

NuScale Design-Specific Review Standard Scope and Safety Review Matrix				
This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.				
SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
INTRO P1	NUREG-0800 Introduction (Part 1)	NUREG-0800	A) Use SRP Section	
INTRO P2	NUREG-0800 Introduction Part 2: Light-Water Small Modular Reactor Edition	NUREG-0800	A) Use SRP Section	
1.0	Introduction and Interfaces	NUREG-0800	A) Use SRP Section	
2.0	Site Characteristics and Site Parameters	NUREG-0800	A) Use SRP Section	

¹This column provides the applicable reference for each SRP/DSRS section. If the SRP is used, the reference is NUREG-0800. If a DSRS section was prepared, then the reference is to the public accession number for each DSRS section in the NRC's Agencywide Documents Access and Management System (ADAMS). If the section is not applicable to the NuScale review, the entry is blank.

²This column shows the staff's determination of the applicability of each section to the NuScale design. The staff developed four categories to address the determination for each SRP section. The staff concluded that all of the sections could be categorized by one of the following criteria:

- A) Use SRP Section - the NUREG-0800 SRP section was applicable to the NuScale review and would be used. However, a determination that an SRP section is applicable does not necessarily mean that it is wholly applicable without modification (see footnote 3);
- B) Section Not Applicable to NuScale Review (N/A) - The section is not applicable and will not be used for the NuScale review;
- C) Modify SRP Section for DSRS - the NUREG-0800 SRP section needed modification, so the section was revised and reissued as a DSRS section for the NuScale review; or
- D) Develop new DSRS Section - a new section was needed due to a unique design consideration (new sections were also developed for Chapter 7, Instrumentation and Controls, due to a staff initiative to pilot a more streamlined review for the NuScale design).

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2.1.1	Site Location and Description	NUREG-0800	A) Use SRP Section	
2.1.2	Exclusion Area Authority and Control	NUREG-0800	A) Use SRP Section	
2.1.3	Population Distribution	NUREG-0800	A) Use SRP Section	
2.2.1 - 2.2.2	Identification of Potential Hazards in Site Vicinity	NUREG-0800	A) Use SRP Section	
2.2.3	Evaluation of Potential Accidents	NUREG-0800	A) Use SRP Section	
2.3.1	Regional Climatology	NUREG-0800	A) Use SRP Section	
2.3.2	Local Meteorology	NUREG-0800	A) Use SRP Section	
2.3.3	Onsite Meteorological Measurements Programs	NUREG-0800	A) Use SRP Section	
2.3.4	Short-Term Atmospheric Dispersion Estimates for Accident Releases	NUREG-0800	A) Use SRP Section	

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2.3.5	Long-Term Atmospheric Dispersion Estimates for Routine Releases	NUREG-0800	A) Use SRP Section	
2.4.1	Hydrologic Description	NUREG-0800	A) Use SRP Section	
2.4.2	Floods	NUREG-0800	A) Use SRP Section	
2.4.3	Probable Maximum Flood (PMF) on Streams and Rivers	NUREG-0800	A) Use SRP Section	
2.4.4	Potential Dam Failures	NUREG-0800	A) Use SRP Section	
2.4.5	Probable Maximum Surge and Seiche Flooding	NUREG-0800	A) Use SRP Section	
2.4.6	Probable Maximum Tsunami Hazards	NUREG-0800	A) Use SRP Section	
2.4.7	Ice Effects	NUREG-0800	A) Use SRP Section	
2.4.8	Cooling Water Canals and Reservoirs	NUREG-0800	A) Use SRP Section	

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2.4.9	Channel Diversions	NUREG-0800	A) Use SRP Section	
2.4.10	Flooding Protection Requirements	NUREG-0800	A) Use SRP Section	
2.4.11	Low Water Considerations	NUREG-0800	A) Use SRP Section	
2.4.12	Groundwater	NUREG-0800	A) Use SRP Section	
2.4.13	Accidental Releases of Radioactive Liquid Effluents in Ground and Surface Waters	NUREG-0800	A) Use SRP Section	
2.4.14	Technical Specifications and Emergency Operation Requirements	NUREG-0800	A) Use SRP Section	
2.5.1	Basic Geologic and Seismic Information	NUREG-0800	A) Use SRP Section	
2.5.2	Vibratory Ground Motion	NUREG-0800	A) Use SRP Section	
2.5.3	Surface Faulting	NUREG-0800	A) Use SRP Section	

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2.5.4	Stability of Subsurface Materials and Foundations	NUREG-0800	A) Use SRP Section	
2.5.5	Stability of Slopes	NUREG-0800	A) Use SRP Section	
3.2.1	Seismic Classification	NUREG-0800	A) Use SRP Section	
3.2.2	System Quality Group Classification	NUREG-0800	A) Use SRP Section	
3.3.1	Wind Loading	NUREG-0800	A) Use SRP Section	See footnote ³

³ The NRC Staff determined whether to develop a new DSRS section after considering whether significant differences in the functions, characteristics, or attributes of the NuScale design required major revision of the related SRP section guidance, or whether structures, systems, and components identified in the NuScale design are unique and not addressed by the current SRP. The Staff revisited these criteria after publishing the Draft version of this DSRS section (Issued in June 2015) and determined, based on the most recent NuScale design, that the related SRP section is appropriate to perform the NRC safety review. Therefore, this DSRS section will not be issued as final and the related SRP section will be used for this portion of the NuScale review. In deciding to use the related SRP section, the staff has not necessarily determined that the SRP section is wholly applicable without modification. For example, as the NRC staff gains greater understanding of the NuScale design or if the design changes during the review, the staff would assess whether different or supplemental review criteria are needed.

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3.3.2	Tornado Loads	NUREG-0800	A) Use SRP Section	See footnote ³
3.4.1	Internal Flood Protection for Onsite Equipment Failures	NUREG-0800	A) Use SRP Section	See footnote ³
3.4.2	Analysis Procedures	NUREG-0800	A) Use SRP Section	See footnote ³
3.5.1.1	Internally Generated Missiles (Outside Containment)	NUREG-0800	A) Use SRP Section	See footnote ³
3.5.1.2	Internally Generated Missiles (Inside Containment)	NUREG-0800	A) Use SRP Section	See footnote ³
3.5.1.3	Turbine Missiles	ML15355A364	C) Modify SRP Section for DSRS	
3.5.1.4	Missiles Generated by Tornadoes and Extreme Winds	NUREG-0800	A) Use SRP Section	See footnote ³

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3.5.1.5	Site Proximity Missiles (Except Aircraft)	NUREG-0800	A) Use SRP Section	
3.5.1.6	Aircraft Hazards	NUREG-0800	A) Use SRP Section	
3.5.2	Structures, Systems, and Components To Be Protected From Externally Generated Missiles	NUREG-0800	A) Use SRP Section	See footnote ³
3.5.3	Barrier Design Procedures	NUREG-0800	A) Use SRP Section	See footnote ³
3.6.1	Plant Design for Protection Against Postulated Piping Failures in Fluid Systems Outside Containment	NUREG-0800	A) Use SRP Section	
3.6.2	Determination of Rupture Locations and Dynamic Effects Associated with the Postulated Rupture of Piping	NUREG-0800	A) Use SRP Section	
3.6.3	Leak-Before-Break Evaluation Procedures	NUREG-0800	A) Use SRP Section	

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3.7.1	Seismic Design Parameters	ML15355A384	C) Modify SRP Section for DSRS	
3.7.2	Seismic System Analysis	ML15355A389	C) Modify SRP Section for DSRS	
3.7.3	Seismic Subsystem Analysis	ML15355A402	C) Modify SRP Section for DSRS	
3.7.4	Seismic Instrumentation	NUREG-0800	A) Use SRP Section	

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3.8.1	Concrete Containment		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because NuScale design does not have a concrete containment. All regulatory requirements regarding containment systems and structure for the NuScale design are covered under other Sections in SRP/DSRS Chapter 6 and Chapter 3.
3.8.2	Steel Containment	ML15355A411	C) Modify SRP Section for DSRS	
3.8.3	Concrete and Steel Internal Structures of Steel Containments		B) Section Not Applicable to NuScale Review (N/A)	NuScale design does not include internal structures. Applicable review topics to the

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				NuScale design are covered under DSRS Section 3.8.2.
3.8.4	Other Seismic Category I Structures	ML15355A444	C) Modify SRP Section for DSRS	
3.8.5	Foundations	ML15355A451	C) Modify SRP Section for DSRS	
3.9.1	Special Topics for Mechanical Components	NUREG-0800	A) Use SRP Section	
3.9.2	Dynamic Testing and Analysis of Systems, Structures, and Components	NUREG-0800	A) Use SRP Section	
3.9.3	ASME Code Class 1, 2, and 3 Components and Component Supports, and Core Support Structures	NUREG-0800	A) Use SRP Section	
3.9.4	Control Rod Drive Systems	NUREG-0800	A) Use SRP Section	
3.9.5	Reactor Pressure Vessel Internals	NUREG-0800	A) Use SRP Section	

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3.9.6	Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints	NUREG-0800	A) Use SRP Section	

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3.9.7	Risk-Informed Inservice Testing of Pumps and Valves		B) Section Not Applicable to NuScale Review (N/A)	Insufficient operating experience will be available at the time of the COL review to apply this section. The NRC staff position was outlined in RIS 2012-08, Rev. 1, which identified the challenges in developing a risk-informed program for a new or advanced reactor design. The staff does not believe an applicant will have sufficient information available to support a risk-informed approach at the time of a COL review.

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3.9.8	Risk-Informed Inservice Inspection of Piping		B) Section Not Applicable to NuScale Review (N/A)	Insufficient operating experience will be available at the time of the COL review to apply this section. The NRC staff position was outlined in RIS 2012-08, Rev. 1, which identified the challenges in developing a risk-informed program for a new or advanced reactor design. The staff does not believe an applicant will have sufficient information available to support a risk-informed approach at the time of a COL review.

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3.10	Seismic and Dynamic Qualification of Mechanical and Electrical Equipment	NUREG-0800	A) Use SRP Section	
3.11	Environmental Qualification of Mechanical and Electrical Equipment	ML15355A455	C) Modify SRP Section for DSRS	
3.12	ASME Code Class 1, 2, and 3 Piping Systems, Piping Components and their Associated Supports	NUREG-0800	A) Use SRP Section	
3.13	Threaded Fasteners - ASME Code Class 1, 2, and 3	NUREG-0800	A) Use SRP Section	See footnote ³
BTP 3-1	Classification of Main Steam Components Other than the Reactor Coolant Pressure Boundary for BWR Plants		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because NuScale SMR is an iPWR design and not a BWR plant.
BTP 3-2	Classification of BWR/6 Main Steam and Feedwater Components Other than the Reactor Coolant Pressure Boundary		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because NuScale SMR is an iPWR design and not a BWR/6 plant.

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BTP 3-3	Protection Against Postulated Piping Failures in Fluid Systems Outside Containment	NUREG-0800	A) Use SRP Section	
BTP 3-4	Postulated Rupture Locations in Fluid System Piping Inside and Outside Containment	NUREG-0800	A) Use SRP Section	
4.2	Fuel System Design	NUREG-0800	A) Use SRP Section	See footnote ³
4.3	Nuclear Design	NUREG-0800	A) Use SRP Section	See footnote ³
4.4	Thermal and Hydraulic Design	ML15355A468	C) Modify SRP Section for DSRS	
4.5.1	Control Rod Drive Structural Materials	NUREG-0800	A) Use SRP Section	
4.5.2	Reactor Internal and Core Support Structure Materials	NUREG-0800	A) Use SRP Section	See footnote ³
4.6	Functional Design of Control Rod Drive System	NUREG-0800	A) Use SRP Section	See footnote ³

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BTP 4-1	Westinghouse Constant Axial Offset Control (CAOC)		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section applies only to a Westinghouse methodology, which NuScale is not using.
5.2.1.1	Compliance With the Codes and Standards Rule, 10 CFR 50.55a	NUREG-0800	A) Use SRP Section	
5.2.1.2	Applicable Code Cases	NUREG-0800	A) Use SRP Section	
5.2.2	Overpressure Protection	NUREG-0800	A) Use SRP Section	See footnote ³
5.2.3	Reactor Coolant Pressure Boundary Materials	NUREG-0800	A) Use SRP Section	
5.2.4	Reactor Coolant Pressure Boundary Inservice Inspection and Testing	ML15355A479	C) Modify SRP Section for DSRS	
5.2.5	Reactor Coolant Pressure Boundary Leakage Detection	ML15355A505	C) Modify SRP Section for DSRS	

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5.3.1	Reactor Vessel Materials	ML15355A513	C) Modify SRP Section for DSRS	
5.3.2	Pressure-Temperature Limits, Upper-Shelf Energy, and Pressurized Thermal Shock	ML15355A526	C) Modify SRP Section for DSRS	
5.3.3	Reactor Vessel Integrity	ML15355A530	C) Modify SRP Section for DSRS	
5.4	Reactor Coolant System Component and Subsystem Design	NUREG-0800	A) Use SRP Section	See footnote ³
5.4.1.1	Pump Flywheel Integrity (PWR)		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because NuScale design doesn't have reactor coolant pumps.
5.4.2.1	Steam Generator Materials	ML15355A532	C) Modify SRP Section for DSRS	
5.4.2.2	Steam Generator Program	ML15355A535	C) Modify SRP Section for DSRS	

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5.4.6	Reactor Core Isolation Cooling System (BWR)		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because it applies to BWR reactor design. Additionally, the safety function of decay heat removal for NuScale SMR design is addressed in DSRS Section 5.4.7, Decay Heat Removal (DHR) System.
5.4.7	Decay Heat Removal (DHR) System	ML15355A536	C) Modify SRP Section for DSRS	
5.4.8	Reactor Water Cleanup System (BWR)		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because NuScale SMR is an iPWR design and not a BWR plant.

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5.4.11	Pressurizer Relief Tank		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because there are no pressurizer relief tanks in the NuScale design. The reactor pressure vessel vents directly to containment.
5.4.12	Reactor Coolant System High Point Vents	NUREG-0800	A) Use SRP Section	
5.4.13	Isolation Condenser System (BWR)		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because the safety function of removal of sensible and decay heat is addressed in DSRS Section 5.4.7, Decay Heat Removal (DHR) System.
BTP 5-1	Monitoring of Secondary Side Water Chemistry in PWR Steam Generators	NUREG-0800	A) Use SRP Section	

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SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
BTP 5-2	Overpressure Protection of Pressurized-Water Reactors While Operating at Low Temperatures	NUREG-0800	A) Use SRP Section	
BTP 5-3	Fracture Toughness Requirements	NUREG-0800	A) Use SRP Section	
BTP 5-4	Design Requirements of the Decay Heat Removal System	ML15355A313	C) Modify SRP Section for DSRS	
6.1.1	Engineered Safety Features Materials	NUREG-0800	A) Use SRP Section	See footnote ³
6.1.2	Protective Coating Systems (Paints) - Organic Materials	NUREG-0800	A) Use SRP Section	See footnote ³
6.2.1	Containment Functional Design	ML15356A259	C) Modify SRP Section for DSRS	
6.2.1.1.A	Containment	ML15355A544	C) Modify SRP Section for DSRS	

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6.2.1.1.B	Ice Condenser Containments		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because the NuScale containment design does not include an ice condenser, i.e., does not use ice for suppressing pressure inside containment.
6.2.1.1.C	Pressure-Suppression Type BWR Containments		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because NuScale SMR is an iPWR design and not a BWR plant.
6.2.1.2	Subcompartment Analysis	NUREG-0800	A) Use SRP Section	
6.2.1.3	Mass and Energy Release Analysis for Postulated Loss of Coolant Accidents (LOCAs)	ML15357A327	C) Modify SRP Section for DSRS	

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6.2.1.4	Mass and Energy Release Analysis for Postulated Secondary System Pipe Ruptures	ML15356A241	C) Modify SRP Section for DSRS	
6.2.1.5	Minimum Containment Pressure Analysis for Emergency Core Cooling System Performance Capability Studies		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because the NuScale design does not have a core reflood phase. In addition, the containment and RCS responses are coupled and would not have separate inputs.
6.2.2	Containment Heat Removal Systems	ML15356A267	C) Modify SRP Section for DSRS	
6.2.3	Secondary Containment Functional Design	NUREG-0800	A) Use SRP Section	
6.2.4	Containment Isolation System	ML15356A332	C) Modify SRP Section for DSRS	

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6.2.5	Combustible Gas Control in Containment	ML15356A356	C) Modify SRP Section for DSRS	
6.2.6	Containment Leakage Testing	ML15356A388	C) Modify SRP Section for DSRS	
6.2.7	Fracture Prevention of Containment Pressure Boundary	NUREG-0800	A) Use SRP Section	See footnote ³
6.3	Emergency Core Cooling System	ML15356A393	C) Modify SRP Section for DSRS	
6.4	Control Room Habitability System	NUREG-0800	A) Use SRP Section	
6.5.1	ESF Atmosphere Cleanup Systems	NUREG-0800	A) Use SRP Section	
6.5.2	Containment Spray as a Fission Product Cleanup System		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because the NuScale design does not include containment sprays.
6.5.3	Fission Product Control Systems and Structures	NUREG-0800	A) Use SRP Section	

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6.5.4	Ice Condenser as a Fission Product Cleanup System		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because the NuScale containment design is not an ice condenser, i.e., does not use ice for suppressing pressure inside containment.
6.5.5	Pressure Suppression Pool as a Fission Product Cleanup System		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because the NuScale is an iPWR, i.e., does not use a suppression pool for suppressing pressure inside containment.
6.6	Inservice Inspection and Testing of Class 2 and 3 Components	ML15356A396	C) Modify SRP Section for DSRS	
6.7	Main Steam Isolation Valve Leakage Control System (BWR)		B) Section Not Applicable to	This SRP Section is N/A because NuScale SMR is an

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			NuScale Review (N/A)	iPWR design and not a BWR plant.
BTP 6-1	PH for Emergency Coolant Water for Pressurized Water Reactors	NUREG-0800	A) Use SRP Section	See footnote ³
BTP 6-2	Minimum Containment Pressure Model for PWR ECCS Performance Evaluation		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because the NuScale design does not have a core reflood phase. In addition, the containment and RCS responses are coupled and would not then have separate inputs.
BTP 6-3	Determination of Bypass Leakage Paths in Dual Containment Plants		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because the NuScale design does not include dual containments.

<p>BTP 6-4</p>	<p>Containment Purging During Normal Plant Operations</p>		<p>A) Use SRP Section</p>	<p>BTP 6-4 addresses the portion of 10 CFR 50.34(f)(2)(xv) concerning containment purging/venting during normal operation, but the NuScale design does not perform this function. The NRC staff informed NuScale that the technical relevancy of this portion of 10 CFR 50.34(f)(2)(xv) and any requested exemptions would be assessed during the application review. BTP 6-4 applies to the review except as NuScale shows that this portion of 10 CFR 50.34(f)(2)(xv) is not technically relevant or justifies an exemption.</p>
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This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
BTP 6-5	Currently the Responsibility of Reactor Systems Piping from the RWST (or BWST) and Containment Sump(s) to the Safety Injection Pumps		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because the NuScale design does not have an active ECCS system and has no reservoir for the system to draw down such that pumps could be damaged.
7.0 (DSRS)	Instrumentation and Controls - Introduction and Overview of Review Process	ML15356A416	D) Develop new DSRS Section	A new DSRS Section has been developed.
7.1 (DSRS)	Instrumentation and Controls-Fundamental Design Principles	ML15363A293	D) Develop new DSRS Section	A new DSRS Section has been developed.
7.2 (DSRS)	Instrumentation and Controls-System Characteristics	ML15363A347	D) Develop new DSRS Section	A new DSRS Section has been developed.
7.0 APP A (DSRS)	Instrumentation and Controls-Hazard Analysis	ML15355A316	D) Develop new DSRS Section	A new DSRS Section has been developed.

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
7.0 APP B (DSRS)	Instrumentation and Controls-System Architecture	ML15355A318	D) Develop new DSRS Section	A new DSRS Section has been developed.
7.0 APP C (DSRS)	Instrumentation and Controls-Simplicity	ML15355A319	D) Develop new DSRS Section	A new DSRS Section has been developed.
7.0 APP D (DSRS)	Instrumentation and Controls-References	ML15355A320	D) Develop new DSRS Section	A new DSRS Section has been developed.
7.0 (SRP)	Instrumentation and Controls-Introduction and Overview of Review Process		D) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
7.0-A (SRP)	Review Process for Digital Instrumentation and Control Systems		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴

⁴ The staff has captured all of the relevant regulatory requirements and guidance related to instrumentation and controls (I&C) in the NuScale DSRS Chapter 7 Sections and Appendices; therefore, the SRP Chapter 7 Sections will not be used for the NuScale reviews.

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS)¹	Applicability of SRP (June 2016)²	Comment
7.1 (SRP)	Instrumentation and Controls – Introduction		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
7.1-T (SRP)	Table 7-1 Regulatory Requirements, Acceptance Criteria, and Guidelines for Instrumentation and Control Systems Important to Safety		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
7.1-A (SRP)	Acceptance Criteria and Guidelines for Instrumentation and Controls Systems Important to Safety		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
7.1-B (SRP)	Guidance for Evaluation of Conformance to IEEE Std 279		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
7.1-C (SRP)	Guidance for Evaluation of Conformance to IEEE Std 603		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
7.1-D (SRP)	Guidance for Evaluation of the Application of IEEE Std 7-4.3.2		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
7.2 (SRP)	Reactor Trip System		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
7.3 (SRP)	Engineered Safety Features Systems		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS)¹	Applicability of SRP (June 2016)²	Comment
7.4 (SRP)	Safe Shutdown Systems		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
7.5 (SRP)	Information Systems Important to Safety		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
7.6 (SRP)	Interlock Systems Important to Safety		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
7.7 (SRP)	Control Systems		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
7.8 (SRP)	Diverse Instrumentation and Control Systems		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS)¹	Applicability of SRP (June 2016)²	Comment
7.9 (SRP)	Data Communication Systems		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
Appendix 7-A (SRP)	General Agenda, Station Site visits		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
Appendix 7-B (SRP)	Acronyms, Abbreviations, and Glossary		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP Index (SRP)	Branch Technical Positions		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-1 (SRP)	Guidance on Isolation of Low-Pressure Systems from the High-Pressure Reactor Coolant System		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
BTP 7-2 (SRP)	Guidance on Requirements of Motor-Operated Valves in the Emergency Core Cooling System Accumulator Lines		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-3 (SRP)	Guidance on Protection System Trip Point Changes for Operation with Reactor Coolant Pumps out of Service		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-4 (SRP)	Guidance on Design Criteria for Auxiliary Feedwater Systems		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-5 (SRP)	Guidance on Spurious Withdrawals of Single Control Rods in Pressurized Water Reactors		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-6 (SRP)	Guidance on Design of Instrumentation and Controls Provided to Accomplish Changeover from Injection to Recirculation Mode		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
BTP 7-8 (SRP)	Guidance for Application of Regulatory Guide 1.22		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-9 (SRP)	Guidance on Requirements for Reactor Protection System Anticipatory Trips		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-10 (SRP)	Guidance on Application of Regulatory Guide 1.97		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-11 (SRP)	Guidance on Application and Qualification of Isolation Devices		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
BTP 7-12 (SRP)	Guidance on Establishing and Maintaining Instrument Setpoints		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-13 (SRP)	Guidance on Cross-Calibration of Protection System Resistance Temperature Detectors		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-14 (SRP)	Guidance on Software Reviews for Digital Computer-Based Instrumentation and Control Systems		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-17 (SRP)	Guidance on Self-Test and Surveillance Test Provisions		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
BTP 7-18 (SRP)	Guidance on the Use of Programmable Logic Controllers in Digital Computer-Based Instrumentation and Control Systems		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-19 (SRP)	Guidance for Evaluation of Diversity and Defense-in-Depth in Digital Computer-Based Instrumentation and Control Systems		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
BTP 7-21 (SRP)	Guidance on Digital Computer Real-Time Performance		B) Section Not Applicable to NuScale Review (N/A)	See footnote ⁴
8.1	Electric Power - Introduction	ML15356A473	C) Modify SRP Section for DSRS	
8.2	Offsite Power System	ML15356A516	C) Modify SRP Section for DSRS	
8.3.1	AC Power Systems (Onsite)	ML15356A533	C) Modify SRP Section for DSRS	

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS)¹	Applicability of SRP (June 2016)²	Comment
8.3.2	DC Power Systems (Onsite)	ML15356A552	C) Modify SRP Section for DSRS	
8.4	Station Blackout	ML15356A570	C) Modify SRP Section for DSRS	
Appendix 8-A	General Agenda, Station Site Visits	NUREG-0800	A) Use SRP Section	
8-A	Branch Technical Position		B) Section Not Applicable to NuScale Review (N/A)	This section is not applicable to new reactor design reviews.
8-B	General Agenda, Station Site Visits		B) Section Not Applicable to NuScale Review (N/A)	Formerly part of SRP Section 7, App 7B. This Section is now part of Appendix 8-A
BTP 8-1	Requirements on Motor-operated Valves in the ECCS Accumulator Lines		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because the NuScale design does not use motor-operated valves (MOVs) in its safety-

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS)¹	Applicability of SRP (June 2016)²	Comment
				related systems design.
BTP 8-2	Use of Diesel-Generator Sets for Peaking	NUREG-0800	A) Use SRP Section	See footnote ³
BTP 8-3	Stability of Offsite Power Systems	NUREG-0800	A) Use SRP Section	See footnote ³
BTP 8-4	Application of the Single Failure Criterion to Manually Controlled Electrically Operated Valves	NUREG-0800	A) Use SRP Section	

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
BTP 8-5	Supplemental Guidance for Bypass and Inoperable Status Indication for Engineered Safety Features Systems		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because this BTP was derived from an old BTP (mid 1970s) related to I&C. For the power systems, this SRP Section is equivalent to BTP 8-7, which also doesn't apply to NuScale's design. An explanation as to why BTP 8-7 is N/A to NuScale is provided below.
BTP 8-6	Adequacy of Station Electric Distribution System Voltages	NUREG-0800	A) Use SRP Section	See footnote ³
BTP 8-7	Criteria for Alarms and Indications Associated with Diesel-Generator Unit Bypassed and Inoperable Status		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is N/A because the NuScale design does not have any safety-related diesel generators (DGs).

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
				The BTP is intended for safety-related DGs.
BTP 8-8	Onsite (Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time Extensions		B) Section Not Applicable to NuScale Review (N/A)	BTP 8-8 addresses allowed outage times (for the operating fleet) for emergency electrical power supplies and offsite power. NuScale will not credit either of these features for meeting the requirements of GDC 17.
BTP 8-9	Open Phase Conditions In Electric Power System		B) Section Not Applicable to NuScale Review (N/A)	This topic is covered under DSRS Section 8.2.
9.1.1	Criticality Safety of Fresh and Spent Fuel Storage and Handling	NUREG-0800	A) Use SRP Section	

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
9.1.2	New and Spent Fuel Storage	ML15356A584	C) Modify SRP Section for DSRS	
9.1.3	Spent Fuel Pool Cooling and Cleanup System	ML15356A595	C) Modify SRP Section for DSRS	
9.1.4	Light Load Handling System and Refueling Cavity Design	NUREG-0800	A) Use SRP Section	
9.1.5	Overhead Heavy Load Handling Systems	NUREG-0800	A) Use SRP Section	
9.2.1	Station Service Water System	NUREG-0800	A) Use SRP Section	
9.2.2	Reactor Auxiliary Cooling Water Systems	NUREG-0800	A) Use SRP Section	
9.2.4	Potable and Sanitary Water Systems	NUREG-0800	A) Use SRP Section	
9.2.5	Ultimate Heat Sink	NUREG-0800	A) Use SRP Section	
9.2.6	Condensate Storage Facilities	NUREG-0800	A) Use SRP Section	See footnote ³

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
9.2.7	Chilled Water System	NUREG-0800	A) Use SRP Section	
9.3.1	Compressed Air System	NUREG-0800	A) Use SRP Section	
9.3.2	Process and Post Accident Sampling Systems	NUREG-0800	A) Use SRP Section	See footnote ³
9.3.3	Equipment and Floor Drainage System	NUREG-0800	A) Use SRP Section	
9.3.4	Chemical and Volume Control System	ML15356A622	C) Modify SRP Section for DSRS	
9.3.5	Standby Liquid Control System (BWR)		B) Section Not Applicable to NuScale Review (N/A)	The NuScale plant is an iPWR SMR design and not a BWR design. The NuScale design does not contain a standby liquid control system.

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
9.3.6	Containment Evacuation and Flooding Systems	ML15356A637	D) Develop new DSRS Section	A new DSRS Section has been developed.
9.4.1	Control Room Area Ventilation System	NUREG-0800	A) Use SRP Section	
9.4.2	Spent Fuel Pool Area Ventilation System	NUREG-0800	A) Use SRP Section	
9.4.3	Auxiliary and Radwaste Area Ventilation System	NUREG-0800	A) Use SRP Section	
9.4.4	Turbine Area Ventilation System	NUREG-0800	A) Use SRP Section	
9.4.5	Engineered Safety Feature Ventilation System	NUREG-0800	A) Use SRP Section	
9.5.1.1	Fire Protection Program	NUREG-0800	A) Use SRP Section	
9.5.1.2	Risk Informed, Performance Based Fire Protection Program	NUREG-0800	A) Use SRP Section	

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
9.5.2	Communications Systems	ML15363A400	C) Modify SRP Section for DSRS	
9.5.3	Lighting Systems	NUREG-0800	A) Use SRP Section	See footnote ³
9.5.4	Emergency Diesel Engine Fuel Oil Storage and Transfer System	NUREG-0800	A) Use SRP Section	
9.5.5	Emergency Diesel Engine Cooling Water System	NUREG-0800	A) Use SRP Section	
9.5.6	Emergency Diesel Engine Starting System	NUREG-0800	A) Use SRP Section	
9.5.7	Emergency Diesel Engine Lubrication System	NUREG-0800	A) Use SRP Section	
9.5.8	Emergency Diesel Engine Combustion Air Intake and Exhaust System	NUREG-0800	A) Use SRP Section	
10.2	Turbine Generator	NUREG-0800	A) Use SRP Section	See footnote ³

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
10.2.3	Turbine Rotor Integrity	ML15356A700	C) Modify SRP Section for DSRS	
10.3	Main Steam Supply System	ML15355A322	C) Modify SRP Section for DSRS	
10.3.6	Steam and Feedwater System Materials	NUREG-0800	A) Use SRP Section	
10.4.1	Main Condensers	NUREG-0800	A) Use SRP Section	See footnote ³
10.4.2	Main Condenser Evacuation System	NUREG-0800	A) Use SRP Section	See footnote ³
10.4.3	Turbine Gland Sealing System	NUREG-0800	A) Use SRP Section	See footnote ³
10.4.4	Turbine Bypass System	NUREG-0800	A) Use SRP Section	See footnote ³

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
10.4.5	Circulating Water System	NUREG-0800	A) Use SRP Section	See footnote ³
10.4.6	Condensate Cleanup System	NUREG-0800	A) Use SRP Section	See footnote ³
10.4.7	Condensate and Feedwater System	ML15355A331	C) Modify SRP Section for DSRS	
10.4.8	Steam Generator Blowdown System	NUREG-0800	A) Use SRP Section	
10.4.9	Auxiliary Feedwater System (PWR)		B) Section Not Applicable to NuScale Review (N/A)	NuScale design does not have an auxiliary feedwater (AFW) system. This is replaced by DSRS Section 5.4.7, Decay Heat Removal (DHR) System.

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
BTP 10-1	Design Guidelines for Auxiliary Feedwater System Pump Drive and Power Supply Diversity for Pressurized Water Reactor Plants		B) Section Not Applicable to NuScale Review (N/A)	NuScale design does not have an AFW system.
BTP 10-2	Design Guidelines for Avoiding Water Hammers in Steam Generators		B) Section Not Applicable to NuScale Review (N/A)	The topic covered by this SRP Section is addressed in DSRS Section 10.3.
11.1	Coolant Source Terms	ML15355A333	C) Modify SRP Section for DSRS	
11.2	Liquid Waste Management System	ML15355A334	C) Modify SRP Section for DSRS	
11.3	Gaseous Waste Management System	ML15355A335	C) Modify SRP Section for DSRS	
11.4	Solid Waste Management System	ML15355A336	C) Modify SRP Section for DSRS	
11.5	Process and Effluent Radiological Monitoring Instrumentation and Sampling Systems	ML15355A337	C) Modify SRP Section for DSRS	

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
11.6	Guidance on Instrumentation and Control Design Features for Process and Effluent Radiological Monitoring, and Area Radiation and Airborne Radioactivity Monitoring	ML15355A338	D) Develop new DSRS Section	A new DSRS Section has been developed.
BTP 11-3	Design Guidance for Solid Radioactive Waste Management Systems Installed in Light-Water -Cooled Nuclear Power Reactor Plants	NUREG-0800	A) Use SRP Section	
BTP 11-5	Postulated Radioactive Releases Due to a Waste Gas System Leak or Failure	NUREG-0800	A) Use SRP Section	
BTP 11-6	Postulated Radioactive Releases Due to Liquid-Containing Tank Failures	NUREG-0800	A) Use SRP Section	
12.1	Assuring that Occupational Radiation Exposures Are As Low As Is Reasonably Achievable	NUREG-0800	A) Use SRP Section	
12.2	Radiation Sources	ML15350A320	C) Modify SRP Section for DSRS	
12.3 - 12.4	Radiation Protection Design Features	ML15350A339	C) Modify SRP Section for DSRS	

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This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
12.5	Operational Radiation Protection Program	ML15350A341	C) Modify SRP Section for DSRS	
13.1.1	Management and Technical Support Organization	NUREG-0800	A) Use SRP Section	
13.1.2 - 13.1.3	Operating Organization	NUREG-0800	A) Use SRP Section	
13.2.1	Reactor Operator Requalification Program; Reactor Operator Training	NUREG-0800	A) Use SRP Section	
13.2.2	Non-Licensed Plant Staff Training	NUREG-0800	A) Use SRP Section	
13.3	Emergency Planning	NUREG-0800	A) Use SRP Section	
13.4	Operational Programs	NUREG-0800	A) Use SRP Section	
13.5.1	Administrative Procedures		B) Section Not Applicable to NuScale Review (N/A)	SRP Sections 13.5.1.1 and 13.5.1.2 will be used to perform the NuScale review.

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
13.5.1.1	Administrative Procedures - General	NUREG-0800	A) Use SRP Section	
13.5.1.2	Administrative Procedures - Initial Test Program	NUREG-0800	A) Use SRP Section	
13.5.2.1	Operating and Emergency Operating Procedures	NUREG-0800	A) Use SRP Section	
13.5.2.2	Maintenance and Other Operating Procedures	NUREG-0800	A) Use SRP Section	
13.6	Physical Security	NUREG-0800	A) Use SRP Section	
13.6.1	Physical Security - Combined License and Operating Reactors	NUREG-0800	A) Use SRP Section	
13.6.2	Physical Security - Design Certification	NUREG-0800	A) Use SRP Section	
13.6.3	Physical Security - Early Site Permit	NUREG-0800	A) Use SRP Section	
13.6.4	Access Authorization Operational Program	NUREG-0800	A) Use SRP Section	

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
13.6.6	Cyber Security Plan	NUREG-0800	A) Use SRP Section	
13.7	Fitness for Duty – Introduction	NUREG-0800	A) Use SRP Section	
13.7.1	Fitness for Duty - Operational Program	NUREG-0800	A) Use SRP Section	
13.7.2	Fitness for Duty – Construction	NUREG-0800	A) Use SRP Section	
14.2	Initial Plant Test Program - Design Certification and New License Applicants	ML15355A339	C) Modify SRP Section for DSRS	
14.2.1	Generic Guidelines for Extended Power Uprate Testing Programs	NUREG-0800	A) Use SRP Section	The extended power uprate does not apply to the NuScale SMR design certification applications. However, it may be used to review

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS)¹	Applicability of SRP (June 2016)²	Comment
				subsequent applications that reference the NuScale SMR design and are within scope of this SRP Section.
14.3	Inspections, Tests, Analyses, and Acceptance Criteria	NUREG-0800	A) Use SRP Section	
14.3.1	[Reserved]		B) Section Not Applicable to NuScale Review (N/A)	
14.3.2	Structural and Systems Engineering - Inspections, Tests, Analyses, and Acceptance Criteria	NUREG-0800	A) Use SRP Section	See footnote ³
14.3.3	Piping Systems and Components - Inspections, Tests, Analyses, and Acceptance Criteria	NUREG-0800	A) Use SRP Section	

NuScale Design-Specific Review Standard Scope and Safety Review Matrix

This DSRS Matrix is applicable to a NuScale design-related DC, COL, or ESP application under 10 CFR Part 52.

SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
14.3.4	Reactor Systems - Inspections, Tests, Analyses, and Acceptance Criteria	NUREG-0800	A) Use SRP Section	See footnote ³
14.3.5	Instrumentation and Controls - Inspections, Tests, Analyses, and Acceptance Criteria	ML15355A340	C) Modify SRP Section for DSRS	
14.3.6	Electrical Systems - Inspections, Tests, Analyses, and Acceptance Criteria	NUREG-0800	A) Use SRP Section	See footnote ³
14.3.7	Plant Systems - Inspections, Tests, Analyses, and Acceptance Criteria	NUREG-0800	A) Use SRP Section	See footnote ³
14.3.8	Radiation Protection - Inspections, Tests, Analyses, and Acceptance Criteria	NUREG-0800	A) Use SRP Section	See footnote ³
14.3.9	Human Factors Engineering - Inspections, Tests, Analyses, and Acceptance Criteria	NUREG-0800	A) Use SRP Section	

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SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
14.3.10	Emergency Planning - Inspections, Tests, Analyses, and Acceptance Criteria	NUREG-0800	A) Use SRP Section	
14.3.11	Containment Systems - Inspections, Tests, Analyses, and Acceptance Criteria	NUREG-0800	A) Use SRP Section	
14.3.12	Physical Security Hardware - Inspections, Tests, Analyses, and Acceptance Criteria	NUREG-0800	A) Use SRP Section	
15.0	Introduction—Transient and Accident Analyses	ML15355A302	C) Modify SRP Section for DSRS	
15.0.1	Radiological Consequence Analyses Using Alternative Source Terms	NUREG-0800	A) Use SRP Section	
15.0.2	Review of Transient and Accident Analysis Methods	NUREG-0800	A) Use SRP Section	
15.0.3	Design Basis Accident Radiological Consequence Analyses for NuScale SMR Design	ML15355A341	C) Modify SRP Section for DSRS	

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SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
15.1.1 - 15.1.4	Decrease in Feedwater Temperature, Increase in Feedwater Flow, Increase in Steam Flow, and Inadvertent Opening of the Turbine Bypass System or Inadvertent Operation of the Decay Heat Removal System	ML15355A303	C) Modify SRP Section for DSRS	
15.1.5	Steam System Piping Failures Inside and Outside of Containment	ML15355A304	C) Modify SRP Section for DSRS	
15.1.5.A	Radiological Consequences of Main Steam Line Failures Outside Containment of a PWR		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under NuScale DSRS Section 15.0.3.
15.1.6	Loss of Containment Vacuum	ML15355A305	D) Develop new DSRS Section	A new DSRS Section has been developed.
15.2.1 - 15.2.5	Loss of External Load; Turbine Trip; Loss of Condenser Vacuum; Closure of Main Steam Isolation Valve; and Steam Pressure Regulator Failure (Closed)	ML15355A306	C) Modify SRP Section for DSRS	

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SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
15.2.6	Loss of Nonemergency AC Power to the Station Auxiliaries	ML15363A348	C) Modify SRP Section for DSRS	
15.2.7	Loss of Normal Feedwater Flow	ML15355A307	C) Modify SRP Section for DSRS	
15.2.8	Feedwater System Pipe Breaks Inside and Outside Containment	ML15355A308	C) Modify SRP Section for DSRS	
15.3.1 - 15.3.2	Loss of Forced Reactor Coolant Flow Including Trip of Pump Motor and Flow Controller Malfunctions		B) Section Not Applicable to NuScale Review (N/A)	NuScale design does not have reactor coolant pumps and does not rely on forced flow for heat transfer.
15.3.3 - 15.3.4	Reactor Coolant Pump Rotor Seizure and Reactor Coolant Pump Shaft Break		B) Section Not Applicable to NuScale Review (N/A)	NuScale design does not have reactor coolant pumps.
15.4.1	Uncontrolled Control Rod Assembly Withdrawal from a Subcritical or Low Power Startup Condition	NUREG-0800	A) Use SRP Section	See footnote ³

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SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
15.4.2	Uncontrolled Control Rod Assembly Withdrawal at Power	NUREG-0800	A) Use SRP Section	See footnote ³
15.4.3	Control Rod Misoperation (System Malfunction or Operator Error)	NUREG-0800	A) Use SRP Section	See footnote ³
15.4.4-15.4.5	Startup of an Inactive Loop or Recirculation Loop at an Incorrect Temperature, and Flow Controller Malfunction Causing an Increase in BWR Core Flow Rate	NUREG-0800	A) Use SRP Section	
15.4.6	Inadvertent Decrease in Boron Concentration in the Reactor Coolant System (PWR)	NUREG-0800	A) Use SRP Section	See footnote ³
15.4.7	Inadvertent Loading and Operation of a Fuel Assembly in an Improper Position	NUREG-0800	A) Use SRP Section	
15.4.8	Spectrum of Rod Ejection Accidents (PWR)	NUREG-0800	A) Use SRP Section	
15.4.8.A	Radiological Consequences of a Control Rod Ejection Accident (PWR)		B) Section Not Applicable to	The topic addressed by this SRP Section is covered under

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SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
			NuScale Review (N/A)	NuScale DSRS Section 15.0.3.
15.4.9	Spectrum of Rod Drop Accidents (BWR)		B) Section Not Applicable to NuScale Review (N/A)	NuScale SMR is an iPWR design. This SRP Section deals with rod drop accidents for operating BWR reactor designs.
15.4.9.A	Radiological Consequences of Control Rod Drop Accident (BWR)		B) Section Not Applicable to NuScale Review (N/A)	The NuScale SMR is an iPWR design and not a BWR design.
15.5.1 - 15.5.2	Chemical and Volume Control System Malfunction that Increases Reactor Coolant Inventory	ML15363A397	C) Modify SRP Section for DSRS	
15.6.1	Inadvertent Opening of a PWR Pressurizer Pressure Relief Valve or a BWR Pressure Relief Valve		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under NuScale DSRS Section 15.6.6

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SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
15.6.2	Radiological Consequences of the Failure of Small Lines Carrying Primary Coolant Outside Containment		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under NuScale DSRS Section 15.0.3.
15.6.3	Radiological Consequences of Steam Generator Tube Failure (PWR)		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under NuScale DSRS Section 15.0.3.
15.6.4	Radiological Consequences of Main Steam Line Failure Outside Containment (BWR)		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under NuScale DSRS Section 15.0.3.
15.6.5	Loss of Coolant Accidents Resulting From Spectrum of Postulated Piping Breaks Within the Reactor Coolant Pressure Boundary	ML15355A309	C) Modify SRP Section for DSRS	

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SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
15.6.5.A	Radiological Consequences of a Design Basis Loss-of-Coolant Accident Including Containment Leakage Contribution		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under NuScale DSRS Section 15.0.3.
15.6.5.B	Radiological Consequences of a Design Basis Loss-of-Coolant Accident: Leakage From Engineered Safety Feature Components Outside Containment		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under NuScale DSRS Section 15.0.3.
15.6.5.D	Radiological Consequences of a Design Basis Loss-of-Coolant Accident: Leakage From Main Steam Isolation Valve Leakage Control System (BWR)		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under NuScale DSRS Section 15.0.3.
15.6.6	Inadvertent Operation of the Emergency Core Cooling System (ECCS)	ML15355A310	D) Develop new DSRS Section	A new DSRS Section has been developed.
15.7.3	Postulated Radioactive Releases Due to Liquid-Containing Tank Failures		B) Section Not Applicable to NuScale Review (N/A)	This SRP Section is covered under NuScale BTP 11.6.

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SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
15.7.4	Radiological Consequences of Fuel Handling Accidents		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under NuScale DSRS Section 15.0.3.
15.7.5	Spent Fuel Cask Drop Accidents		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under NuScale DSRS Section 15.0.3.
15.8	Anticipated Transients Without Scram	NUREG-0800	A) Use SRP Section	
15.9	Boiling Water Reactor Stability		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered by DSRS Section 15.9A, dealing with NuScale natural circulation stability.
15.9.A	Thermal Hydraulic Stability Review Responsibilities	ML15355A311	D) Develop new DSRS Section	A new DSRS Section has been developed.

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SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
16.0	Technical Specifications	ML15355A312	C) Modify SRP Section for DSRS	
16.1	Risk-Informed Decision Making: Technical Specifications	NUREG-0800	A) Use SRP Section	
17.1	Quality Assurance During the Design and Construction Phases		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under SRP Section 17.5.
17.2	Quality Assurance During the Operations Phase		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under SRP Section 17.5.
17.3	Quality Assurance Program Description		B) Section Not Applicable to NuScale Review (N/A)	The topic addressed by this SRP Section is covered under SRP Section 17.5.
17.4	Reliability Assurance Program (RAP)	NUREG-0800	A) Use SRP Section	

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SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS) ¹	Applicability of SRP (June 2016) ²	Comment
17.5	Quality Assurance Program Description - Design Certification, Early Site Permit and New License Applicants	NUREG-0800	A) Use SRP Section	
17.6	Maintenance Rule	NUREG-0800	A) Use SRP Section	
18.0	Human Factors Engineering	NUREG-0800	A) Use SRP Section	
18-A	Guidance for Crediting Manual Operator Actions in Diversity and Defense-in-Depth (D3) Analyses		B) Section Not Applicable to NuScale Review (N/A)	SRP Section 18.0 Rev 3 now addresses the guidance in this section and will be used for the NuScale review.
19.0	Probabilistic Risk Assessment and Severe Accident Evaluation for New Reactors	NUREG-0800	A) Use SRP Section	
19.1	Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities	NUREG-0800	A) Use SRP Section	

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SRP/DSRS Section Number	SRP/DSRS Section Title	REFERENCE (Final DSRS)¹	Applicability of SRP (June 2016)²	Comment
19.2	Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance	NUREG-0800	A) Use SRP Section	
19.3	Regulatory Treatment of Non-Safety Systems for Passive Advanced Light Water Reactors	NUREG-0800	A) Use SRP Section	
19.4	Strategies and Guidance to Address Loss of Large Areas of the Plant Due to Explosions or Fires	NUREG-0800	A) Use SRP Section	
19.5	Adequacy of Design Features and Functional Capabilities Identified and Described for Withstanding Aircraft Impacts	NUREG-0800	A) Use SRP Section	