



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

November 30, 2021

Dr. Christina Back
Vice President, Nuclear Technologies and Materials Division
General Atomics Electromagnetic Systems
P.O. Box 85608
San Diego, CA 92186-5608

**SUBJECT: GENERAL ATOMICS ELECTROMAGNETIC SYSTEMS (GA-EMS) – NRC
FEEDBACK REGARDING GA-EMS WHITE PAPER: ENERGY MULTIPLIER
MODULE (EM²) ACCELERATED FUEL QUALIFICATION STRATEGY (EPID
NO. L-2021-LRO-0034)**

Dear Dr. Christina Back:

By letter dated June 8, 2021, General Atomics Electromagnetic Systems (GA-EMS) submitted to the U.S. Nuclear Regulatory Commission (NRC) staff for review the white paper titled, "Energy Multiplier Module (EM²) Accelerated Fuel Qualification Strategy" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21181A189).

The white paper describes the Accelerated Fuel Qualification (AFQ) as a methodology to develop and qualify a new nuclear fuel form for use in the EM² gas-cooled fast reactor. The objective of this methodology is to reduce the time and cost of fuel qualifications with the use of advances in multi-scale modeling combined with miniature fuel irradiations. GA-EMS requested that the NRC staff review and provide feedback on its white paper and expected application of the accelerated fuel qualification methodology in the licensing framework for EM² and advanced reactors in general.

The NRC staff has completed its review of the white paper and is providing its feedback as an enclosure to this letter.

W. Kennedy

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If you have questions about this matter, please contact Samuel Cuadrado at (301) 415-2946 or via email at Samuel.Cuadrado@nrc.gov.

Sincerely,



Signed by Kennedy, William
on 11/30/21

William Kennedy, Acting Chief
Advanced Reactor Licensing Branch
Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

Project No.: 99902082

Enclosure:
As stated

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ADAMS Accession Nos.

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