



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

August 11, 2020

Craig Stover  
Program Manager, Advanced Nuclear  
Technology  
Electric Power Research Institute Inc.  
1300 West W.T. Harris Boulevard  
Charlotte, NC 28262

**SUBJECT: FINAL SAFETY EVALUATION FOR ELECTRIC POWER RESEARCH  
INSTITUTE TOPICAL REPORT (EPRI), "URANIUM OXYCARBIDE (UCO)  
TRISTRUCTURAL ISOTROPIC (TRISO) COATED PARTICLE FUEL  
PERFORMANCE: TOPICAL REPORT EPRI-AR-1(NP)"**

Dear Mr. Stover:

By letter dated May 31, 2019, Electric Power Research Institute (EPRI) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review topical report (TR), "Uranium Oxycarbide (UCO) Tristructural Isotropic (TRISO) Coated Particle Fuel Performance: Topical Report EPRI-AR-1(NP)" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19155A173). The NRC staff discussed a preliminary set of questions with EPRI during a public meeting on December 9, 2019 (ADAMS Accession No. ML20029E871) and subsequently issued requests for additional information (RAIs) on January 2, 2020 (ADAMS Accession No. ML20009E065). By letters dated February 26, 2020 and March 9, 2020, EPRI submitted responses to the RAIs (ADAMS Accession Nos. ML20058A040 and ML20071D143, respectively).

The enclosed final safety evaluation (SE) addresses the applicability of TR EPRI-AR-1(NP). The NRC staff has found that the TR is acceptable for referencing in licensing applications to the extent specified under the limitations and conditions delineated in the TR and the enclosed SE.

According to the guidance provided on the NRC website, we request that EPRI publish the accepted version of this TR within three months timeframe after the final SE is issued by NRC. The accepted version shall incorporate this letter and the enclosed final SE after the title page. Also, it must contain historical review information, including NRC RAI questions and your responses. The accepted version shall include a "-A" (designating accepted) following the TR's identification symbol.

As an alternative to including the RAI questions and RAI responses behind the title page, if changes to the TRs were provided to the NRC staff to support the resolution of RAI responses, and the NRC staff reviewed and approved those changes as described in the RAI responses, there are two ways that the accepted version can capture the RAI questions:

1. The RAI questions and RAI responses can be included as an appendix to the accepted version.

2. The RAI questions and RAI responses can be captured in the form of a table (inserted after the final SE) which summarizes the changes as shown in the approved version of the TR. The table should reference the specific RAI questions and RAI responses which resulted in any changes, as shown in the accepted version of the TR.

If future changes to the NRC's regulatory requirements affect the acceptability of this TR, EPRI will be expected to revise the TR appropriately or justify its continued applicability for subsequent referencing. Applicants or licensees referencing this TR would be expected to justify its continued applicability or evaluate their plant using the revised TR.

If you have any questions or comments concerning this matter, please contact Jordan Hoellman at (301) 415-5481 or via email [Jordan.Hoellman2@nrc.gov](mailto:Jordan.Hoellman2@nrc.gov).

Sincerely,

/RA/

John P. Segala, Chief  
Advanced Reactor Policy Branch  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

Docket No.: 99902021

Enclosure:  
Final Safety Evaluation

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DATED: AUGUST 11, 2020

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**ADAMS Accession No.: ML20216A323 (Package)****\*via email****NRR-106**

OFFICE	NRR/DANU/UARP/PM*	NRR/DANU/UART/BC*	NRR/DANU/UARP/BC*
NAME	JHoellman	MHayes	JSegala
DATE	8/17/2020	8/10/2020	8/11/2020

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