

From: [Taylor, Robert](#)
To: [Sunseri, Matthew](#)
Cc: [Moore, Scott](#); [Burkhart, Larry](#); [Shams, Mohamed](#); [Smith - NRR, Brian](#); [Segala, John](#); [Hayes, Michelle](#); [Betancourt, Luis](#); [Nieh, Ho](#); [Mitchell, Recasha](#); [Brown, Christopher](#); [RidsACRS MailCTR Resource](#); [RidsEdoMailCenter Resource](#); [RidsSecyMailCenter Resource](#); [Bolumalla, Shilpa](#)
Subject: RESPONSE TO ACRS LETTER REGARDING DRAFT SAFETY EVALUATION, REVISION 2 FOR TOPICAL REPORT, "URANIUM OXYCARBIDE (UCO) TRISTRUCTURAL ISOTROPIC (TRISO) COATED PARTICLE FUEL PERFORMANCE: TOPICAL REPORT EPRI-AR-1(NP)"
Date: Wednesday, August 26, 2020 1:27:29 PM

Dear Chairman Sunseri,

During the 675th meeting of the Advisory Committee on Reactor Safeguards (the Committee) held July 8-10, 2020, the Committee completed its review of the Electric Power Research Institute (EPRI) topical report (TR), "Uranium Oxycarbide (UCO) Tristructural Isotropic (TRISO) Coated Particle Fuel Performance" (ADAMS Accession No. ML19155A173), and the associated NRC staff draft Safety Evaluation (SE), Revision 2 (ADAMS Accession No. ML20142A365).

In the Committee's final report dated August 4, 2020 (ADAMS Accession No. ML20210M241), the Committee concluded that the staff's SE is focused, detailed, and identifies appropriate expectations, conditions, and limitations on future use of the TR by reactor or fuel designers to establish performance of TRISO-coated particles. Additionally, the Committee concluded that the TR provides a valuable starting point and data base for future coated particle fuel designs. The Committee noted that incorporating coated particles that meet the specifications in the TR into an overall fuel design should be done with caution to avoid introducing degradation phenomena not accounted for in the irradiation program and that the transition from coated particle to overall fuel system will likely require additional coated particle and fuel system irradiation programs to validate the overall design. The Committee recommended that the SE should be issued.

The NRC staff appreciates the Committee's review and feedback, as well as the thoughtful discourse during the May 6, 2020, Metallurgy & Reactor Fuels Subcommittee and July 8, 2020, ACRS Full Committee meetings. The staff plans to issue the final SE to EPRI, and then publish the approved version of the TR once the "-A" version is submitted to the NRC. The staff looks forward to further interaction with the Committee on other upcoming advanced non-light-water reactor topics.

Best regards,
Rob Taylor

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