



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

August 20, 2026

Dr. Cesare Frepoli
Chief Operating Officer and
Director of Licensing and
Regulatory Affairs
Terra Innovatum Corp
1001 Liberty Ave, Suite 500
Pittsburgh, PA 15222

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION STAFF FEEDBACK AND
OBSERVATIONS REGARDING TERRA INNOVATUM CORP WHITE PAPER
SOLO-TR-2025-011, "EXTERNAL AND INTERNAL HAZARDS ANALYSIS AND
SAFETY BASIS EVENT IDENTIFICATION FOR SOLO NON-POWER
REACTOR," REVISION 0 (EPID L-2026-LRO-0034)

Dear Cesare Frepoli:

By letter dated February 15, 2026 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML26047A006), Terra Innovatum Corp (TINN) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review topical report (TR) SOLO-TR-2025-011 "External and Internal Hazards Analysis and Safety Basis Event Identification for SOLO Non-Power Reactor." On April 26, 2026, TINN resubmitted the TR as a white paper (WP) (ML26125A073).

The WP describes the methodology used to perform a systematic hazards analysis for the first-of-a-kind (FOAK) SOLO reactor, a 5 MWth, helium-cooled, thermal-spectrum test reactor utilizing commercially available low-enriched uranium (LEU) UO₂ fuel design, and to identify safety basis events (SBEs) for consideration in the development of the facility safety basis. The WP further describes the process used to establish a set of bounding accident scenarios intended to define the deterministic safety analysis envelope supporting the licensing of the SOLO FOAK facility under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," as a Class 104 non-power reactor. In addition, the WP discusses the approach used to identify the maximum hypothetical accident (MHA) for the SOLO FOAK design and its role in supporting the development of the licensing basis and overall safety case for the facility.

The NRC staff's observations and feedback on this WP are provided in the enclosure to this letter. If you have questions regarding this matter, please contact Jacqueline Tulip via email at Jacqueline.Tulip@nrc.gov or 301-415-5234.

Sincerely,

/RA/

Michelle Hayes, Chief
Advanced Reactor Licensing Branch 2
Division of Advanced Reactor Licensing
Office of Advanced Reactors

Project No.: 99902138

Enclosure:
As stated

cc: Terra Innovatum SOLO via GovDelivery

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION STAFF FEEDBACK AND
OBSERVATIONS REGARDING TERRA INNOVATUM CORP WHITE PAPER
SOLO-TR-2025-011, "EXTERNAL AND INTERNAL HAZARDS ANALYSIS AND
SAFETY BASIS EVENT IDENTIFICATION FOR SOLO NON-POWER
REACTOR," REVISION 0 (EPID L-2026-LRO-0034) DATED: AUGUST 20, 2026

DISTRIBUTION:

PUBLIC

MHayes, OAR

JTulip, OAR

MOrenak, OAR

KAnand, OAR

CdeMessieres, OAR

HPhan, OAR

RAnzalone, OAR

ASiwy, OAR

ADAMS Accession Nos.:

Package (Public): ML26226A237

Letter (Public): ML26226A246

Enclosure (Non-public): ML26226A245

Enclosure (Public): ML26279A038

Supplemental Concurrence Document (Non-Public):ML26226A247

OFFICIAL RECORD COPY