

SEP 25 1997

Dr. Carl J. Paperiello, Director  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Dr. Paperiello:

**SUBJECT: Existing Aluminum Spent Nuclear Fuel Performance Database Documents For Your Review and Comments (As Per Interagency Agreement DE-A109-96SR18579 and Memorandum of Understanding)**

Per Interagency Agreement DE-A109-96SR18579 and Memorandum of Understanding, Savannah River Operations Office is submitting to you five copies of the Existing Aluminum Spent Nuclear Fuel Performance Database Documents for your review and comments as described in the presentation held on October 31, 1996.

These documents characterize the basic research on aluminum based spent nuclear fuel for a period of 50 years and will be used as the basis for all future extrapolations for the behavior of the fuel for longer periods of time.

Your review/comments and indication of "no objections" within 60 days will be greatly appreciated.

Any contracting questions should be addressed to Beth O'Rear at (803) 725-1345. For all other questions, please contact me or Jean M. Ridley, P.E. of my staff at (803) 557-3758.

Sincerely,

*Original Signed By  
John E. Anderson*

A. Lee Watkins  
Assistant Manager for Material  
and Facility Stabilization

RSFD:JMR:ddc

UE-97-0094

11 Enclosures (See Page 2)

11 Enclosures

1. Material Issues in Interim Storage and Direct Disposal of Clad Spent Nuclear Fuel
2. Creep Analysis for Materials Test Reactor (MTR) Fuel Assemblies in Dry Storage
3. Evaluation of Corrosion of Aluminum-Based Reactor Fuel Cladding Materials During Dry Storage
4. Acceptance Criteria for Interim Dry Storage Aluminum Alloy Clad Spent Nuclear Fuels
5. Plan for Development of Technologies for Direct Disposal of Aluminum Spent Nuclear Fuel
6. Task Plan for Development of Dilution Technologies for Aluminum-Base Spent Nuclear Fuel
7. Task Plan for Characterization of DOE Aluminum Spent Nuclear Fuel
8. Task Plan for Engineering Test Protocol for Metallic Alloys Waste Forms
9. Vapor Corrosion of Aluminum Cladding Alloys and Aluminum-Uranium Fuel Materials in Storage Environments
10. Alternative Aluminum Spent Nuclear Fuel Treatment Technology Development Status Report
11. Evaluation of Codisposal Viability for Aluminum-Clad DOE-Owned Spent Fuel: Phase I, Intact Codisposal Canister

Dr. Paperiello

3

SEP 25 1997

cc w/encl:

M. J. Bell, OCRWM

C. Hansen (EM-67), HQ

bcc w/o encl:

D. L. Campbell, DOE-SR

S. E. O'Rear, DOE-SR

Mark Barlow, WSRC

Richard Murphy, WSRC

M. D. Federline, NRC

K. Chacey, EM-67

W. D. Clark, DOE-SR

Rick Weller, NRC

N. King Stablein, NRC

RSFD Rdg File

MGR Rdg. File

AMMFS Rdg. File