptance Criteria, Design Basis, Fuel Rod Failure, Item iii: "Traditional practice assumes that failures will not occur if the thermal margin criteria (DNBR for PWRs and CPR for boiling-water reactors (BWRs)) are satisfied." However, in many other places throughout the DSRS reference to BWRs has been removed.	Delete "and CPR for boiling-water reactors (BWRs)" for consistency.	
Generation mPower	8/8/2013	13.	II.DAC.1.B.v	Under the section on DSRS Acceptance Criteria, Design Basis, Fuel Rod Failure, Item v: "Exceeding the DNBR for a PWR or the CPR for a BWR may result in cladding failure during an RIA." However, in many other places throughout the DSRS reference to BWRs has been removed.	Delete "or the CPR for a BWR" for consistency.	
Generation mPower	8/8/2013	14.	II.DAC.1.B.iv & vi	Under the section on DSRS Acceptance Criteria, Design Basis, Fuel Rod Failure, Item iv & vi: The discussion highlight the potential for fuel	Revise the discussion to acknowledge that centerline melt does not lead to fuel failure, but from a radiological standpoint,	

Public Comments on mPower DSRS

mPower DSRS Section 4.2, "Fuel System Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	15.	II.DAC.1.C.ii	<p>failure due to centerline melting. However, as noted in Nuclear Safety Volume 19, No. 4, July-August 1978, "Response of Unirradiated and Irradiated PWR Fuel Rods Tested Under Power-Cooling-Mismatch Conditions", centerline melting does not necessarily lead to fuel failure. Yes, it is conservative to assume that fuel failure occurs for radiological calculations, but the discussion is misleading.</p> <p>Under the section on DSRS Acceptance Criteria, Design Basis, Fuel Coolability, Item ii: "In severe RIAs, such as rod ejection in a PWR or rod drop in a BWR, the large and rapid deposition of energy in the fuel can result in melting, fragmentation, and dispersal of fuel.". First, in many other places throughout the DSRS, reference to BWRs has been removed. Second, the discussion is associated with severe RIA (i.e., Rod Ejection); however, the B&W mPower design precludes a control rod ejection from the core due to no external CRDMs, and the accident section of the DSRS (DSRS Section 15.4.8 and 15.4.9) has listed this accident as N/A for B&W mPower, why is this still included in DSRS 4.2?</p>	<p>it is conservative to assume this. Recommend citing this reference.</p> <p>Delete II.DAC.1.C.ii.</p>	
Generation mPower	8/8/2013	16.	II.DAC.3.B	<p>Under the section on DSRS Acceptance Criteria, Design Evaluation, Prototype Testing: In the second list of phenomena to be tested, "Fuel rod, spacer grid, and channel box oxidation and hydride levels", and "Channel box wear and distortion" includes discussions of BWR. However, in many other places throughout the</p>	<p>Delete "and channel box" in the one bulleted item and "Channel box wear and distortion" in the second bulleted item for consistency.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 4.2, "Fuel System Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	17.	II.DAC.3.C.i	<p>DSRS reference to BWRs has been removed.</p> <p>Under the section on DSRS Acceptance Criteria, Design Evaluation, Analytical Predictions, Item i, last paragraph: "NUREG/CR-6534 (PNNL-11513) Volume. 2, December 1997, FRAPCON-3 NUREG/CR-6534 (PNNL-11513) Volume. 4, May 2005, Babcock & Wilcox Report BAW-10087A, Revision 1, August 1977, CENPD-139-A, July 1974, Supplement 1 to Technical Report on General Electric Reactor Fuels, December 14, 1973, Technical Report on Exxon Nuclear PWR Fuels, February 27, 1975, and the Letter on Westinghouse Safety Evaluation of WCAP-8720, February 9, 1979, provide examples of previous fuel performance code reviews."</p>	<p>Reference the latest version of FRAPCON and delete reference to other codes/methodologies that are not associated with B&W mPower.</p> <p>FRAPCON3.4, NUREG/CR-7022 (PNNL-19418) Volume 1 & 2, Published March 2011.</p> <p>"Babcock & Wilcox Report BAW-10087A, Revision 1, August 1977, CENPD-139-A, July 1974, Supplement 1 to Technical Report on General Electric Reactor Fuels, December 14, 1973, Technical Report on Exxon Nuclear PWR Fuels, February 27, 1975, and the Letter on Westinghouse Safety Evaluation of WCAP-8720, February 9, 1979"</p>	
Generation mPower	8/8/2013	18.	II.DAC.3.C.ii	<p>Under the section on DSRS Acceptance Criteria, Design Evaluation, Analytical Predictions, Item ii: References are included that are not applicable to the B&W mPower reactor design. Specifically, WCAP-8377 and CEPAN are not applicable.</p>	<p>Delete references that are not applicable with B&W mPower reactor design.</p>	
Generation mPower	8/8/2013	19.	II.DAC.3.C.iii	<p>Under the section on DSRS Acceptance Criteria, Design Evaluation, Analytical Predictions, Item iii: References appear to be included in the DSRS that are not readily available online in ADAMS or elsewhere on the NRC website or available through the PDR (i.e., only an abstract</p>	<p>Delete these references.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 4.2, "Fuel System Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	20.	II.DAC.3.C.iv	Under the section on DSRS Acceptance Criteria, Design Evaluation, Analytical Predictions, Item iv: In two locations it specifies "approved analytical models/methods"; however, in the last instance it states "approved analytical models and methods"	Change the last instance to state "approved analytical models/methods" to be consistent.	
Generation mPower	8/8/2013	21.	II.DAC.3.C.viii	Under the section on DSRS Acceptance Criteria, Design Evaluation, Analytical Predictions, Item viii: Based on all the recent testing it has been shown that Cathcart-Pawel is more appropriate to use than Baker-Just. Why is Baker-Just still called out or does Rule-making have to be finalized to correct this position.	Request clarification.	
Generation mPower	8/8/2013	22.	II.TR.2	Under the section on DSRS Technical Rationale, Item 2: Why is Reg Guide 1.77 called out since the design precludes a control ejection from the core due to no external CRDMs, and the accident section of the DSRS (15.4.8 and 15.4.9) has listed this accident as N/A for B&W mPower.	Delete reference to Reg Guide 1.77.	
Generation mPower	8/8/2013	23.	III.RP Item 1	In Section III, Review Procedures, Item 1: why has all this discussion been added to DSRS 4.2? These requirements deal with ITAAC or plant maintenance associated with ITAAC. By definition, DSRS Section 14.3, fuel is specifically excluded from ITAAC.	Delete this discussion.	

Public Comments on mPower DSRS

mPower DSRS Section 4.2, "Fuel System Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	24.	III.RP Item 2	In Section III, Review Procedures, Item 2: why has all this discussion been added to DSRS 4.2? These requirements deal with USIs or GSIs as identified in NUREG-0933 and are related to TMI requirements. These items are plant and system requirements and are not involved in the fuel.	Provide clarification as to why this discussion is applicable to the fuel or delete these items for the B&W mPower DSRS 4.2.	
Generation mPower	8/8/2013	25.	III.4	Under the section on Review Procedures, Item 4: It specifically relates to ITAAC. However, per DSRS 14.3 IV.2.C "Implementation of ITAAC", ITAAC must be completed satisfactory prior to the NRC granting permission for fuel load. By definition, fuel is excluded from ITAAC.	Delete this discussion.	
Generation mPower	8/8/2013	26.	III	Under the section on Review Procedures: The first paragraph after the list, references a document that is not available online in ADAMS or elsewhere on the NRC website or available through the PDR. Specifically: WASH-1236 is not available. This reference should not be included as a reference or the reference should be made available online.	Delete reference that is not available online or make it accessible.	
Generation mPower	8/8/2013	27.	III	Under the section on Review Procedures: The first paragraph after the list, references Reg Guide 1.77. Why is Reg Guide 1.77 called out since the design precludes a control ejection from the core due to no external CRDMs, and the accident section of the DSRS (15.4.8 and 15.4.9) has listed this accident as N/A for B&W mPower.	Delete reference to Reg Guide 1.77.	
Generation mPower	8/8/2013	28.	IV.1	Under the section on Evaluation Findings, Item 1: Why is Reg Guide 1.77 called out since the design precludes a control ejection from the core due to no external CRDMs, and the accident	Delete reference to Reg Guide 1.77.	

Public Comments on mPower DSRS

mPower DSRS Section 4.2, "Fuel System Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	29.	VI.15	<p>section of the DSRS (15.4.8 and 15.4.9) has listed this accident as N/A for B&W mPower.</p> <p>Under the Reference section, Reference 15: Why is Reg Guide 1.77 called out since the design precludes a control ejection from the core due to no external CRDMs, and the accident section of the DSRS (15.4.8 and 15.4.9) has listed this accident as N/A for B&W mPower.</p>	Delete reference to Reg Guide 1.77.	
Generation mPower	8/8/2013	30.	VI.19-32	<p>Under the Reference section, Reference 19 is not available online in ADAMS or elsewhere on the NRC website or available through the PDR. Specifically: WASH-1236 is not available. These references should not be included as references or the references should be made available online.</p>	Delete reference that is not available online or make it accessible.	
Generation mPower	8/8/2013	31.	VI.39-40	<p>Under the Reference section, References 39 and 40 should be updated to reference the latest version of FRAPCON.</p>	<p>Reference the latest version of FRAPCON:</p> <p>FRAPCON3.4, NUREG/CR-7022 (PNNL-19418) Volume 1 & 2, Published March 2011.</p>	
Generation mPower	8/8/2013	32.	VI.42-47	<p>Under the Reference section, References 42 through 47 are other vendor specific and proprietary topical reports that 1) are not available to B&W and 2) would not necessarily be applicable to the B&W mPower design.</p>	Delete these references.	
Generation mPower	8/8/2013	33.	VI.48-49	<p>Under the Reference section, Reference 48 and 49 are not available online in ADAMS or elsewhere on the NRC website or available through the PDR (i.e., only an abstract exists). These references should not be included as references or the references should be made</p>	Delete references that are not available online or make them accessible.	

Public Comments on mPower DSRS

mPower DSRS Section 4.2, "Fuel System Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	34.	VI.51	available online. Typographic error in Subject: "NSRR/RIA Experiments with High Burnup PWR Duels". Should be "Fuels" not "Duels"	Correct typographic error.	
Generation mPower	8/8/2013	35.	App A, II.4	In Appendix A, Section II.4 (Audit) specifies using NUREG/CR-1019, while this NUREG is not available on the NRC website but is available through the PDR; brief information is available on Oak Ridge RSICC website (https://rsicc.ornl.gov/codes/psr/psr1/psr-167.html). The vintage of this code package is 1979. How can this code be compared to a State-of-the-Art, Non-linear Finite Element Model. Wouldn't the conservative nature of this code, force an applicant to assume extremely conservative assumptions that are not realistic?	Request clarification.	
Generation mPower	8/8/2013	36.	App A, III.1	In Appendix A, Section III.1, 2nd paragraph: Typographical error. Delete the word "in" in the following sentence: "In a LOCA, gross deformation of the hot channel it would result in only small increases in peak cladding temperature."	Correct typographic error as shown in comment.	
Generation mPower	8/8/2013	37.	App A, IV.1	In Appendix A, Section IV.1, 2nd paragraph: Control rod insertability is a third criterion that must be satisfied. Further, per Appendix K (I.A.2), "Rod trip and insertion may be assumed if they are calculated to occur." However, in many Appendix K analyses done by other vendors, the NRC has not permitted the vendors to take credit for control rod insertion. Since control rod insertion is required to be demonstrated, please provide clarification as to	Provide clarification.	

Public Comments on mPower DSRS

mPower DSRS Section 4.2, "Fuel System Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	38.	App B, A.	<p>why this cannot be credited in the LOCA analysis, especially since Appendix K does permit crediting this behavior.</p> <p>In Appendix B, the background section (Section A) refers the reader to DSRS Section 15.4.8 and 15.4.9 for details on bounding RIA for B&W mPower. In reviewing the DSRS sections for B&W mPower on the NRC website, 15.4.8, 15.4.8.A, and 15.4.9 are all marked "B) Delete SRP Section for DSRS (N/A)". Since the design precludes a control ejection from the core due to no external CRDMs, and the accident section of the DSRS has listed this accident as N/A for B&W mPower, why is this Appendix still included in DSRS 4.2?</p>	Delete Appendix B of DSRS 4.2 for the B&W mPower reactor design.	

Public Comments on mPower DSRS

mPower DSRS Section 4.3, "Nuclear Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	1.		The B&W mPower™ trademark is used improperly throughout. 7 instances of "mPower" without "B&W" 5 places where the trademark is used as a noun (it is always supposed to be used as an adjective)	Remove the "TM" mark with the exception of first time use of "B&W mPower™".	
Generation mPower	8/8/2013	2.	I.10	In Section I.10, the discussion specifically calls out ITAAC. However, in DSRS Section 14.3, fuel is specifically excluded from ITAAC. It is unclear why this discussion is included if ITAAC is excluded for the fuel?	Delete this discussion.	
Generation mPower	8/8/2013	3.	I.RI. Item 2	In Section I, Review Interfaces, Item 2, pg 4.3-5: There is discussion regarding the effects of crud on the neutronics. While the potential for crud to develop and exist in the B&W mPower reactor is valid, the implication is that it will have significant effects on the neutronics are invalid. The B&W mPower reactor does not use boron for normal operations. It is the boron that is precipitated in the crud that causes AOA or CIPS, which impacts the neutronics.	Clarify the discussion to avoid confusion.	
Generation mPower	8/8/2013	4.	I.RI. Item 3	In Section I, Review Interfaces, Item 3, pg 4.3-5: There is inference that boron injection is part of normal operations for B&W mPower. This is not correct. Boron injection for B&W mPower is only for emergency shutdown conditions.	Revise the wording to remove the inference. Change "reactor vessel" to "reactor coolant system", it is the total volume in the RCS that is important.	
Generation mPower	8/8/2013	5.	I.RI. Item 5	In Section I, Review Interfaces, Item 5, pg 4.3-6: The discussion focuses on reactivity accident and refers to DSRS Sections 15.4.8 and 15.4.9. In reviewing the DSRS sections for B&W mPower on the NRC website, 15.4.8, 15.4.8.A,	Delete Item 5 for the B&W mPower reactor design.	

Public Comments on mPower DSRS

mPower DSRS Section 4.3, "Nuclear Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				and 15.4.9 are all marked "B) Delete SRP Section for DSRS (N/A)". Since the design precludes a control ejection from the core due to no external CRDMs, and the accident section of the DSRS has listed this accident as N/A for B&W mPower, why is this still included in DSRS 4.3?		
Generation mPower	8/8/2013	6.	I.RI. Item 4	In Section I, Review Interfaces, the second list, Item 4, pg 4.3-6: Not sure why the discussion about PRA is included in this section, since the nuclear analyses do not calculate the PRA risk.	Delete this discussion or providing clarification as to why this discussion is included. If this is left in the DSRS, it should be explicitly noted that no PRA risk is determined in the nuclear analyses.	
Generation mPower	8/8/2013	7.	II.AC. Reqmt 10	In Section II, Acceptance Criteria, Item 10, the discussion specifically calls out ITAAC. However, in DSRS Section 14.3, fuel is specifically excluded from ITAAC. It is unclear why this discussion is included if ITAAC is excluded for the fuel?	Delete this discussion.	
Generation mPower	8/8/2013	8.	III.RP Item 1	In Section III, Review Procedures, Item 1: why has all this discussion been added to DSRS 4.3? These requirements deal with ITAAC or plant maintenance associated with ITAAC. By definition, DSRS Section 14.3, fuel is specifically excluded from ITAAC.	Delete this discussion.	
Generation mPower	8/8/2013	9	III.RP Item 2	In Section III, Review Procedures, Item 2: why has all this discussion been added to DSRS 4.3? These requirements deal with USIs or GSIs as identified in NUREG-0933 and are related to TMI requirements. These items are plant and system requirements and are not involved in the fuel.	Provide clarification as to why this discussion is applicable to the fuel or delete these items for the B&W mPower DSRS 4.3.	
Generation mPower	8/8/2013	10	III.RP Item 4	In Section III, Review Procedures, Item 4, second paragraph: why does the discussion	Delete this discussion.	

Public Comments on mPower DSRS

mPower DSRS Section 4.3, "Nuclear Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	11	III.RP Item 4	In Section III, Review Procedures, Item 4, second paragraph: In the first sentence it denotes the prompt neutron lifetime as "(I*)"; whereas, this should be denoted as "(ℓ^*)" or "(τ)".		
Generation mPower	8/8/2013	12	III.RP Item 5.F	In Section III, Review Procedures, Item 5.F: why does the discussion focus on DSRS Sections 15.4.8 and 15.4.9, since these sections focus on Control Rod Ejection, which is not a creditable accident with the B&W mPower design? In fact, in reviewing the DSRS sections for B&W mPower on the NRC website, 15.4.8, 15.4.8.A, and 15.4.9 are all marked "B) Delete SRP Section for DSRS (N/A)". Since the design precludes a control ejection from the core due to no external CRDMs, and the accident section of the DSRS has listed this accident as N/A for B&W mPower, why is this still included in DSRS 4.3?	Delete this discussion.	
Generation mPower	8/8/2013	13.	III.RP Item 12	In Section III, Review Procedures, Item 12: the discussion specifically calls out ITAAC.	Delete this discussion.	

Public Comments on mPower DSRS

mPower DSRS Section 4.3, "Nuclear Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	14.	IV	<p>However, in DSRS Section 14.3, fuel is specifically excluded from ITAAC. It is unclear why this discussion is included if ITAAC is excluded for the fuel.</p> <p>In Section IV, Fourth Paragraph, Second Sentence: "The applicant has provided substantial information relating to core reactivity requirements for the first cycle and has shown means that have been incorporated into the design to control excess reactivity at all times."</p>	Insert the word "that" as noted in the comment.	
Generation mPower	8/8/2013	15.	IV. Item 6	<p>In Section IV, Item 6: why does the discussion focus on DSRS Sections 15.4.8 and 15.4.9, since these sections focus on Control Rod Ejection, which is not a creditable accident with the B&W mPower design? In fact, in reviewing the DSRS sections for B&W mPower on the NRC website, 15.4.8, 15.4.8.A, and 15.4.9 are all marked "B) Delete SRP Section for DSRS (N/A)". Since the design precludes a control rod ejection from the core due to no external CRDMs, and the accident section of the DSRS has listed this accident as N/A for B&W mPower, why is this still included in DSRS 4.3?</p>	Delete this discussion.	
Generation mPower	8/8/2013	16.	IV. Item 6.A	<p>In Section IV, Item 6.A: Why does this section call out Reg Guide 1.77? The Regulatory Position in Reg Guide 1.77 is not considered valid by the NRC Staff which is the reason that Appendix B was added to SRP/DSRS 4.2. With respect to the guidance in SRP/DSRS 4.2 Appendix B, since the B&W mPower design precludes a control ejection from the core due to no external CRDMs, why is this still included in</p>	Delete this discussion.	

Public Comments on mPower DSRs

mPower DSRs Section 4.3, "Nuclear Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/8/2013	17.	IV. Item 9	DSRS 4.3? In Section IV, Item 9: the discussion specifically calls out ITAAC. However, in DSRs Section 14.3, fuel is specifically excluded from ITAAC. It is unclear why this discussion is included if ITAAC is excluded for the fuel.	Delete this discussion.	
Generation mPower	8/8/2013	18.	VI	In Section VI References, Reference 21: this reference calls out ITAAC. However, in DSRs Section 14.3, fuel is specifically excluded from ITAAC. It is unclear why this discussion is included if ITAAC is excluded for the fuel.	Delete this discussion.	

Public Comments on mPower DSRS

mPower DSRS Section 4.4, "Thermal and Hydraulic Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/13	1.		The B&W mPower trademark is used improperly throughout. <ul style="list-style-type: none"> • 10 instances of "mPower" without "B&W" • Two places (III.18, and V) where the trademark is used as a noun (it is always supposed to be used as an adjective) 	Recommend removing the "TM" mark.	
NuScale	8/15/2013	2.	Throughout section	The NRC review should focus on establishing an extrapolation of existing designs. There may be portions of the fuel design that are extrapolated, but this is a basis in previous designs that should not be a prerequisite for finding the design acceptable.	Clarify issues regarding extrapolation of existing designs.	
Generation mPower	7/23/13	3.	I.AOR, Item 8	Section I, Area of Review, Item 8: The discussion specifically calls out ITAAC. However, in DSRS Section 14.3, fuel is specifically excluded from ITAAC. It is unclear why this discussion is included if ITAAC is excluded for the fuel.	Request clarification / recommend deleting this discussion.	
Generation mPower	7/23/13	4.	I.RI.5 & 6	Section I under "Review Interfaces", items 5 and 6 specify DSRS Section 7.2 and DSRS Section 7.5 (i.e., the wording was changed from "SRP" to "DSRS" and the numbering was maintained; however, DSRS for Chapter 7 has been completely re-written.	Request clarification as to which section in DSRS corresponds to the old SRP 7.2 and 7.5 and update the numbering herein.	
Generation mPower	7/23/13	5.		In the second paragraph, third sentence of sub-section 1 of the DSRS Acceptance Criteria (page 4.4-4), there is an open parenthesis missing.	Correct editorial discrepancy.	
Generation mPower	7/23/13	6.	II.AC.1	The last paragraph of sub-section 1 of the DSRS Acceptance Criteria (page 4.4-5) is a true statement, but what is its relevance? There is no	Recommend removing the statement unless an action or conclusion will be drawn.	

Public Comments on mPower DSRS

mPower DSRS Section 4.4, "Thermal and Hydraulic Design"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	7/23/13	7.	II.AC.7	conclusion or required action that follows from this statement. It is copied, essentially intact from the SRP, so it has been there for a while. In sub-section 7 of the DSRS Acceptance Criteria (page 4.4-5), "RG)1.133" should be "RG 1.133"	Correct editorial discrepancy.	
Generation mPower	7/23/13	8.	III.RP, Item 1	In Section III, Review Procedures, Item 1: why has all this discussion been added to DSRS 4.4? These requirements deal with ITAAC or plant maintenance associated with ITAAC. By definition, DSRS Section 14.3, fuel is specifically excluded from ITAAC.	Provide clarification as to why this discussion is applicable to the fuel or delete these items for the mPower DSRS 4.4.	
Generation mPower	7/23/13	9.	III.RP, Item 2	In Section III, Review Procedures, Item 2: why has all this discussion been added to DSRS 4.2? These requirements deal with USIs or GSIs as identified in NUREG-0933 and are related to TMI requirements. These items are plant and system requirements and are not involved in the fuel.	Provide clarification as to why this discussion is applicable to the fuel or delete these items for the mPower DSRS 4.4.	

Public Comments on mPower DSRS

mPower DSRS Section 4.5.1, "Control Rod Drive Structural Materials"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	Throughout	<p>The B&W mPower™ trademark is used improperly throughout.</p> <ul style="list-style-type: none"> • 5 instances of "mPower" without "B&W" • one place (V) where the trademark is used as a noun (it is always supposed to be used as an adjective) 	Remove the "TM" mark with the exception of first time use of "B&W mPower™".	
Generation mPower	8/14/2013	2.	I.AOR	<p>In Section I, Area of Review: It appears that in modifying the SRP for this DSRS, that certain text was removed from the opening paragraph that should probably be added back in since Section 4.5.1 is explicitly written for the CDRMs.</p>	<p>Add the following highlighted text back into the paragraph:</p> <p>"The review areas are similar to those of design specific review standard (DSRS) Section 5.2.3, "Reactor Coolant Pressure Boundary Materials". For purposes of this DSRS section, the control rod system is comprised of the Control Rod Drive Mechanism (CRDM) and extends only to the coupling interface with the reactivity control (poison) elements in the reactor vessel; it does not include the systems necessary to actuate the CRDMs."</p>	
Generation mPower	8/14/2013	3.	I.RI Item 4 and Item 5	<p>In Section I, Review Interfaces, Items 4 and 5: These two items are related to Reactor Coolant Pressure Boundary and since the entire CRDS is internal to the reactor vessel, these items would not be applicable to the B&W mPower reactor design.</p>	<p>Delete Items 4 and 5 as shown below.</p> <p>4. Section 5.2.3: review of control rod drive system portions that are part of the reactor coolant pressure boundary (RCPB); verification of whether materials of construction and fabrication controls satisfy criteria for RCPB materials.</p> <p>5. Section 5.3.1: review of control rod drive portions that are reactor</p>	

Public Comments on mPower DSRS

mPower DSRS Section 4.5.1, "Control Rod Drive Structural Materials"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	4.	II.ACR Item 2	In Section II, Acceptance Criteria Requirements, Item 2: This item is related to Reactor Coolant Pressure Boundary and since the entire CRDS is internal to the reactor vessel, this item would not be applicable to the B&W mPower reactor design.	vessel attachments or appurtenances; verification of whether materials of construction and related fabrication controls satisfy the criteria for reactor vessel materials.	
Generation mPower	8/14/2013	5.	II.DAC	In Section II, DSRS Acceptance Criteria, second paragraph: As noted above GDC 14 should not be listed since it refers to Reactor Coolant Pressure Boundary and since the entire CRDS is internal to the reactor vessel, this item would not be applicable to the B&W mPower reactor design.	Delete Item 2 as shown below. " 2. GDC 14, as it relates to the RCPB being designed, fabricated, erected, and tested to have an extremely low probability of abnormal leakage, rapidly propagating failure, or gross rupture. "	
Generation mPower	8/14/2013	6.	II.DAC Item 1	In Section II, DSRS Acceptance Criteria, Item 1: The way this is worded implies all materials for the CRDM should be equivalent to cases permitted by the Code. While this is acceptable for the structural components, it prohibits the use of materials needed for other parts of the CRDM, which are unique due to the internal design of the CRDM (i.e., motors, bearings, weighting components, position indicator, connectors, and magnets). Also, in the first sentence there is an extraneous	Delete reference to GDC 14: " With respect to compliance with GDCs 1, 14, and 26 and 10 CFR 50.55a. "	
Generation mPower	8/14/2013				Request clarification of the wording such that the Code case requirement applies to the structural components only. Delete the extraneous "of" as noted below: "The properties of the materials selected for the CRDM should be equivalent to those of permitted by Section III, Division 1 of the ASME Code or Section II, Parts A, B, C, and D of the ASME Code."	

Public Comments on mPower DSRS

mPower DSRS Section 4.5.1, "Control Rod Drive Structural Materials"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	7.	II.DAC Item 3	<p>"of" that should be deleted.</p> <p>In Section II, DSRS Acceptance Criteria, Item 3: There are also other materials other than 17-4 PH and Type 410 stainless that must be evaluated against SCC.</p>	Request clarification and recommend that the heat treatment temperature ranges are listed as examples.	
Generation mPower	8/14/2013	8.	II.TR Item 2	<p>In Section II, Technical Rationale, Item 2: this discussion calls out GDC 14, which is the Reactor Coolant Pressure Boundary GDC. However, since the entire CRDS is internal to the reactor vessel, this GDC is not applicable to the B&W mPower reactor design. Note: a design change necessitates this deletion.</p>	<p>Delete Item 2 as shown below:</p> <p>"2. GDC 14 requires that the RCPB be designed, fabricated, erected, and tested so as to have an extremely low probability of abnormal leakage, of rapidly propagating failure, and of gross rupture. The RCPB provides a fission product barrier and a confined volume for the inventory of reactor coolant. The RCPB includes the CRDM dump valves and CRDM block valves which are part of the control rod drive system. Application of GDC 14 assures that control rod drive materials are selected, fabricated, installed, and tested for an extremely low probability of significant degradation and, in the extreme, gross RCPB failure that could substantially reduce capability to contain reactor coolant inventory or capability to confine fission products."</p>	
Generation mPower	8/14/2013	9.	III.RP Item 2	<p>In Section III, Review Procedures, Item 2: This item refers to the "control rod system", whereas, in</p>	Change "control rod system" to CRDM for consistency and accuracy.	

Public Comments on mPower DSRS

mPower DSRS Section 4.5.1, "Control Rod Drive Structural Materials"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	10.	IV.EF Item 1	<p>In Section II, DSRS Acceptance Criteria, Item 1, it specifically calls out the control rod drive mechanism (CRDM) which is the focus of this DSRS.</p> <p>In Section IV, Evaluation Findings, Item 1: this discussion calls out GDC 14, which is the Reactor Coolant Pressure Boundary GDC. However, since the entire CRDS is internal to the reactor vessel, this GDC is not applicable to the B&W mPower reactor design. Note: a design change necessitates this deletion.</p>	<p>Recommend the follow deletion: "The staff concludes that the CRDM structural requirements of GDCs 1, 14, and 26 and of 10 CFR 50.55a."</p>	
Generation mPower	8/14/2013	11.	IV.EF Item 1	<p>In Section IV, Evaluation Findings, Item 1: As noted previously, the way this is worded implies all materials for the CRDM should be equivalent to cases permitted by the Code. While this is acceptable for the structural components, it prohibits the use of materials needed for other parts of the CRDM, which are unique due to the internal design of the CRDM (i.e., motors, bearings, weighting components, position indicator, connectors, and magnets).</p>	<p>Request clarification of the wording such that the Code case requirement applies to the structural components only.</p>	

Public Comments on mPower DSRS

mPower DSRS Section 4.5.2, "Reactor Internal and Core Support Structure Materials"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	Throughout	<p>The B&W mPower™ trademark is used improperly throughout.</p> <ul style="list-style-type: none"> • 8 instances of "mPower" without "B&W" • one place (V) where the trademark is used as a noun (it is always supposed to be used as an adjective) 	Remove the "TM" mark with the exception of first time use of "B&W mPower™".	
Generation mPower	8/14/2013	2.	I.AOR, 1 st paragraph	<p>Section I, Area of Review, 1st paragraph, fifth sentence: This sentence includes a listing of the steam generator, tubes and tube sheet, riser, etc which are not part of the reactor internals or the core support structure. The reactor pressure vessel includes only the lower vessel portion below the mid-flange plane. Since this DSRS section is specifically for reactor internals or the core support structure these other components should be addressed in other sections such as DSRS Section 5.</p>	<p>Reword the sentence as follows:</p> <p>"This includes, but is not limited to the steam generator (including tubes and tubesheet), riser, control rod drives."</p>	
Generation mPower	8/14/2013	3.	II.DAC Item 3	<p>In Section II, DSRS Acceptance Criteria, Item 3: While it will be assured that stress corrosion cracking is precluded, it is unknown at this time if the heat treatment temperatures for the materials fall precisely in the ranges noted here. There are also other materials other than 17-4 PH and Type 410 stainless that must be evaluated against SCC.</p>	Request clarification and recommend that the heat treatment temperature ranges are listed as examples.	
Generation mPower	8/14/2013	4.	III.RP Item 4	<p>In Section III, Review Procedures, Item 4: In the last sentence, there is a typographical error.</p>	<p>Correct the typographical error as shown below.</p> <p>"The reviewer assures that any special welding processes or welding controls conform to the qualification requirements of ASME Code, Section IX, or that justification is made forany for any deviation."</p>	

Public Comments on mPower DSRs

mPower DSRs Section 4.6 "Functional Design of Control Rod Drive Mechanism System"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	1.	Throughout	<p>The B&W mPower™ trademark is used improperly throughout.</p> <ul style="list-style-type: none"> • 5 instances of "mPower" without "B&W" • one place (V) where the trademark is used as a noun (it is always supposed to be used as an adjective) 	Remove the "TM" mark with the exception of first time use of "B&W mPower™".	
Generation mPower	8/14/2013	2.	I.AOR	<p>In Section I, Area of Review, second paragraph, second sentence: "The CRDM System is designed according to American Society of Mechanical Engineers (ASME) code." Since the CRDM is not part of the Reactor Coolant Pressure Boundary and not part of the core support structure, it does not have to meet ASME. Recommend re-phrasing this statement.</p>	<p>Rephrase this statement as follows:</p> <p>"The CRDM System is designed to meet the intent in accordance with guidelines of according to American Society of Mechanical Engineers (ASME) code."</p>	
Generation mPower	8/14/2013	3.	I.RI	<p>In Section I, Review Interfaces, opening paragraph, the DSRs does not reflect the current B&W mPower standard plant design.</p>	<p>Delete the following wording:</p> <p>"Reactor Coolant Inventory and Purification System (RCI) circulating pumps provide CRDM latching pressure during normal plant operation. There are two block valves and two scram valves associated with each CRDM (to be verified). Review of the maintenance of the CRDM latching pressure is performed under review section RCI DSRs 9.3.4."</p>	
Generation mPower	8/14/2013	4.	I.RI Item 3	<p>In Section I, Review Interfaces, Item 3: recommend identifying the particular DSRs section applicable to the RCI and boron injection.</p>	<p>Revise the following as shown:</p> <p>"3. Review of the Boron injection system as a defense-in-depth (DID) function, is performed under DSRs sSection 9.3.6, that includes the boron injection</p>	

Public Comments on mPower DSRS

mPower DSRS Section 4.6 "Functional Design of Control Rod Drive Mechanism System"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	5.	I.RI Item 4	In Section I, Review Interfaces, Item 4: The text refers to DSRS 7.2; however, Chapter 7 of the SRP has been completely rewritten for the DSRS and these section numbers do not match up to the DSRS.	tanks." Identify the correct cross-reference.	
Generation mPower	8/14/2013	6.	I.RI Item 7	In Section I, Review Interfaces, Item 7: The text refers to DSRS 7.1 and Appendix 7-A; however, Chapter 7 of the SRP has been completely rewritten for the DSRS and these section numbers do not match up to the DSRS.	Identify the correct cross-reference.	
Generation mPower	8/14/2013	7.	I.RI Item 11	In Section I, Review Interfaces, Item 11: The text refers to DSRS 7.1, 7.6, and Appendix 7A; however, Chapter 7 of the SRP has been completely rewritten for the DSRS and these section numbers do not match up to the DSRS.	Identify the correct cross-reference.	
Generation mPower	8/14/2013	8.	II.AC Item 6	In Section II, Acceptance Criteria, Item 6: implies that the CRDM should be designed to assure that reactivity accidents do not result in damage to the reactor coolant pressure boundary or the core structural support. This requirement is associated with a control rod ejection accident. However, the B&W mPower iPWR design precludes a control rod ejection from the core due to no external CRDMs, and the accident section of the DSRS (DSRS Section 15.4.8 and 15.4.9) has listed this accident as N/A for B&W mPower, why is this still included in DSRS 4.6?	Delete II.AC Item 6 or provide clarification as to why this should be retained. No portion of the CRDM is part of the RCPB. All other reactivity transients cannot induce sufficient reactivity to disturb the core support structures. Other reactivity transients will be reviewed, but they are not as severe as a control rod ejection and a control rod ejection cannot occur within the B&W mPower reactor core.	
Generation mPower	8/14/2013	9.	II.DAC Item 6	In Section II, DSRS Acceptance Criteria, Item 6: implies that the CRDM should be designed to assure that reactivity accidents do not result in damage to the reactor coolant pressure boundary.	Delete II.DAC Item 6 or provide clarification as to why this should be retained. No portion of the CRDM is part of the RCPB.	

Public Comments on mPower DSRS

mPower DSRS Section 4.6 "Functional Design of Control Rod Drive Mechanism System"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	10.	III.TR Item 6	<p>This requirement is associated with a control rod ejection accident. However, the B&W mPower iPWR design precludes a control rod ejection from the core due to no external CRDMs, and the accident section of the DSRS (DSRS Section 15.4.8 and 15.4.9) has listed this accident as N/A for B&W mPower, why is this still included in DSRS 4.6?</p> <p>In Section II, Technical Rationale, Item 6: implies that the CRDM should be designed to assure that reactivity accidents do not result in damage to the reactor coolant pressure boundary. This requirement is associated with a control rod ejection accident. However, the B&W mPower iPWR design precludes a control rod ejection from the core due to no external CRDMs, and the accident section of the DSRS (DSRS Section 15.4.8 and 15.4.9) has listed this accident as N/A for B&W mPower, why is this still included in DSRS 4.6?</p>	Delete II.DAC Item 6 or provide clarification as to why this should be retained. No portion of the CRDM is part of the RCPB.	
Generation mPower	8/14/2013	11.	III.RP Item 3	<p>In Section III, Review Procedures, Item 3 the DSRS does not reflect the current B&W mPower standard plant design. Also added a clarification.</p>	<p>Revise the following as below:</p> <p>"The reviewer evaluates the CRDM design for with respect to fluid systems and possible single failures. The review of the system description includes system description and schematics, layout drawings, process flow diagrams, and descriptive information on essential supporting systems. The review evaluates the technical submittal to ascertain that failure modes and effects analyses have</p>	

Public Comments on mPower DSRS

mPower DSRS Section 4.6 "Functional Design of Control Rod Drive Mechanism System"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	12.	III.RP Item 4	In Section III, Review Procedures, Item 4: the discussion is focused on damage to the CRDM due to external "high- or moderate-energy line breaks". Since the entire CRDM is internal to the reactor vessel, there are no high- or moderate-energy line breaks that can occur to impede CRDM operations during a scram.	<p>been completed to determine that the CRDM (not the individual drives) CRD system is capable of performing its safety-related function following the loss of any active component."</p> <p>Revise the following as below:</p> <p>"The reviewer evaluates the CRDM, system description and schematics, layout drawings, and component descriptions and characteristics to verify that essential portions of the system are correctly identified and are isolable from nonessential portions. The essential portions should be protected from the effects of dynamic conditions (such as high- or moderate-energy line breaks). The reviewer examines layout drawings of the system to ensure that no high- or moderate-energy piping systems are close to the CRDM, or that protection is provided from the effects of high- or moderate-energy pipe breaks. If the dynamic effects of pipe ruptures are proposed to be excluded from the design basis, then the review includes analyses justifying the exclusion. When an essential system or component is designed to perform multiple functions, the review encompasses the additional operating modes to ensure that there can be no adverse impacts on the essential system function. The reviewer should</p>	

Public Comments on mPower DSRS

mPower DSRS Section 4.6 "Functional Design of Control Rod Drive Mechanism System"						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
Generation mPower	8/14/2013	13.	III.RP Item 5	In Section III, Review Procedures, Item 5: The text refers to DSRS 7.2; however, Chapter 7 of the SRP has been completely rewritten for the DSRS and these section numbers do not match up to the DSRS.	ensure that systems not relied on for safe shutdown cannot impair essential or passive component functions. Where two or more reactivity systems are used, the reviewer evaluates the combined functional performance under accident conditions." Identify the correct cross-reference.	
Generation mPower	8/14/2013	14.	III.RP Item 7	In Section III, Review Procedures, Item 7: The text refers to DSRS 7.4; however, Chapter 7 of the SRP has been completely rewritten for the DSRS and these section numbers do not match up to the DSRS.	Identify the correct cross-reference.	
Generation mPower	8/14/2013	15.	IV.EF Item 1	In Section IV, Evaluation Findings, Item 1: the discussion is focused on damage to the CRDM due to external "high- or moderate-energy line breaks". Since the entire CRDM is internal to the reactor vessel, there are no high- or moderate-energy line breaks that can occur to impede CRDM operations during a scram.	Revise the following as shown: "The applicant has met the requirements of GDC 4 with respect to the design of the system against the adverse effects of missile hazards inside the containment, pipe whipping and jets caused by broken pipes, and adverse environmental conditions resulting from high- and moderate-energy pipe breaks during normal plant operations, anticipated operational occurrences, and accident conditions." Delete IV.EF Item 6 or provide clarification as to why this should be retained. No portion of the CRDM is part of the RCPB.	
Generation mPower	8/14/2013	16.	IV.EF Item 6	In Section IV, Evaluation Findings, Item 6: implies that the CRDM should be designed to assure that reactivity accidents do not result in damage to the		

Public Comments on mPower DSRS

mPower DSRS Section 4.6 “Functional Design of Control Rod Drive Mechanism System”						
Entity Name	Submittal Date	No.	Section/ Para	Comment/Basis	Public Recommendation	NRC Resolution
				<p>reactor coolant pressure boundary or the core structural support. This requirement is associated with a control rod ejection accident. However, the B&W mPower iPWR design precludes a control rod ejection from the core due to no external CRDMs, and the accident section of the DSRS (DSRS Section 15.4.8 and 15.4.9) has listed this accident as N/A for B&W mPower, why is this still included in DSRS 4.6?</p>		