



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

May 6, 2020

Mr. Simon Irish  
Chief Executive Officer  
Terrestrial Energy USA, Inc.  
150 East 58<sup>th</sup> Street, Suite 2413  
New York, NY 10155

**SUBJECT: TERRESTRIAL ENERGY USA – NRC FEEDBACK REGARDING INTEGRAL  
MOLTEN SALT REACTOR CORE-UNIT DEFINITION – APPLICABLE  
STRUCTURES, SYSTEMS AND COMPONENTS WHITE PAPER (EPID NO. L-  
2020-LRO-0004)**

Dear Mr. Irish:

By letter dated April 2, 2020 (Agencywide Documents Access and Management System Accession No. ML20097B846), Terrestrial Energy USA (TEUSA), submitted for U.S. Nuclear Regulatory Commission (NRC) staff review a proprietary white paper titled “Integral Molten Salt Reactor (IMSR) Core-Unit Definition – Applicable Structures, Systems and Components.”

The white paper provides an overview of major plant structures, systems, and components that make up the IMSR power plant. In addition, the white paper provides details related to the design and operation of important plant structures, systems and components that comprise the IMSR Core-unit. Terrestrial requested the NRC staff to review the white paper and provide written comments on areas where the white paper does not provide sufficient detail for a clear understanding of the design basis and operation of the IMSR Core-unit. The NRC staff has completed its assessment of the white paper. The areas that require additional clarity are identified in the enclosures to this letter, along with additional staff feedback for Terrestrial’s consideration in future submittals. The proprietary and non-proprietary versions of the document containing NRC staff’s observations are in Enclosures 1 and 2, respectively.

Enclosure 1 to this letter contains Proprietary information. When separated from Enclosure 1, this document is DECONTROLLED.

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If you have questions about this matter, please contact Adrian Muniz at (301) 415-4093 or [Adrian.Muniz@nrc.gov](mailto:Adrian.Muniz@nrc.gov).

Sincerely,

*/RA/*

Benjamin Beasley, Chief  
Advanced Reactor Licensing Branch  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

Project No.: 99902076

Enclosures:  
As stated

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MOLTEN SALT REACTOR CORE-UNIT DEFINITION – APPLICABLE  
STRUCTURES, SYSTEMS AND COMPONENTS WHITE PAPER WHITE  
PAPER DATED: May 6, 2020

**DISTRIBUTION:**

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Public (Letter and Enclosure 2 only)

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ACHereskin

RidsNrrDanu Resource

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**ADAMS Accession Nos. Pkg: ML20121A139**

**Letter: ML20121A187**

**Enclosure 1: ML20121A200 (Non-public)**

**Enclosure 2: ML20121A212 (Public- Redacted)**

**\*via -email**

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