

October 20, 2014

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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SUBJECT: Projected Schedule for Topical Report Submittals in Advance of Design
Certification Application (NRC Project No. 0769)

REFERENCES: 1) Letter from NuScale Power, LLC to U.S. Nuclear Regulatory Commission,
"Schedule for Topical Report Submittals," LO-0514-7037, dated May 30, 2014
(ML14151A001)
2) Letter from NuScale Power, LLC to U.S. Nuclear Regulatory Commission,
"NuScale Power Submittal of Proprietary the Dynamical System Scaling (DSS)
Methodology Topical Report (NRC Project No. 0769)," NP-LO-0712-1542, dated
August 20, 2012.

In NuScale Power, LLC's (NuScale) reference letter dated May 30, 2014 (ML14151A001), NuScale provided a list of topical reports to the NRC to support the NRC's resource planning efforts and adequate support for a timely review of its design certification application (DCA). The purpose of this letter is to update that list of topical reports and the anticipated submittal dates for planning purposes.

The enclosure to this letter contains a list of the planned NuScale topical reports, a short abstract for each, and the current anticipated NRC submittal date. NuScale intends to provide periodic updates to this list as further information becomes available.

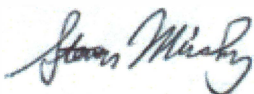
Additionally, based on further review, NuScale is withdrawing the previously submitted topical report titled "Dynamical System Scaling (DSS) Methodology" (reference 2) as NuScale does not intend to reference this methodology in its DCA.

In order to increase confidence in the NRC review schedule for the NuScale DCA, NuScale believes it is important to obtain early resolution with the NRC staff on the issues in the proposed topical reports. As development and review of topical reports requires significant NRC and NuScale resources, NuScale requests feedback regarding availability of NRC staff resources for review of these topical reports in accordance with the submittal dates delineated in the attachment.

This letter contains no regulatory commitments.

If you have any questions, please feel free to contact me at (301) 770-0472 or at smirsky@nuscalepower.com.

Sincerely,



Steven Mirsky
Manager, Licensing

Enclosure: Projected Schedule for Topical Report Submittals

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Topical Report Title	Abstract	Projected Submittal Date (Calendar Year)
Quality Assurance Program Description for the NuScale Power Reactor, Rev. 2	The NuScale Topical Report revision will incorporate organizational changes, address corrective actions, and will expand the scope of the QA Program to all NuScale activities.	1Q2015
Risk Informed Performance Based Design	The NuScale topical report on risk-informed performance-based (RIPB) design will describe the process by which the adequacy of defense-in-depth is evaluated for plants with very low risk profiles and containing more than one reactor module in shared reactor building. The report will provide a description of a generic RIPB methodology and example implementation for the NuScale design. The example will include various design decisions where deterministic and probabilistic analyses were used to make decisions on safety and performance.	3Q2015
ROPER Fuel Performance Methodology	The NuScale Topical Report will describe the fuel performance models using thermal, fission gas release, corrosion, and hydrogen uptake based on empirical data. The scope of the report will document the methodology for determining rod internal pressure, cladding oxidation, fuel temperatures, and cladding stress and strain.	3Q2015
Steady State Core Thermal Hydraulics - Subchannel Methodology	The NuScale Topical Report will describe the steady state and transient subchannel analysis of local fluid conditions in the core, solving mass, momentum, and energy conservation equations for steady state.	4Q2015
I&C Design/Safety System Digital Platform	The NuScale Power Safety I&C Platform Topical Report will present key design concepts of the safety I&C platform. The key design concepts include details regarding how the platform incorporates the fundamental I&C design principles (independence, redundancy, predictability and repeatability, and diversity and defense-in-depth) outlined in the NuScale DSRS as well as important platform functionality, including capability for test and calibration.	4Q2015 ¹
Accident Source Term Methodology	The NuScale Topical Report will provide the methodology used to determine the radiological consequences of the accident source term in NuScale reactors. The methodology for the design-basis source term will be presented, including appropriate uncertainty quantification. Specific components of this overall methodology that will be presented include initial isotopic inventories, release fractions to the containment, release timing, containment aerosol removal and transport, atmospheric dispersion, and radiological transport.	4Q2015
Normal Operation Source Term Methodology	The NuScale Topical Report will provide the methodology used to determine the normal operation radioactive source term in NuScale reactors. This will include the reactor core, the primary and secondary loops, and other radioactive sources such as the reactor pool, the spent fuel storage area, and other reactor systems and components and will include the development and qualification of the methodology for evaluating the radiological consequences during normal operations.	4Q2015

Topical Report Title	Abstract	Projected Submittal Date (Calendar Year)
Core Thermal-Hydraulics and Primary System Stability	The NuScale topical report will provide the general methodology that will be utilized for uncertainty and sensitivity analysis in a variety of safety analysis applications. Methods to determine the total uncertainty in a system model and the sensitivity of individual model inputs are presented. Example implementations of both steady-state and transient analysis applications are presented.	4Q2015
Uncertainty Methods	The NuScale topical report will provide the general methodology that will be utilized for uncertainty and sensitivity analysis in a variety of safety analysis applications. Methods to determine the total uncertainty in a system model and the sensitivity of individual model inputs are presented. Example implementations of both steady-state and transient analysis applications are presented.	4Q2015
Critical Heat Flux Correlation	The NuScale Topical Report will describe NuScale's proprietary critical heat flux correlation and the Stern Laboratory test data upon which the correlation is based.	1Q2016
EPZ Sizing Methodology and Application	This topical report will describe the NuScale design-specific methodology for establishing the technical basis for plume exposure EPZ sizing. This will be based on the NEI paper but with design-specific and site-specific (INL) information.	1Q2016 ¹
Containment Aerosol Removal and Transport	The NuScale Topical Report will describe the theoretical, numerical, and validation bases for containment aerosol removal and transport in a design basis source term radiological consequence analysis. A description of the physical phenomena, governing equations, and numerical solution method will be provided along with a set of validation cases. Example isotopic inventories, release fractions, and atmospheric dispersion factors will be utilized to perform uncertainty analysis for the NuScale design in order to demonstrate how the impacts of uncertainty in the aerosol removal and transport methodology affect radiological consequences.	1Q2016 ¹
Nuclear Analysis Codes and Methodologies	The NuScale Topical Report will describe the nuclear analysis codes and methodologies used to design and perform the core physics analyses for the reactor core. The report will address the CMS (Core Management System) code suite comprising the CASMO5 Lattice Spectrum and Depletion Code, the CMSLINK5 Cross-Section Processing Code, the SIMULATE5 Steady State Reactor Analysis Code, and the SIMULATE-3K Transient Reactor Analysis Code. The NuScale Topical Report will also address the MCNP general purpose coupled neutron/photon/electron Monte Carlo transport code and the NJOY Cross Section and Nuclear Data Production Software.	2Q2016

Topical Report Title	Abstract	Projected Submittal Date (Calendar Year)
Risk Significance Determination	The NuScale Topical Report will describe the NuScale thresholds for determining risk significance and will provide the basis and framework for the NuScale thresholds.	TBD ²
VIPRE Subchannel Applicability and Validation	The NuScale report will provide an applicability assessment of the models, correlations, and features in the VIPRE code for the NuScale reactor design. Validation of the VIPRE code against applicable test data that spans the plant range will be provided to establish code accuracy and uncertainty.	TBD ²
VIPRE Subchannel Methodology	The NuScale report will develop the VIPRE models and correlations for the NuScale reactor design.	TBD ²
NRELAP5 code and LOCA Evaluation Model, and LOCA methodology	This topical report describes development of NuScale's NRELAP5 code, LOCA Evaluation Model (EM) and LOCA methodology. This topical report will be composed of three volumes. Volume 1 will describe the NRELAP5 code, including commercial grade dedication, modifications to the baseline RELAP5-3D code, and code documentation. The EM will be developed following the Evaluation Model Development and Assessment Process (EMDAP) of Regulatory Guide (RG) 1.203. Most of the EM development, including the PIRT, scaling, and code assessment will be in Volume 2. Volume 3 will address the LOCA methodology and will include a sample calculation that describes how biases, uncertainties, and distortions are handled. Plant sensitivity studies will be included as an Appendix to Volume 3. Both LOCA PCT, with RPV water level as its surrogate, and containment analysis results will be included in Volume 3. It will be demonstrated that analyses performed with the EM for the NuScale SMR satisfy the requirements of 10 CFR 50, Appendix K, "ECCS Evaluation Models."	TBD ²
Advanced Sensor Qualification Method	The NuScale Power Advanced Sensor Qualification Plan Topical Report will describe the equipment qualification plans for the unique NuScale containment conditions and the use of advanced measurement technologies for in-containment and in-vessel measurements. The plan will address harsh environmental qualification methods, validation tests for unique sensor equipment, and the qualification of advanced signal processing methods.	TBD ²
Electrical Power Systems Methodology	This NuScale Power Topical Report will discuss GDC 17 departures and our unique conceptual electrical design using best-estimate assumptions and sensitivity analyses.	TBD ²

Note 1 – Tentative dates potentially subject to change.

Note 2 – These items have not yet been scheduled.