



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 30, 2021

Mr. Matthew Sunseri, Chairman
Advisory Committee on Reactor Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: REVIEW OF ADVANCED REACTOR COMPUTER CODE EVALUATIONS

Dear Mr. Sunseri:

On behalf of the U.S. Nuclear Regulatory Commission (NRC) staff, I am responding to your letter to Chairman Hanson dated March 1, 2021 ([ML21053A024](#)), providing your conclusions and recommendations on the staff's evaluations of computer codes to be used for analyses of advanced non-light-water reactors (non-LWRs). We greatly value the Advisory Committee on Reactor Safeguards (ACRS) review, evaluation and useful perspectives and insights on our approach to code development activities for non-LWRs.

The staff has taken into consideration your recommendations and has revised the two draft documents referenced in your letter that support Strategy 2 of the NRC Non-LWR Near-Term Implementation Action Plans ([ML17165A069](#)). Specifically, Volume 4 – "Licensing and Siting Dose Assessment Codes" ([ML21085A484](#)) and Volume 5 – "Radionuclide Characterization, Criticality, Shielding, and Transport in the Nuclear Fuel Cycle" ([ML21088A047](#)) were revised. A list of the revised documents, along with prior related code assessment reports with their Agency Document and Management System (ADAMS) Accession Numbers, is provided at the end of this letter.

The staff looks forward to continued interactions with the ACRS as we prepare for advanced reactor licensing.

Sincerely,

A handwritten signature in blue ink, appearing to read "Raymond V. Furstenau".

Signed by Furstenau, Raymond
on 03/30/21

Raymond V. Furstenau, Director
Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission

cc: Chairman Hanson
Commissioner Baran
Commissioner Caputo
Commissioner Wright
SECY

References:

1. "Code Development Approach for NRC's Regulatory Oversight of Non-Light Water Reactors," Rev. 1 ([ML20030A174](#)).
2. "NRC Non-Light Water Reactor Vision and Strategy, Volume 1 – Computer Code Suite for Plant Systems Analysis," Rev. 1 ([ML20030A176](#)).
3. "NRC Non-Light Water Reactor Vision and Strategy, Volume 2 – Computer Code Development Plans for Fuel Performance Analysis," Rev. 1 ([ML20030A177](#)).
4. "NRC Non-Light Water Reactor Vision and Strategy, Volume 3 – Computer Code Development Plans for Severe Accident Progression, Source Term, and Consequence Analysis," Rev. 1 ([ML20030A178](#)).
5. "NRC Non-Light Water Reactor (Non-LWR) Vision and Strategy, Volume 4 – Licensing and Siting Dose Assessment Codes," Rev. 1 ([ML21085A484](#)).
6. "NRC Non-Light Water Reactor (Non-LWR) Vision and Strategy, Volume 5 – Radionuclide Characterization, Criticality, Shielding, and Transport in the Nuclear Fuel Cycle," Rev. 1 ([ML21088A047](#)).
7. RES response to past ACRS letter "Review of Advanced Reactor Computer Code Evaluations," ([ML20030A172](#))

REVIEW OF ADVANCED REACTOR COMPUTER CODE EVALUATIONS DATE March 30, 2021

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* via email

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