

MEMORANDUM OF UNDERSTANDING
between
U.S. NUCLEAR REGULATORY COMMISSION
and
U.S. DEPARTMENT OF ENERGY
on
COOPERATIVE NUCLEAR SAFETY RESEARCH

I. APPLICABILITY

This Memorandum of Understanding (MOU) applies solely to Cooperative Nuclear Safety Research activities conducted jointly between the Nuclear Regulatory Commission (NRC) and Department of Energy (DOE). This Memorandum of Understanding does not establish a precedent for other understandings, matters, or agreements, including any other existing or future agreements, between the Department of Energy and Nuclear Regulatory Commission.

II. AUTHORITY

The DOE enters 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). The NRC enters into this MOU under the authority of the Atomic Energy Act of 1954, as amended (Public Law 83-703).

III. PERIOD AND TERM

This MOU will be effective upon the date of the last signature from both Parties and will remain in full force and effect for a period of five (5) years. This MOU may be renegotiated and amended, extended, or otherwise modified through an exchange of correspondence with signatory approval of authorized representatives from the DOE and NRC.

IV. PURPOSE

The NRC and DOE, collectively known as the "Parties" and individually as "Party," both conduct nuclear safety research activities associated with various nuclear power technologies. The NRC conducts research to obtain independent information for use in making timely regulatory judgments, anticipating and resolving potentially safety significant issues, and developing technical bases to support regulatory positions. The DOE conducts research to develop nuclear energy technologies including generation, safety, waste storage and management, and security technologies to help meet energy security, proliferation resistance and climate change goals, including exploring improvements to light water reactor systems and fuel forms to further enhance safety and reliability under severe accident conditions. The DOE also conducts research to develop new and advanced reactor designs and technologies that advance the state of reactor technology, to improve its competitiveness, and help advance nuclear power as a resource capable of meeting the Nation's energy, environmental, and national security needs. Both the NRC and DOE participate in bilateral and multilateral international cooperative research programs supporting each agency's general objectives.

Although the goals of the NRC and DOE research programs differ in many respects, fundamental data and technical information obtained through joint research activities is recognized as potentially of interest and useful to each agency under appropriate circumstances.

Accordingly, to conserve resources and to avoid needless duplication of effort, it is in the best interest of both parties to cooperate and share data and technical information and, in some cases, the costs related to such research, whenever such cooperation and cost sharing may be done in a mutually beneficial fashion.

The NRC and DOE have previously entered into similar MOUs governing cooperation and mutual support of significant projects and activities¹ and governing NRC-funded work performed at DOE laboratories². These documents provided agency-level guidance on the interactions between the NRC and DOE. In addition, in 1999³ and 2009⁴, the NRC and DOE entered into MOUs on cooperative nuclear safety research. These MOUs provide office-level guidance on the planning and conduct of cooperative research involving the NRC's Office of Nuclear Regulatory Research (RES) and the DOE's Office of Nuclear Energy (NE). The 2009 MOU was specified to remain in force for a period of five years and expires on April 22, 2014.

The purpose of this MOU is to renew the 2009 cooperative nuclear safety research agreement. The individual cooperative research projects described in addenda to this MOU are subject to separate renewal cycles and may be renewed according to the needs of the Parties.

V. PRINCIPLES OF COOPERATION

(a) Responsibilities of the Parties

- (i) Organizational Implementation - This MOU will be implemented through the NRC's Office of Nuclear Regulatory Research ("RES") on behalf of the NRC and through DOE's Office of Nuclear Energy ("DOE-NE") on behalf of DOE. For those research programs, projects, or activities to which this MOU applies, RES and DOE-NE will mutually coordinate, integrate, prioritize, review and manage such activities for the common benefit of both Parties.
- (ii) Senior Management Contacts - The NRC's Senior Management Contact will be the Director of the Office of Nuclear Regulatory Research and DOE-NE's Senior Management Contact will be the Deputy Assistant Secretary for Nuclear Reactor Technologies. These contacts will be designated as the "Senior Management Team." The NRC and DOE-NE Senior Management Contacts will each identify their respective overall Coordination Contacts to serve as the primary interfaces for routine interactions between the NRC and DOE-NE.

¹ "Memorandum of Understanding Between the Department of Energy and the Nuclear Regulatory Commission," dated January 15, 1997, and signed by Hazel R. O'Leary, Secretary of the Department of Energy and Shirley A. Jackson, Chairman of the Nuclear Regulatory Commission

² "Memorandum of Understanding Between the Nuclear Regulatory Commission and the Department of Energy," signed by Shirley A. Jackson, Chairman of the Nuclear Regulatory Commission, on October 15, 1998 and by Bill Richardson, Secretary of the Department of Energy, on November 24, 1998

³ "Memorandum of Understanding between the U.S. Nuclear Regulatory Commission and U.S. Department of Energy on Cooperative Nuclear Safety Research," dated August 16, 1999, signed by Ashok C. Thadani, Director of the NRC's Office of Nuclear Regulatory Research (RES) and by Madeline A. Feltus, Associate Director of DOE's Office of Nuclear Energy, Science and Technology (NE).

⁴ "Memorandum of Understanding between U.S. Nuclear Regulatory Commission and U.S. Department of Energy on Cooperative Nuclear Safety Research," dated April 22, 2009, signed by Brian W. Sheron, Director of the NRC's Office of Nuclear Regulatory Research (RES) and by Rebecca Smith-Kevern, Acting Deputy Assistant Secretary for Nuclear Power Deployment DOE's Office of Nuclear Energy (NE).

(iii) Management of Cooperative Research Programs

- a) Meetings - NRC and DOE Senior Management Contacts will confer, either via conference call or in meetings as needed throughout the year, but will meet at least once a year to:
 - Review the status and progress of ongoing cooperative research programs;
 - Review potential new candidate cooperative research programs;
 - Agree on priority, terms and conditions of new cooperative research initiatives; and
 - Provide direction on continued work, termination or other matters, as necessary.

Coordination Contacts will meet or confer as often as deemed necessary to perform their intended primary interface functions.

- b) Selection and Agreement of Potential Cooperative Research Topics - NRC and DOE-NE will identify potential cooperative research programs of interest and establish priorities, considering factors such as:
 - Mutual interest in research topics;
 - Usefulness of research end products;
 - Cost-effectiveness; and
 - Timeliness.

Once an area of potential cooperative research is identified (e.g., Gen IV reactors, small modular reactors, or other nuclear power applications), a Cooperative Research Program may be pursued once agreement is reached between the Senior Management Contacts on the technical requirements of the project, including objectives, scope, technical approach, quality assurance requirements, acceptable contract terms, and the roles and responsibilities of each Party (e.g. contracting responsibility, financial contribution, payment arrangements, documentation of results, management, terms, etc.).

- c) Cooperative Research Program Contracting - Upon mutual agreement of the Parties, the designated agency will award the research work contracts in accordance with its own contracting procedures, in consultation with the associated participants from both NRC and DOE.
- d) Documentation of Cooperative Research Programs - Upon approval by the Senior Management Team, each identified Cooperative Research program will be documented and authorized via addendum to this MOU and Interagency Agreement (IA), as appropriate. Each Addendum and related IA, as appropriate, will set forth in detail the following information:
 - Research goals and performance objectives;
 - Scope, plan and technical requirements;
 - Cost, budget and schedule;
 - Resource and funding responsibilities of each Party; and
 - Designation of a contracting source (e.g., commercial contract, laboratory, DOE laboratory).
- e) Oversight of Cooperative Research Programs - Each Cooperative Research program or project, not already part of an existing or ongoing research program, will be managed by a qualified program manager from the organization having the

lead for contracting purposes, as designated by the Senior Management Team and/or a technical review group comprised of representatives assigned by the Senior Management Team from NRC and DOE-NE.

- f) Resolution of Disputes - The NRC and DOE will work together to amicably resolve any disputes or disagreements that might arise over matters within the scope of this MOU. Resolution of differences between the NRC and DOE staffs will be the initial responsibility of the respective Coordination Contacts within the NRC and DOE. If the issue cannot be resolved at this level, the NRC and DOE agree to refer the matter, within thirty (30) days, for resolution to the Senior Management Team. If the issue cannot be resolved at this level, the NRC and DOE again agree to refer the matter, within thirty (30) days, for resolution to the NRC Executive Director of Operations and the DOE Principal Deputy Assistant Secretary.
- g) Other Cooperative Research Program Participants - Other parties (including both international and domestic organizations) may be invited to participate in any cooperative research program or project pursued under a follow-on IA, if mutually agreeable, and may serve on the corresponding technical review group in accordance with applicable law. Sharing of results with these other parties will be subject to the same controls as described in Article VI.

(b) General Guidelines For Cooperative Research Programs

- (i) NRC and DOE Independence - The NRC role as an independent agency is recognized by DOE and shall be maintained as such. The DOE role and authority to foster research and development activities related to advanced nuclear power technologies and facilities is recognized by the NRC, and nothing in this MOU affects such responsibilities. NRC and DOE will interact on an agency to agency basis, and neither Party shall be construed to serve in an advisory capacity, either formally or informally, to the other within the scope of this MOU. Notwithstanding anything to the contrary herein or in any addendum to this MOU, the cooperation, approval, involvement or guidance of the NRC staff with regard to the Cooperative Research Programs shall not bind the NRC or DOE in any manner.
- (ii) Avoidance of Organizational Conflicts - Cooperative research programs will be structured so as to avoid organizational conflicts of interest. In general, this will be accomplished by having cooperative programs focused on basic data needs, and not solutions to specific regulatory issues or conclusions as to the application of the data to regulation. Developing solutions to regulatory issues or applying the data to regulation interpretations will be done independently by the parties outside this MOU.
- (iii) Cost Participation - The cost of the cooperative program to each Party will generally be proportional to the value of the results to the Party. Cash contributions as well as the in-kind value of services (e.g., contracting, program management) or other contributed work may be considered in determining the relative cost sharing arrangements. The cost participation basis may also include cooperative projects where each party contracts separately for, manages, and conducts research, and then shares the results. This MOU will not be used to obligate or commit funds or as the basis for the transfer of funds.
- (iv) Access - Both Parties will have access to visit the facilities at which cooperative

research is being conducted, separately or jointly. Each Party will have the right to review data or other information associated with the project at its own discretion.

- (v) Outside Research - Either Party may, at its own expense, conduct additional research beyond the scope of the cooperative agreement using the contractor facility, if desired. The results of this additional research, if shared with the other Party, will be subject to the same controls as described in Article 6.

VI. SHARING OR USE OF COOPERATIVE RESEARCH PROGRAM RESULTS

- a) Data Sharing - All non-proprietary data produced by the cooperative programs will be shared by and between all participants in the cooperative program, consistent with each Party's legal obligations. Data produced or used under the cooperative programs or supplied to support the conduct of the research will be handled in accordance with the applicable statutes (e.g., Freedom of Information Act – FOIA), rules, regulations, policies, and procedures of the NRC and DOE. The Parties recognize that Federal law may require release of this data.
- b) Data Publication - NRC and DOE will be free to publish non-pre-decisional⁵ and/or non-proprietary data from cooperative research programs in reports, journals or conference proceedings as they judge appropriate. Publication by contractors of data from cooperative research programs in reports, journals or conference proceedings will be submitted for joint review and comment by NRC and DOE.
- c) Joint Interpretation of Results - To maintain NRC's regulatory independence, the Parties will not jointly interpret the results or implications of the data derived from the Cooperative Research Programs. Neither Party will claim or publish in its studies, releases, reports, or publications any statements that indicate the other Party's approval or endorsement of any Cooperative Research Program or any related study, report, or publication, without the prior written approval of the other Party's Senior Management Contact.
- d) Intellectual Property – Both Parties will incorporate provisions protecting intellectual property rights of the Federal Government in contracts associated with Cooperative Research Programs. On a project basis, for inventions jointly owned by the Parties, the Parties will consult on whether patents generated under the cooperative program should be obtained. Any patent rights will be allocated consistent with applicable laws and practices.

VII. MODIFICATION AND TERMINATION PROVISIONS

Termination of Individual Party Participation in Cooperative Research Programs – Either Party may terminate their agency's participation in any Cooperative Research program at any time. To effect such a termination, the Senior Management Contact of the terminating party will provide to the other Party's Senior Management Contact at least a 90-day written notice of their intent to terminate continued participation in the specified Cooperative Research Program. The terminating Party will identify the effective termination date to the other party, not to be less than 90 days from the close of normal business from the date of written notice.

⁵ Data acquired during the course of the subject cooperative research program will be considered pre-decisional information and thus will be routinely withheld from release by the Parties in accordance with applicable law until the final report(s) on this work is/are made publicly available.

VIII. FUNDING AND AUTHORIZATIONS

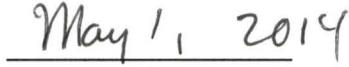
- (a) This MOU is neither a fiscal nor a funds obligation document. Nothing in this MOU authorizes, nor is intended to obligate, either Party to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value, or enter into any contract, assistance agreement, interagency agreement, or other financial obligation.
- (b) All activities pursuant to this MOU are subject to the availability of appropriated funds and each Party's budget priorities.
- (c) This MOU is strictly for DOE and NRC internal management purposes. This MOU is not legally enforceable and will not be construed to create any legal obligation on the part of either party. This MOU will not be construed to provide a private right of action for or by any person or entity.
- (d) Goods or services will be provided under this MOU only after an appropriate IA has been signed by a representative of each party authorized to execute the IA. On signature by each party's representative, the IA will constitute a valid Economy in Government Act order.
- (e) All agreements herein are subject to, and will be carried out in compliance with all applicable laws, regulations and other legal requirements.
- (f) This MOU in no way restricts either of the Parties from participating in any activity with other public or private agencies, organizations or individuals.

IX. AGREEMENT

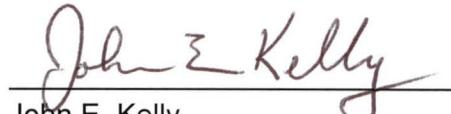


Brian W. Sheron, Director
Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission

Date



Effective Date



John E. Kelly
Deputy Assistant Secretary for
Nuclear Reactor Technologies
Office of Nuclear Energy
U.S. Department of Energy

Date

