

MEMORANDUM OF UNDERSTANDING  
AMONG  
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA  
AND  
THE JAPAN ATOMIC ENERGY AGENCY  
AND  
THE COMMISSARIAT À L'ÉNERGIE ATOMIQUE OF THE FRENCH REPUBLIC  
CONCERNING COOPERATION ON SODIUM-COOLED FAST REACTOR PROTOTYPES

The Department of Energy of the United States of America, the Japan Atomic Energy Agency and the Commissariat à l'Énergie Atomique of the French Republic, hereinafter the "Participants,"

ACKNOWLEDGING the need to develop an appropriate mix of environmentally safe and secure sources of energy, including nuclear, to meet the needs of their respective countries' populations;

RECOGNIZING the need to address challenges facing all Participants' countries as well as the broader international community of growing energy needs in a manner that contributes to reducing the harmful effects of greenhouse gases on the global climate;

AFFIRMING the overall vision and goals of the Global Nuclear Energy Partnership (GNEP), which seeks the safe, secure, and environmentally sustainable development of civilian nuclear energy for peaceful purposes, in a manner that supports nuclear nonproliferation and safeguards;

NOTING the shared commitment of the Participants' countries to preventing nuclear proliferation;

EMPHASIZING the critical role of international safeguards, including the Additional Protocol, in promoting international confidence in the peaceful uses of nuclear energy;

ACKNOWLEDGING that the significant physical and intellectual investment in infrastructure required to support sodium fast reactor development need not be duplicated by each Participant, but rather can be shared and harmonized in an efficient and equitable fashion; and

ACKNOWLEDGING that the Participants are each committed as part of their national programs to develop advanced fast reactors to advance their respective countries' intention to build demonstration/prototype (hereinafter called "prototype") reactors within the next two decades with the ultimate goal of commercial deployment;

HAVE REACHED THE FOLLOWING UNDERSTANDING:

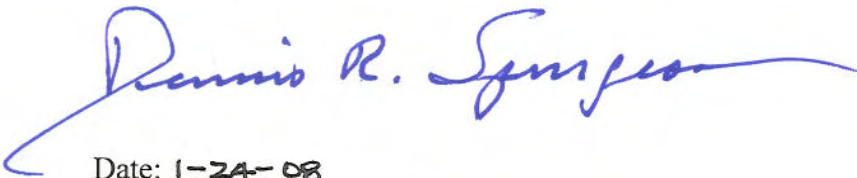
1. The Participants intend to work toward harmonization of sodium-cooled fast reactor prototype development through, among other considerations, identification of possible complementarities. This harmonization process should be consistent with the national programs of each Participant's country, with a view to future pursuit of joint infrastructure development and establishment of international concepts for prototypes. Where practicable, the Participants intend to utilize supporting infrastructure currently in place.
2. The Participants share the intention to outline a collaborative framework, review the reactor design criteria, hold workshops and discussions to reach common recognition on reactor requirements, with the ultimate goal of deploying sodium-cooled fast reactor prototypes through an efficient collaborative process. In addition, the Participants plan to explore options for leveraging the use of existing, new or refurbished support facilities for component testing, fuel development, or safety testing.
3. The Participants intend to cooperate in the areas of:
  - establishing design goals and high level requirements for the prototypes;
  - identifying common safety principles, through cooperation with relevant safety bodies of each Participant's country;
  - discussing the power level and type (loop vs. pool) of sodium-cooled fast reactors; this cooperation may induce convergence and prioritization of several options in different prototypes;
  - discussing a draft schedule of target dates for prototypes, including possible initial reactor start-up and full power operations to use as a planning basis; this schedule should be consistent with the national programs of the Participants' countries;
  - identifying test and support facilities and establishing a plan for securing the infrastructure needed to support materials, components, and safety testing for the prototypes;
  - preliminarily comparing oxide versus metal fuels and assessing the advantages and disadvantages of each;
  - discussing a common strategy regarding the fuel facilities needed to provide startup fuel to the prototypes; and

- identifying key technical innovations to reduce capital, operating, and maintenance costs.
4. A report summarizing progress achieved on the topics covered in this Memorandum of Understanding (MOU) should be jointly developed by the Participants by June 1, 2008.
  5. The Participants intend to establish a Steering Committee with one representative from each Participant's organization to coordinate the implementation of the activities identified in this MOU. The Steering Committee would develop follow-on arrangements, if the Participants decide to continue such cooperation.
  6. Each Participant should conduct the cooperation under this MOU in accordance with applicable laws and regulations in its respective country.
  7. The Participants do not intend to create or transfer any intellectual property under this MOU. If the Participants determine that a particular cooperative activity may lead or has led to the creation of intellectual property, the Participants concerned intend to consult with each other and make appropriate written arrangements for the protection and allocation of such intellectual property. Each Participant intends to maintain the confidentiality of any business-confidential information it receives from the other Participants. Any information exchanged between Participants in the framework of this MOU remains the property of the providing Participant.
  8. This MOU does not create any legally binding obligations between or among the Participants. Cooperation under this MOU is subject to the availability of appropriated funds and other resources of the Participants.
  9. Cooperation under this MOU may begin upon signature. This MOU may be modified or the cooperation under it ended at any time by the Participants in writing. Any Participant that wishes to end its cooperation under this MOU should endeavor to provide at least 90 days advance written notice to the other Participants.
  10. The Steering Committee should coordinate with the Fast Reactor Technology Working Group of the United States-Japan Joint Nuclear Energy Action Plan (JNEAP), and relevant steering committees of the Agreement between the Department of Energy of the United States of America and the Commissariat à l'Energie Atomique of France for Cooperation in Advanced Nuclear Reactor Science and Technology of September 18, 2000, as extended and amended. The activities under this MOU should also be coordinated with relevant research and development conducted under the Generation IV International Forum to ensure consistency and appropriately leverage complementary activities associated with future generation reactor system research and development.
  11. The Participants intend to discuss plans for future joint research at facilities in each Participant's country, including at the Phénix Fast Reactor in France, the Monju and JOYO Fast Reactors in Japan, and at the various National Laboratories in the United States.

12. If the Participants decide to continue their cooperative work beyond June 2008, they intend to conduct such cooperation under a new written instrument. This decision should be made during the first part of 2008.

Signed in three originals.

FOR THE DEPARTMENT OF ENERGY  
OF THE UNITED STATES OF AMERICA:



Date: 1-24-08

Place: Washington, DC.


FOR THE JAPAN ATOMIC ENERGY  
AGENCY:



Date: 1-29-08

Place: Tokyo

FOR THE COMMISSARIAT À L'ÉNERGIE  
ATOMIQUE OF THE FRENCH REPUBLIC:



Date: 31-1-08  
Place: Paris