Response to SDAA Audit Question

Question Number: A-5.2.3.4.2-1

Receipt Date: 02/26/2024

Question:

SDAA Section 5.2.3.4.2 describes how the cleaning, handling, storage, and shipping of RCPB components comply with ASME NQA-1 requirements. However, SDAA Table 1.9-2 does not cite any Chapter 5 sections for conformance with RG 1.28, "Quality Assurance Program Criteria (Design and Construction)." The staff notes that DCA Table 1.9-2 cites Sections 5.2, 5.3, and 5.4. Therefore, please discuss why SDAA Table 1.9-2 does not cite any Chapter 5 sections for conformance with RG 1.28.

Response:

During preparation of the standard design approval application, NuScale reviewed the design certification application and removed redundant material.

Section 5.2.3.4.2, Cleaning and Contamination Protection Procedures, describes cleaning requirements for reactor coolant pressure boundary components and the controls used with austenitic stainless steel components to minimize harmful contaminants. Redundant statements were removed from Section 5.3, Reactor Vessel, and Section 5.4, Reactor Coolant System Component and Subsystem Design. When NuScale removed the redundant statements, a reference to Section 5.2.3, Reactor Coolant Pressure Boundary Materials, was maintained.

The attached markup adds a citation for Section 5.2, Integrity of Reactor Coolant Boundary, to Table 1.9-2, Conformance with Regulatory Guides.

Markups of the affected changes, as described in the response, are provided below:

Audit Question A-3.11.2.3-1, Audit Question A-5.2.3.4.2-1, Audit Question A-6.1.1-8, Audit Question A-8.1-4

Table 1.9-2: Conformance with Regulatory Guides

RG	Title	Rev.	Conformance Status	Comments	Section
1.6	Safety Guide 6 - Independence Between Redundant Standby (Onsite) Power Sources and Between Their Distribution Systems	0	Not Applicable	The onsite electrical AC power systems do not contain Class 1E distribution systems.	Not Applicable
1.7	Control of Combustible Gas Concentrations in Containment	3	Partially Conforms	The design complies with the intent of RG 1.7 regulatory positions that address atmosphere mixing, hydrogen gas production, and containment structural integrity. However, the design deviates from the positions on hydrogen and oxygen monitors. The design includes a passive autocatalytic recombiner (PAR) that is sized to limit oxygen concentrations to a level that does not support combustion (less than four percent), this results in an inert containment atmosphere. The NuScale design supports an exemption to 10 CFR 50.44(c)(4).	6.2.5
1.8	Qualification and Training of Personnel for Nuclear Power Plants	4	Not Applicable	This guidance governs site-specific programmatic and operational activities that are the responsibility of the applicant or licensee.	Not Applicable
1.9	Application and Testing of Safety-Related Diesel Generators in Nuclear Power Plants	4	Not Applicable	The NuScale design does not require or include safety-related emergency diesel generators.	Not Applicable
1.11	Instrument Lines Penetrating the Primary Reactor Containment	1	Not Applicable	No instrument lines penetrate the NuScale Power Module (NPM) containment.	Not Applicable
1.12	Nuclear Power Plant Instrumentation for Earthquakes	3	Partially Conforms	Selection of specific equipment is the responsibility of the applicant or licensee. In addition, seismic instrumentation cannot be installed inside the containment, so Section 3.7.4 indicates seismic instrumentation is installed in the Reactor Building (RXB).	3.7.4 12.3

Table 1.9-2: Conformance with Regulatory Guides (Continued)

RG	Title	Rev.	Conformance Status	Comments	Section
1.26	Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants	6	Conforms	The quality group classification from RG 1.26 applicable to a specific component is described throughout the FSAR.	3.2 3.12 5.2 5.4 6.2 6.6 9.1 9.2 9.3 10.3 10.4 17.5
1.27	Ultimate Heat Sink for Nuclear Power Plants	3	Not Applicable	This guidance does not apply to plants that use a passive cooling system to transfer heat to the UHS. The NuScale design uses a passive cooling system.	Not Applicable
1.28	Quality Assurance Program Criteria (Design and Construction)	5	Partially Conforms	NuScale conforms with RG 1.28 Rev 4, but follows guidance in RG 1.28 Rev 5 in the following instances: • Compliance with 2011 Nuclear Information and Records Management Association technical guides for electronic records • Use of NEI 14-05A Rev 1 as a basis for laboratory calibration requirements • Qualifications for lead auditors based on audit participation Conformance with Rev 4 is maintained to align with SRP 17.5. Site-specific, programmatic, and operational aspects are the responsibility of the applicant or licensee.	5.2 6.1.1 6.3 7.0 7.2 17.5
1.29	Seismic Design Classification for Nuclear Power Plants	6	Conforms	The seismic classification from RG 1.29 applicable to a specific component is described throughout the FSAR.	3.2