ADDENDUM NO. 9 TO THE

MEMORANDUM OF UNDERSTANDING

BETWEEN U.S. DEPARTMENT OF ENERGY
AND
U.S. NUCLEAR REGULATORY COMMISSION ON

NUCLEAR ENERGY INNOVATION

FOR

COORDINATING DOE AND NRC TECHNICAL EXPERTISE AND KNOWLEDGE ON ADVANCED NUCLEAR REACTOR AND ADVANCED REACTOR FUEL TECHNOLOGIES

I. PURPOSE

The purpose of the October 7, 2019, Memorandum of Understanding (MOU) between the Department of Energy (DOE) and the Nuclear Regulatory Commission (NRC) on Nuclear Energy Innovation is to coordinate DOE and NRC technical readiness and sharing of technical expertise and knowledge on advanced nuclear reactor technologies and nuclear energy innovation, including reactor concepts demonstrations.

This addendum to the MOU between the NRC and DOE (hereafter the "parties" or "party"), describes the roles, responsibilities, and processes for their coordination of activities to implement Executive Order (E.O.) 14301, *Reforming Nuclear Reactor Testing at the Department of Energy*, E.O. 14302, *Reinvigorating the Nuclear Industrial Base*, E.O. 14299, *Deploying Advanced Nuclear Reactor Technologies for National Security*, and E.O. 14300, *Ordering the Reform of the Nuclear Regulatory Commission*. The primary purpose of this addendum to the MOU is to coordinate DOE and NRC technical readiness and sharing of technical expertise and knowledge on advanced nuclear reactor and advanced reactor fuel technologies and to ensure that DOE-NE authorized reactors, fuel lines, and other nuclear facilities are designed, constructed, and operated in a manner that provides reasonable assurance of adequate protection to workers, public, and the environment. A secondary purpose of the MOU is to enable documented safety analyses (DSAs) for DOE-NE authorized nuclear facilities that have been tested and that have demonstrated the ability to function safely to be leveraged to streamline and expedite future NRC licensing activities pursuant to E.O. 14300, *Ordering the Reform of the Nuclear Regulatory Commission*.

II. AUTHORITY

The DOE entered into this MOU under the authority of Section 646 of the Department of Energy Organization Act (Public Law 95-91, as amended; 42 U.S.C. 7256) and Section 205 of the Energy Reorganization Act of 1974 (Public Law 93-438, as amended; 42 U.S.C. 5845). The NRC entered into this MOU under the authority of Section 205 of the Energy Reorganization Act of 1974 (Public Law 93-438, as amended; 42 U.S.C. 5845), and Section 958 of the Energy Policy Act of 2005, as amended by the Nuclear Energy Innovation Capabilities Act of 2017.

This addendum to the MOU does not alter the authority or independence of the parties or their abilities to fulfill their respective responsibilities.

III. ROLES AND RESPONSIBILITIES OF EACH PARTY

A. DOE

1. DOE is responsible for carrying out the Reactor and Fuel Line Pilot Programs, which are programs aimed at reforming reactor testing at the Department. The goal of the Reactor Pilot Program is to expedite the testing of advanced reactor designs that will be authorized by DOE. The goal of the Fuel Line Pilot Program is to advance research and development and strengthen the domestic supply chains for nuclear fuel in support of the Reactor Pilot Program.

2. In carrying out the Reactor and Fuel Line Pilot Programs, DOE is responsible for, among other things, leveraging the technical expertise of relevant Federal agencies and the National Laboratories, as appropriate, in order to minimize the time required to enable construction and operation of privately funded advanced reactors under the Department's jurisdiction.

3. As appropriate, DOE will assist selected advanced reactor companies in understanding and navigating the pertinent regulatory processes.

4. **Authorization of DOE-NE Reactor and Non-Reactor Nuclear Facilities**:

- DOE is responsible for reviewing and approving DSAs and authorizing activities for nuclear facilities in accordance with 10 CFR 830, Subpart B.
- DOE is responsible for maintaining the safety analysis technical capability to perform safety reviews.

5. **Provision of Technical Information**: DOE will provide all necessary technical information and documentation to facilitate the review process. DOE will also share all necessary information and documentation with NRC to facilitate the NRC's ability to leverage such information in future licensing reviews.

6. **DSA Review Coordination with NRC**:

- DOE will develop the review plan and is responsible for execution of the review with available resources, including any NRC staff that are detailed to DOE for purposes of the review.
- DOE will coordinate with NRC to schedule reviews to facilitate availability of technical resources to support DOE's review, and to facilitate NRC observation of DOE reviews for the purpose of developing an expedited pathway for NRC licensing as described in Section C below.
- DOE will address any issues or concerns that arise during the review process.

7. **Training Staff**: DOE will train staff detailed to DOE in DOE review methods to ensure consistency and understanding with the conduct of DOE reviews.

8. **Providing Feedback**: DOE will provide feedback to NRC on the performance of NRC staff detailed to DOE.

9. **NRC Observation of DOE Reviews:** On a not-to-interfere basis, DOE will provide NRC technical staff with access and the opportunity to observe and learn about the DOE authorization process as well as the technologies authorized by DOE to facilitate the NRC's ability to leverage such information in future licensing reviews as described in Section C. Observation of DOE reviews is solely intended for NRC staff to familiarize itself with DOE review process so that information can be effectively leveraged in future NRC licensing activities, and to support identification of areas of NRC reviews that may not be covered.

B. NRC

1. The NRC is responsible for licensing new or advanced nuclear technology subject to its jurisdiction, including demonstration reactors for the purpose of demonstrating commercial application of the reactor.

2. The NRC, consistent with its role as a safety and security regulator, is responsible for providing DOE and the nuclear energy community with accurate, current information on the NRC's regulations and licensing processes.

3. **Supporting Authorization Reviews**: NRC will support DOE-NE by identifying available NRC personnel that could be detailed to DOE to support DOE in their review of both reactor and non-reactor facilities authorized by DOE-NE. Consistent with Section V. of this addendum to the MOU, DOE and NRC may, as needed and by mutual agreement, enter into Implementing Interagency Agreements (IAAs), supplemental to this addendum to the MOU, that address project-specific items in accordance with this addendum to the MOU. Such IAAs may be executed between DOE at the Deputy Assistant Secretary level and NRC at the Office Director level.

4. **Resolution of Technical Concerns**: If technical concerns cannot be resolved during the review, NRC reviewers will follow DOE's Idaho Management System (IDMS) Office Procedure (OP) 01.OP.13, *Resolution of ES&H Technical Concerns*, for addressing differing professional opinions.

5. **Providing Feedback**: NRC reviewers detailed to DOE pursuant to an IAA may provide feedback on the review process to DOE Point of Contact to improve quality and efficiency in the review process.

IV. COORDINATED ACTIVITIES OF THE PARTIES

In addition to the areas of technical expertise and knowledge to be shared pursuant to subsection I.A. above, DOE and NRC will undertake activities, including those identified below, regarding technical expertise, computing, and facility capabilities related to DOE's role in research and development for advanced nuclear reactor and reactor fuel technology, and the NRC's role as an independent safety regulator, in the review of applications for advanced reactors.

A. SHARING INFORMATION

1. **Data Exchange**: DOE and NRC will facilitate the exchange of relevant data and

technical information to support DOE's review process, as well as NRC's leveraging of pertinent information in future NRC licensing processes.

2. **Confidentiality**: Both parties will ensure that any proprietary or sensitive information shared during the review process is protected and handled in accordance with applicable laws and regulations.

3. **Novel Data**: NRC and/or DOE may need to grant the other party access to novel data, technical, financial or otherwise, generated during the course of the project. DOE and/or NRC may utilize such data to support its efforts for future research reactor authorization and safety case justifications. This data may include, but are not limited to, data associated with authorization of reactors and fuel line projects as well as particular operational data. However, if any requested data are technical, commercial, or financial data first produced in the performance of the agreement which, if it had been obtained from and first produced by a non-federal party, would be considered a trade secret or commercial or financial information that is privileged or confidential under the meaning of 5 U.S.C. § 552(b)(4), pursuant to special OT statutory authority, such data are eligible for protection from public disclosure for up to 30 years after the data are generated or first produced ("Protected Data"). Such Protected Data must be appropriately marked as protected data when delivered to DOE as outlined in the OTA terms.

B. SHARING TECHNICAL EXPERTISE

DOE and NRC will share technical expertise and knowledge as appropriate with respect to, but not limited to advanced reactors and nuclear fuel line facilities, to include the following areas:

1. DOE's testing and operations of advanced nuclear reactors to be proposed and funded by the private sector.

2. DOE's testing and operations of nuclear fuel line facilities to be proposed and funded by the private sector.

3. DOE's operation of an electronic system to store and share data and knowledge relevant to nuclear science and engineering with relevant Federal agencies (including the NRC) and the private sector, as appropriate.

4. DOE's development and testing of electric and nonelectric integration and energy conversion systems relevant to advanced reactors.

5. NRC's expertise with respect to safety analysis.

6. NRC technical staff will be provided access and the opportunity to observe and learn about technologies developed through DOE's advanced reactor programs. NRC observers are invited to observe DOE's established methods for conducting DSA and readiness reviews, along with advanced reactor technologies of which NRC may not be familiar, including any specific tests, processes to start up reactors, and other activities related to DOE's operating experience.

C. COORDINATED ACTIVITIES

In addition to the areas of technical expertise and knowledge to be shared pursuant to subsection A, above, DOE and NRC will undertake activities, including those identified

below, regarding the technical expertise, computing, and facility capabilities related to DOE's role in research and development for advanced reactor technology and the NRC's role, as a safety regulator, in the review of applications for advanced reactors and to ensure that:

A. DOE has sufficient technical expertise to support the timely research, development, demonstration, and commercial application by the civilian nuclear industry of safe and innovative advanced reactor technology; and

B. NRC has sufficient technical expertise to support the evaluation of applications for NRC licenses, permits, and design certifications and other requests for regulatory approval for advanced nuclear reactors and advanced nuclear reactor fuel.

DOE and NRC will coordinate as appropriate to ensure the following activities are fulfilled:

1. NRC establishes an expedited pathway to approve advanced reactor designs that have been authorized and tested by DOE and have demonstrated the ability to function safely that focuses on risks or safety issues identified during the NRC licensing review that may arise from, among other things, design changes in new applications to be licensed by the NRC, rather than revisiting risks that have already been addressed in the DOE review.

2. NRC establishes an expedited pathway to approve nuclear fuel line facilities that have been authorized and by DOE and have demonstrated the ability to function safely that focuses on risks or safety issues identified during the NRC licensing review that may arise from, among other things, design changes in new applications to be licenses by the NRC, rather than revisiting risks that have already been addressed in the DOE review.

3. DOE and the NRC share information, as appropriate, regarding the use of computers and software codes to calculate the behavior and performance of advanced nuclear reactors based on mathematical models of the physical behavior of advanced nuclear reactors.

4. DOE maintains and develops the facilities necessary to enable the timely research, development, demonstration, and commercial application by the civilian nuclear industry of safe and innovative reactor technology.

5. NRC has access to those DOE facilities described in paragraph IV.C.4, as needed and appropriate, and will complete any required training for access.

V. ORGANIZATIONAL IMPLEMENTATION

1. Office. This addendum to the MOU will be implemented through DOE-NE's Office of Nuclear Reactors on behalf of DOE and through NRC's Office of Nuclear Regulatory Regulation on behalf of NRC. These offices will coordinate the activities and sharing of technical expertise and knowledge covered by this addendum to the MOU.

2. Contacts. The point of contact for coordination and implementation of this addendum to the MOU for DOE will be the Assistant Secretary for Nuclear Energy, and for NRC will be the Director of the Office of Nuclear Regulatory Regulation. The Technical Point of Contact for the conduct of the review process will be the Manager for the Idaho Operations Office.

3. Implementing Interagency Agreements. DOE and NRC may, as needed and by mutual agreement, enter into Implementing Interagency Agreements (IAAs), supplemental to this addendum to the MOU, that address project-specific items in accordance with this addendum to the MOU. Such IAAs may be executed between DOE at the Deputy Assistant Secretary level and NRC at the Office Director level.

VI. FUNDING AND AUTHORIZATIONS

1. This addendum to the MOU does not alter the authorities or independence of the NRC and DOE or their abilities to fulfill their responsibilities.

2. This addendum to the MOU shall not under any circumstances restrict either of the parties from participating in any activity with other public or private agencies, organizations or individuals.

3. This addendum to the MOU is neither a fiscal nor a funds obligation document. Nothing in this MOU provides authorization or is intended to obligate the parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value, or enter into any contract, assistance agreement, interagency agreement or other financial obligation. Any activity under this addendum to the MOU is subject to the availability of funds.

4. This addendum to the MOU is strictly for internal management purposes for each of the parties. It is not legally enforceable and shall not be construed to create any legal obligation on the part of either party. This addendum to the MOU shall not be construed to provide a private right or cause of action for or by any person or entity.

5. All activities pursuant to this addendum to the MOU are subject to and will be carried out in compliance with all applicable laws, regulations and other legal requirements.

6. Each party is responsible for its own compliance with any applicable statutory or regulatory data protection, export control or security restriction regarding any information or materials resulting from this addendum to the MOU. DOE and the NRC will coordinate their efforts, as appropriate, to fulfill these responsibilities.

VII. COMMENCEMENT, MODIFICATION, AND TERMINATION

This addendum to the MOU is effective upon the signature of both parties. The duration of the addendum to the MOU shall be indefinite. Either party, however, may terminate its participation in this addendum to the MOU upon 30 days written notice to the other party, consistent with their responsibilities under applicable law. The DOE and NRC may, by mutual agreement, amend this addendum to the MOU.

VIII. SEVERABILITY

If any provision of this addendum to the MOU, or the application of any provision to any person or circumstances, is or becomes invalid, the remainder of this addendum to the MOU and the application of such provisions to other persons or circumstances shall not be affected.

IX. AGREEMENT

Rian Bahran

Digitally signed by Rian Bahran
Date: 2025.10.24 10:31:13 -04'00'

Rian Bahran, Deputy
Assistant Secretary
for Nuclear Reactors
Office of Nuclear Energy
U.S. Department of Energy

10/24/25
Date

GREGORY BOWMAN

Digitally signed by GREGORY BOWMAN
Date: 2025.10.02 13:15:51 -04'00'

Gregory T. Bowman
Acting Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

10/2/2025
Date

10/24/25
Effective Date