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NuScale Power™

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April 23, 2013

Cindy Bladey, Chief, Rules, Announcements, and Directives Branch
Office of Administration, Mail Stop: TWB-05-B01M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: NuScale Power, LLC (NuScale) comments on NRC Draft Standard Review Plan Chapter 3 for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition. Docket ID NRC-2013-0041

In a Federal Register Notice dated March 12, 2013, the U.S. Nuclear Regulatory Commission (NRC or The Commission) solicited public comments on proposed revision to Sections 3.7 and 3.8 of NUREG-0800, "Design of Structures, Components, Equipment, and Systems" and is soliciting public comment on NUREG–0800." NuScale's comments are provided in Attachment 1 of this letter.

Sincerely,

Edward G. Wallace
Vice President, Regulatory Affairs

cc: Amy E. Cubbage, NRO

Attachment:
NuScale Comments on NRC Draft Standard Review Plan 3.7 and 3.8

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NuScale Comments on NRC Draft Standard Review Plan 3.7 and 3.8

Section Title/Location	Page	Comment	Proposed Change
3.7.2: Acceptance Criteria Section II.3 item B.ii	3.7.2-6	Editorial Comment: Typo: $0.8 \geq R_f \geq 1.25$ should be $0.8 \leq R_f \leq 1.25$.	Typo should be corrected.
3.7.2: Acceptance Criteria Section II.13	p3.7-26	The definitions for K and M should use symbols consistent with those in the equations.	Use K and M with bars over the top of the letters, not underlined.
3.7.2: Acceptance Criteria Section II.4 - SSI	page 3.7.2-21-22:	Limitations on reduction for incoherency effects of maximum 30% above 30 Hz: This limit is unduly severe where much higher reductions are found for very stiff soil or rock. The Description of Changes section mentions reductions as high as 40-50% observed in an EPRI analytical study.	Remove the limitation on reductions for incoherency where stiff soil or rock are concerned.
3.8.3: Concrete and Steel Internal Structures of Concrete or Steel Containments: 3.8.3.1.3: Loads and Loading Combinations.	3.8.3-7	Addition of "loads induced by the proposed construction sequence and differential settlements" to the list of loads encountered during construction in "Loads and Load Combinations" Part A: This issue is not applicable to the SMR design (e.g., NuScale 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.	Applicability of this section for SMRs should be clarified.
3.8.4: Acceptance Criteria Other Seismic Category I Structures: II.4 item H	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, where the governing pressure is to be used: Question: If the dynamic soil pressure due to the seismic event is calculated in the SSI analysis, is it necessary to check the pressures using the other two methods?	Please clarify if the intent is not to accept the SSI-generated dynamic soil pressure, but 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.

Section Title/Location	Page	Comment	Proposed Change
3.8.4: Other Seismic Category I Structures & 3.8.5 Foundations: 3.8.4.1.3 and 3.8.5.1.3	3.8.4-4 3.8.5-13	Addition of "loads induced by the proposed construction sequence and differential settlements" to Loads and Load Combinations, and SRP Acceptance Criteria, 11.4," Design and Analysis Procedures" Item K added guidance for considering these loads in the standard design process which postulates generic geotechnical site parameters: 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 change in construction sequence planning that may occur at the COL phase.	Remove this requirement from DCA and leave it a COLA-level requirement. Construction approach is often site-specific. Addressing effects of settlement and a range of potential construction sequences with the associated construction load once the site is identified and a site-specific application is made is proper and appropriate.
3.8.5 Foundations: SRP Acceptance Criteria; II.4," Design and Analysis Procedures"	3.8.5-10,	Item B was enhanced guidance to evaluate sliding and overturning. However, foundation overturning is not possible for the deeply embedded Seismic Category 1 reactor building of the NuScale SMR Power Plant.	Applicability of these criteria for SMR designs should be clarified.