

**The Partnership for the Development of Next Generation Simulation  
Tools for Evaluating Cementitious Barriers and Materials Used in Nuclear  
Applications (The Partnership)**

**Memorandum of Understanding**

Among

THE UNITED STATES NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REGULATORY RESEARCH

THE UNITED STATES DEPARTMENT OF ENERGY  
OFFICE OF ENVIRONMENTAL MANAGEMENT,  
OFFICE OF ENGINEERING AND TECHNOLOGY

THE UNITED STATES DEPARTMENT OF COMMERCE  
NATIONAL INSTITUTES OF STANDARDS AND TECHNOLOGY  
BUILDING AND FIRE RESEARCH LABORATORY

**I. Purpose**

- a. The purpose of this Memorandum of Understanding (MOU) is to initiate a framework for facilitating cooperation and coordination among the United States Nuclear Regulatory Commission (NRC), Office Of Nuclear Regulatory Research; the United States Department Of Energy (DOE), Office Of Environmental Management, Office Of Engineering and Technology; and the United States Department of Commerce, National Institutes of Standards and Technology, Building and Fire Research Laboratory, in research and development (R&D) of a reasonable and credible tool to predict performance of cement materials used in nuclear applications over extended time frames. This MOU does not include agency work directly in support of licensing activities.
- b. This MOU is intended to provide a mechanism for the cooperating Federal Agencies to pursue a common technology in the development of a credible simulation tool to predict cementitious materials performance over extended time frames. This MOU is intended to reduce redundancies and improve the common technology through exchange and comparisons of technical ideas. By entering into this MOU, the cooperating Federal Agencies seek mutual benefit from their respective R&D programs and to ensure effective exchange of information between their technical staff and contractors.
- c. This MOU focuses on exchange of information to support scientific information for environmental risk assessments, joint efforts to improve the scientific bases for implementing models, protocols for establishing linkages between disparate databases and models, and development and use of a common model-data framework.

- d. This MOU is intended to facilitate the establishment of working partnerships among the cooperating Federal Agencies' technical staffs and designated contractors in order to enhance productivity and mutual benefit through collaboration on mutually-defined research studies such as the development of a common model-data framework. As part of knowledge for this project, several organizations have been included in the planning phases and expect to remain fully engaged for the life of the project due to their specific expertise regarding cementitious science, materials science, and modeling. The organizations include the Consortium for Risk Evaluation with Stakeholder Participation (CRESP), the Savannah River National Laboratory (SRNL), SIMCO Technologies, Incorporated, and the Energy Research Center of the Netherlands (ECN).

## **II. Authorities**

- a. The NRC enters into this MOU pursuant to section 205 of the Energy Reorganization Act of 1975 (42 U.S.C. § 5845) which requires Federal agencies to furnish to the NRC, on a reimbursable basis, such research services as NRC deems necessary and requests for the performance of its function. The DOE enters into this MOU under the authority of section 646 of the Department of Energy Organization Act (Pub.L. 95-91, as amended; 42 U.S.C. § 7256). The legal authorities for the Department of Commerce to enter into this agreement is 15 U.S.C. § 272 et seq. and also 33 U.S.C. § 883(d), which authorizes the Secretary of Commerce to undertake investigations and research into the geophysical sciences. This MOU does not supersede or void existing memoranda of understanding or other agreements among the cooperating Federal Agencies.

## **III. Responsibilities**

The cooperating Federal Agencies agree to:

- a. Designate staff-level points of contact for the cooperating Federal Agencies. For the NRC, the staff-level point of contact will be at NRC Headquarters, Office of Nuclear Regulatory Research. For the DOE, the staff-level point of contact will be with the Office of Environmental Management, Office of Engineering and Technology. For the National Institute of Standards and Technology, the staff-level point of contact will be the Materials and Construction Research Division in the Building and Fire Research Laboratory. The designated points of contact will promote technical coordination, identify joint R&D programs of mutual interest for the Federal Agencies and funding for such programs, and will assist in arranging for supplemental interagency agreements for R&D projects on multimedia environmental models, software and related databases at appropriate sites and laboratories.

The cooperating Federal Agencies further agree that the designated points of contact will serve as members of a Steering Committee. Alternates may be designated by the Federal Agencies to represent specific technical interests. The purpose of this Committee will be to coordinate joint research efforts under this MOU. The Committee will meet at a designated meeting place at least quarterly or more

frequently as determined by the Steering Committee. Additional meetings via teleconference call will occur weekly or less often as determined by the Steering Committee. At least one of these quarterly meetings per year shall be a public meeting at a designated meeting place as determined by the Steering Committee members. Participation in technical working groups established by the Steering Committee, and at technical meetings called by the Steering Committee, will be determined by the cooperating Federal Agencies. Organizational details regarding the steering committee, agency representatives and technical working groups are outlined below.

- b. Cooperate in selected R&D programs of the other cooperating Federal Agencies by providing resources, information and technical expertise for review (outside of the conventional research peer review process) or consultation in areas of a reasonable and credible tool to predict performance of cementitious materials used in nuclear applications over extended time frames subject to program priorities and budget constraints.
- c. Support the exchange of technical information through data bases, information systems, clearinghouses, conferences, workshops, activities for developing a common model-data framework, collaboration on scientific projects supporting the modeling framework, and other means pertaining to a reasonable and credible tool to predict performance of cementitious materials used in nuclear applications over extended time frames, subject to program priorities and budget constraints.
- d. Specific Inter-Agency Agreements (IAG) among the cooperating Federal Agencies may be developed pursuant to this MOU whenever appropriate to define specific undertakings. Such IAGs may provide for cooperative projects, or other efforts deemed appropriate, subject to applicable laws and regulations pertaining to the respective agencies and the availability of funds.

Details of support for specific cooperative work including funding, project plans, designation of cooperative work, and details of program management and execution will be contained in the IAGs. The cooperating Federal Agencies' program officials will communicate directly with one another during the planning and execution of these IAGs.

#### **IV. Administration**

It is the intention of the cooperating Federal Agencies to make the results of the R&D work contemplated by this MOU available to the public consistent with applicable security and other regulations.

- a. Technology transfer: The participating Federal Agencies will establish procedures for sharing computer simulation tools, software, related databases and supporting scientific information with the other cooperating Federal Agencies. Since the Federal Agencies have specific statutory patent policies regarding inventions funded in whole or in part by the Federal Government, the patent policies of the agency conducting the work shall apply to agreements executed between the parties to the MOU as well as to contracts they are under where such agreements or contracts are funded in whole or in part by the cooperating Federal Agencies. The cooperating

Federal Agencies shall resolve any conflicts in their patent policies on a case-by-case basis when they enter into implementing IAGs.

- b. Information release: All data and information originating from these cooperative research studies will be published and made available to the public as authorized by law through the cooperating Federal Agencies' regulations and described in their public information and publishing procedures. This information and data will not be disseminated without approval of the cooperating Federal Agencies. ~~If such approval is not received within 21 days, approval is implied.~~ BWS 5/1/00 The parties will ensure that their contractors will disseminate such information in accordance with this agreement and the cooperating Federal Agencies' procedures. The cooperating Federal Agencies agree to share any press releases or other public affairs information related to joint efforts or projects for review and concurrence prior to release.
- c. Financial policy: It is recognized that the cooperating Federal Agencies have specific statutory requirements and limitations that dictate their financial policies. Therefore, the cooperating Federal Agencies agree to consider and specifically to address the financial policies to be applied to each project under the authority of this MOU as a term of the individual IAGs detailing each such R&D project.
- d. Program funding: This MOU is neither a fiscal nor a funds obligating document. Nothing in this Agreement authorizes or is intended to obligate the Parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value. The details and levels of funding, if any, will be developed in specific IAGs. The cooperating Federal Agencies agree that this MOU does not involve the exchange or commitment of funds, and further that any correlated IAGs entered by two or more of the cooperating Agencies will be subject to the availability of funds appropriated by the Congress for such purposes and other necessary resources.
- e. Public information coordination: Subject to the Freedom of Information Act (5 U.S.C. § 552), decisions on disclosure of information to the public regarding projects and programs implemented under this MOU will be made following consultation among the cooperating Federal Agencies' representatives.
- f. Amendment and termination: This MOU may be modified and amended by written agreement among the cooperating Federal Agencies or terminated by mutual written agreement of the Federal Agencies. An individual agency may withdraw from the MOU with reasonable notice, in writing, to the other agencies. Additional Federal organizations may become parties to this MOU by petitioning the Steering Committee and signing an Addendum to the MOU. The Addendum will commit the new Federal cooperating organization to assume the obligations and rights of MOU membership as specified in this MOU. The parties to the MOU agree to delegate the authority to the Steering Committee to review requests for MOU membership, and to approve additional parties. The Steering Committee Chair will sign the requester's Addendum to indicate approval of the agencies that are parties to this MOU.
- g. Quality assurance: An important goal of the MOU and subsequent IAGs is high-quality research and modeling products. The cooperating Federal Agencies commit to following their established quality assurance (QA) and quality control (QC) procedures in the development and use of these research and modeling products. Specific QA/QC issues will be resolved during the development of the specific

IAGs.

- h. Internet-based outreach to the public will be facilitated via the Office of Engineering and Technology, Office of Environmental Management website ([www.em.doe.gov/Pages/EngTech.aspx](http://www.em.doe.gov/Pages/EngTech.aspx)). This infrastructure will provide the backbone to support project administration, document archiving, webpage serving, and many more services that will lead to successful and fruitful interaction and cooperation. Notwithstanding this Steering Committee role, this MOU is not intended to make any resource commitments without each agency's approval.
- i. This Agreement in no way restricts either of the Parties from participating in any activity with other public or private agencies, organizations, or individuals.
- j. This Agreement 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 any Party. This Agreement shall not be construed to provide a private right or cause of action for or by any person or entity. All agreements are subject to, and will be carried out in compliance with, all applicable laws, regulations, and other legal requirements.

## **V. Organization**

### **a. Working Groups/Projects**

The Partnership shall accomplish specific mutually beneficial activities via the establishment of working groups and/or specific projects. All potential working groups/projects shall be presented to the steering committee via an agency representative or by invitation by the committee. For the establishment of working group activities this presentation will take the form of a multi-year phased approach with a project plan that will be considered by the steering committee for approval.

### **b. Partnership Products**

All working groups/projects are to report on their activities as requested by The Partnership Steering Committee at quarterly meetings/teleconferences. All working group/project proposals will be made publicly available on ([www.em.doe.gov/Pages/EngTech.aspx](http://www.em.doe.gov/Pages/EngTech.aspx)).

- c. Changes and/or updates to The Partnership organizational and operating procedures can be implemented by a majority vote among Steering committee members.

## **VI. Signatures**

Effective date: This MOU will become effective when all three parties (DOE, NIST, and NRC) have signed it. Agencies not currently participating can become participants by following the procedure outlined in Section IV(f). This MOU will remain effective for 5 years or until modified or terminated by mutual consent.

