

TERRESTRIAL ENERGY USA

December 4, 2020

Project Number: 99902076

TEUSA Letter: L201204

US Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: Revised White Paper on Interfaces Between the IMSR® Core-unit and Reactor Auxiliary Building Structures and Systems

Terrestrial Energy USA, Inc. (TEUSA) is submitting a revised white paper entitled "*Interfaces Between the IMSR® Core-unit and Reactor Auxiliary Building Structures and Systems*." This white paper contains a description of potential interfaces for structures, systems and components (SSCs) in the IMSR® Reactor Auxiliary Building that interact directly with the SSCs that comprise the IMSR® Core-unit. As such, this white paper supports the TEUSA development of interface requirements and acceptance criteria that will be the subject of a future TEUSA-submittal. The Identification of Interfaces is a regulatory requirement of Subpart E of 10 CFR Part 52 and is necessary to support an application for a Standard Design Approval (SDA) for the Core-unit as a "major portion" of the overall IMSR® power plant design.

This letter transmits a revision to the original white paper on IMSR® interfaces that TEUSA submitted to NRC in May 2020. This revised version of the white paper contains modifications made in response to the NRC feedback provided in July 2020. In addition, this letter provides TEUSA's responses to each item of feedback received from NRC on the original IMSR® Interfaces white paper.

TEUSA is providing this revised white paper and responses to NRC feedback for information. This is the final product associated with this effort. The major elements of this report will be discussed again in more detail in a subsequent white paper to be submitted to the NRC. As such, TEUSA is not requesting additional review of this white paper at this time. The NRC's feedback has been helpful for identifying where additional information will be needed and for establishing staff expectations for the future white paper.

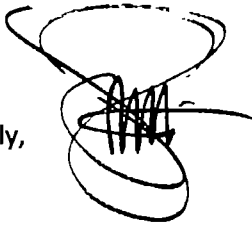
TEUSA acknowledges that the NRC did not incur all available review hours as part of the suggested 160-hour budget. As such, TEUSA is not opposed to any additional NRC review up to the initially proposed the 160-hour cap if the NRC believes that additional feedback would give TEUSA additional clarity for future reports.

Portions of the enclosed white paper are proprietary, and TEUSA requests that it be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390. Enclosures 1 and 3 provide the proprietary version of the revised white paper and the responses to the NRC feedback, respectively. Enclosure 2 and 4 provide the non-proprietary versions of the white paper and responses to the NRC feedback, respectively. An affidavit supporting the withholding request is provided in Enclosure 5.

If you have any questions or need any additional information, please contact Robin Rickman by email at rrickman@terrestrialusa.com or by phone at 646-687-8212 ext. 531.

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Sincerely,



Simon Irish
Chief Executive Officer, Terrestrial Energy USA

Enclosures:

Enclosure 1: "Interfaces Between the IMSR® Core-unit and Reactor Auxiliary Building Structures and Systems" (Proprietary)

Enclosure 2: "Interfaces Between the IMSR® Core-unit and Reactor Auxiliary Building Structures and Systems" (Non-proprietary)

Enclosure 3: Summary of TEUSA's Responses to NRC Feedback on IMSR® Interfaces White Paper (Proprietary)

Enclosure 4: Summary of TEUSA's Responses to NRC Feedback on IMSR® Interfaces White Paper (Non-proprietary)

Enclosure 5: Affidavit Supporting Request for Withholding from Public Disclosure

CC:

Mohammad Shams, Director - Division of Advanced Reactors and Non-Power Utilization Facilities (DANU)—Office of Nuclear Reactor Regulation (NRR)

Brian Smith, Deputy Director – DANU-NRR

John Segala, Branch Chief - Advanced Reactors Policy Branch – DANU-NRR

Benjamin Beasley, Branch Chief - Advanced Reactors Licensing Branch - DANU-NRR

Adrian Muniz, Project Manager - Advanced Reactor Licensing Branch – DANU-NRR

Michelle Hayes, Branch Chief, Advanced Reactors Technical Branch – DANU-NRR

Enclosure 5 to TEUSA Letter L201204

Terrestrial Energy USA Affidavit and Request for Withholding from Public Disclosure
(10 CFR 2.390)

TERRESTRIAL ENERGY USA

AFFIDAVIT

I, **Simon Irish**, state as follows:

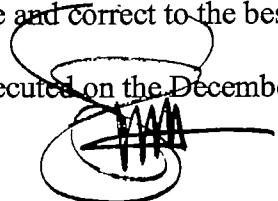
- (1) I am the Chief Executive Officer of Terrestrial Energy USA ("TEUSA") and have reviewed the information described in paragraph (2) which is sought to be withheld, and I am the authorizing official for TEUSA to apply for its withholding.
- (2) The information sought to be withheld, in its entirety, is contained in Enclosures 1 and 3 of TEUSA Letter L201204, "*Interfaces Between the IMSR® Core-unit and Reactor Auxiliary Building Structures and Systems*" and "*Summary of TEUSA's Responses to NRC Feedback on IMSR® Interfaces White Paper*."
- (3) I am making this request for withholding, and executing this affidavit in support thereof, pursuant to the provisions of 10 CFR 2.390(b)(1).
- (4) In making this application for withholding of proprietary and commercially sensitive information of which it is the owner or licensee, TEUSA relies upon the exemption from disclosure set forth in the *Freedom of Information Act* ("FOIA"), 5 U.S.C. Sec. 552(b)(4), and the *Trade Secrets Act*, 18 U.S.C. Sec. 1905, and NRC regulations 10 CFR 9.17(a)(4), and 2.390(a)(4) for trade secrets (Exemption 4). The material for which exemption from disclosure is here sought also qualifies under the narrower definition of trade secret, within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, *Critical Mass Energy Project v. Nuclear Regulatory Commission*, 975 F.2d 871 (D.C. Cir. 1992), and *Public Citizen Health Research Group v. FDA*, 704 F.2d 1280 (D.C. Cir. 1983).
- (5) The information sought to be withheld is considered proprietary and/or commercially sensitive for the reasons set forth in paragraphs (4)b and (4)c shown below. Some examples of categories of information that fit into the definition of commercially sensitive information are:
 - a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by TEUSA's competitors without license from TEUSA constitutes a competitive economic advantage over other companies;
 - b. Information that, if used by a competitor, would reduce their expenditure of resources or improve their competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;
 - c. Information that reveals aspects of past, present, or future TEUSA development plans and programs, resulting in potential products to TEUSA;
 - d. Information that discloses trade secrets or potentially patentable subject matter, or both, for which it may be desirable to obtain patent protection.
- (6) To address 10 CFR 2.390(b)(4), the information sought to be withheld is being submitted to NRC in confidence. The information is of a sort customarily held in confidence by TEUSA, and is in fact so held. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by TEUSA, not been disclosed publicly, and not been made available in public sources. All disclosures to third parties, including any required transmittals to the NRC, have been made, or must be

made, pursuant to regulatory provisions, or to proprietary or confidentiality agreements that provide for maintaining the information in confidence. The initial designation of this information as proprietary and/or commercially sensitive, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in the following paragraphs 6 & 7.

- (7) Initial approval of proprietary and commercially sensitive treatment of a document is made by the manager of the originating component, who is the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge, or who is the person most likely to be subject to the terms under which it was licensed to TEUSA. Access to such documents within TEUSA is limited to a "need to know" basis.
- (8) The procedure for approval of external release of such a document typically requires review by a vice president for technical content, competitive effect, and determination of the accuracy of the proprietary and/or commercially sensitive designation. Disclosures outside TEUSA are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary or confidentiality agreements, or both.
- (9) The information identified in paragraph (2), above, is classified as proprietary and/or commercially sensitive because it contains detailed information regarding TEUSA's licensing plans and technical details about the Integral Molten Salt Reactor (IMSR®) which TEUSA is developing for US deployment.
- (10) Public disclosure of the information sought to be withheld is likely to cause substantial harm to TEUSA's competitive position and foreclose or reduce the availability of profitmaking opportunities. The information contains proprietary technical details of the IMSR® design and details regarding TEUSA's licensing strategy. The development of TEUSA's chosen licensing path comprises a substantial investment of time and money by TEUSA. The precise value of the expertise to use in devising this licensing path is difficult to quantify, but it clearly is substantial. TEUSA's competitive advantage will be lost if its competitors are able to use the results of the TEUSA's experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions. The value of this information to TEUSA would be lost if the information were disclosed to the public. Making such information available to competitors without them having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive TEUSA of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing its licensing strategy.

I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to the best of my knowledge, information, and belief.

Executed on the December 4, 2020



Simon Irish
Chief Executive Officer, Terrestrial Energy USA, Inc.