

## NUCLEAR SAFETY

**Arrangement Between the  
UNITED STATES OF AMERICA  
and GERMANY**

Signed at Vienna September 20, 2011

*with*

Addenda



NOTE BY THE DEPARTMENT OF STATE

Pursuant to Public Law 89—497, approved July 8, 1966  
(80 Stat. 271; 1 U.S.C. 113)—

“ . . . the Treaties and Other International Acts Series issued under the authority of the Secretary of State shall be competent evidence . . . of the treaties, international agreements other than treaties, and proclamations by the President of such treaties and international agreements other than treaties, as the case may be, therein contained, in all the courts of law and equity and of maritime jurisdiction, and in all the tribunals and public offices of the United States, and of the several States, without any further proof or authentication thereof.”

**GERMANY**

**Nuclear Safety**

*Arrangement signed at Vienna September 20, 2011;  
Entered into force September 20, 2011.  
With addenda.*

TECHNICAL EXCHANGE AND COOPERATIVE ARRANGEMENT

BETWEEN

THE UNITED STATES NUCLEAR REGULATORY COMMISSION

AND

THE FEDERAL MINISTRY OF ECONOMICS AND TECHNOLOGY

OF THE FEDERAL REPUBLIC OF GERMANY

FOR THE EXCHANGE OF TECHNICAL INFORMATION

AND

COOPERATION IN THE CONTEXT OF RESEARCH AND DEVELOPMENT ON

The Nuclear Regulatory Commission of the United States of America (hereinafter called the US NRC) and the Federal Ministry of Economics and Technology of the Federal Republic of Germany (Bundesministerium für Wirtschaft und Technologie, hereinafter called BMWi), hereinafter referred to as the Parties;

Having similarly cooperated under the terms of the Technical Exchange and Cooperative Arrangement, originally signed on April 30, 1981, by the United States Nuclear Regulatory Commission and the Federal Ministry for Research and Technology of the Federal Republic of Germany, and continued through arrangements thereafter with the Federal Ministry of Education, Science, Research and Technology of the Federal Republic of Germany on December 13, 1995, extended December 11, 2000, and with the BMWi on May 5, 2006;

Having a mutual interest in continuing the aforementioned cooperation and intending to further improve nuclear safety on an international basis;

Having a mutual interest in a continuing exchange of information pertaining to nuclear safety and material management, research and development and regulatory matters; and of standards required or recommended by their organizations for the regulation of safety and environmental impact of nuclear facilities;

Hereby agree as follows:

## **I. SCOPE OF THE ARRANGEMENT**

### **A. Technical Information Exchange**

To the extent that the US NRC and BMWi are permitted to do so under the laws, regulations, and policy directives of their respective countries, the Parties shall exchange the following types of technical information relating to research and development, to the regulation of safety, safeguards, security, radiological and environmental impact of designated nuclear facilities and to nuclear safety and material management programs:

1. Topical reports concerning technical safety, safeguards, security, radiological and environmental effects written by or for one of the Parties as a basis for, or in support of, regulatory decisions and policies;
2. Information in the field of nuclear safety research, which the Parties have the right to disclose, either in the possession of one of the Parties or available to it, including reactor safety information from the technical areas described in Addenda "A" and "B", attached hereto and made a part hereof. Cooperation in these itemized research areas may require a separate agreement, as determined to be necessary by the research organizations of one or both of the Parties. Each Party shall transmit to the other urgent information concerning research results that require early attention in the interest of public safety, along with an indication of significant implications;
3. Information exchange, by mutual agreement, on any other topic related to research and development on nuclear safety and material management.
4. Regulatory procedures for the safety, safeguards and security (materials accountancy and control and physical protection), waste management, and environmental impact evaluation of nuclear facilities; and
5. Early advice of important events, such as serious operating incidents and government-directed reactor shutdowns, that are of immediate interest to the Parties.

### **B. Cooperation**

The terms of cooperation for joint programs and projects of research and development on nuclear safety and material management or those programs and projects under which activities are divided between the Parties, including the use of test facilities and/or computer programs owned by either Party, shall be considered on a case-by-case basis and may be the subject of a separate agreement if determined to be necessary by the research organizations of one or both of the Parties. When not the subject of a separate agreement, the terms of cooperation may be established by an exchange of letters between the research organizations of the Parties, and shall be subject to the terms and conditions of the present Arrangement.

Technical areas specified by such exchanges of letters may be modified subsequently by mutual consent. Temporary assignments of personnel by one Party in the other Party's agency shall also be considered on a case-by-case basis and shall, in general, require a separate letter of agreement between the research organizations of the Parties.

C. Training and Assignments

Within the limits of available resources and subject to the availability of appropriate funds, the US NRC and the BMWi will cooperate in providing certain training and experience for safety and research personnel. Unless otherwise agreed, costs of salary, allowances, and travel of participants shall be paid by the Party incurring the expenses. The following are typical of, but not necessarily restricted to, the kinds of training and experience that may be provided:

1. BMWi-designated inspector accompaniment of USNRC inspectors on reactor operation and (if available) reactor construction inspections in the United States, including extended briefings at US NRC regional inspection offices.
2. Participation by BMWi employees in USNRC staff training courses.
3. Assignment of experts for certain periods to be determined by the Parties within the US NRC or BMWi staff to work on respective staff duties and gain on the job experience.
4. Training assignments of the BMWi within the radiation control program in the United States.
5. Assignment of US NRC experts for a certain period to be determined by the Parties within the BMWi staff in Germany to accompany the BMWi experts in working on their duties. Cost of salary, allowances, and travel of USNRC experts for the entire period will be paid by US NRC unless otherwise agreed.
6. Cooperation in other areas subject to additional understanding, particularly in "Risk Informed Regulatory Activities".

II. **ADMINISTRATION**

- A. The exchange of information under this Arrangement shall be accomplished through letters, reports, and other documents, and by visits and meetings arranged in advance on a case-by-case basis. Periodic meetings shall be held at such times as mutually agreed to review the exchange of information and cooperation under this Arrangement, to recommend revisions to the provisions of the Arrangement, and to discuss topics coming within the scope of the cooperation. The time, place, and agenda for such meetings shall be agreed upon in advance. Visits which take place under the Arrangement, including their schedules, shall have the prior approval of the administrators referred to in Section II.B.

- B. An administrator shall be designated by each Party to coordinate its participation in the overall exchange under this Arrangement. The administrators shall be the recipients of all documents transmitted under the exchange, including copies of all letters unless otherwise agreed. Within the terms of the exchange, the administrators shall be responsible for developing the scope of the exchange, including agreement on the designation of the nuclear energy facilities subject to the exchange, and on specific documents and standards to be exchanged. One or more technical coordinators may be appointed as direct contacts for specific disciplinary areas. These technical coordinators shall assure that both administrators receive copies of all transmittals. These detailed arrangements are intended to assure, among other things, that a reasonably balanced exchange giving access to equivalent available information is achieved and maintained.
- C. The administrators shall determine the number of copies to be provided of the documents exchanged. Each document shall be accompanied by an abstract in English, 250 words or less, describing its scope and content.
- D. The application or use of any information exchanged or transferred between the Parties under this Arrangement shall be the responsibility of the receiving Party, and the transmitting Party does not warrant the suitability of such information for any particular use or application.
- E. Recognizing that some information of the type covered in this Arrangement is not available within the agencies that are Parties to this Arrangement, but is available from other agencies of the governments of the Parties, each Party shall assist the other to the maximum extent possible by organizing visits and directing inquiries concerning such information to appropriate agencies of the government concerned. The foregoing shall not constitute a commitment of other agencies to furnish such information or to receive such visitors.

### **III. EXCHANGE AND USE OF INFORMATION**

#### **A. General**

The Parties support the widest possible dissemination of information provided or exchanged under this Arrangement, subject to the requirements of each Party's national laws, regulations, and policies and the need to protect proprietary and other confidential or privileged information, and subject to the provisions of the Intellectual Property Addendum, hereby incorporated into this Arrangement.

#### **B. Definitions**

1. The term "information" means unclassified nuclear energy-related regulatory documents on safety, safeguards, scientific or technical data, including information on results or methods of assessment, research, and any other knowledge provided, created, or exchanged under this Arrangement.

2. The term "proprietary information" means information created or exchanged under this Arrangement that contains trade secrets or other privileged or sensitive commercial information (such that the person having the information may derive a commercial benefit from it or may have a commercial advantage over those who do not have it), and may only include information that:
  - a. has been held in confidence by its owner;
  - b. has not been transmitted by the owner to other entities (including the receiving Party) except on the basis that it be held in confidence;
  - c. is not otherwise available to the receiving Party from another source without restriction on its further dissemination; and
  - d. is not already in the possession of the receiving Party.
3. The term "other confidential or privileged information" means information, other than "proprietary information," which has been transmitted and received in confidence under this Arrangement and is protected from public disclosure under the laws, regulations, or policies of the country of the party providing the information.

C. Marking Procedures for Documentary Proprietary Information

A Party receiving documentary proprietary information pursuant to this Arrangement shall respect the privileged nature of such information, provided that such proprietary information is clearly marked with the following (or substantially similar) restrictive legend:

"This document contains proprietary information furnished in confidence under an Arrangement dated September 20, 2011, between the United States Nuclear Regulatory Commission and the Federal Ministry of Economics and Technology of the Federal Republic of Germany and shall not be disseminated outside these organizations, their consultants, contractors, and licensees, or concerned departments and agencies of the Government of the United States and the Government of Germany, without the prior written approval of (name of transmitting Party). This notice shall be marked on each page of any reproduction hereof, in whole or in part. These limitations shall automatically terminate when the proprietary information is disclosed by the owner without restriction."

This restrictive legend shall be respected by the Parties to this Arrangement. Proprietary information bearing this restrictive legend shall not be made public or otherwise disseminated in any manner unspecified or contrary to the terms of this Arrangement without the prior written consent of the transmitting Party. Proprietary information bearing this restrictive legend shall not be used by the receiving Party or its contractors and consultants for any commercial purposes without the prior written consent of the transmitting Party.



D. Dissemination of Documentary Proprietary Information

1. In general, proprietary information received under this Arrangement may be disseminated by the receiving Party without prior consent to persons within or employed by the receiving Party, and to concerned Government departments and Government agencies in the country of the receiving Party, provided:
  - a. such dissemination is made on a case-by-case basis; and
  - b. such proprietary information shall bear the restrictive legend appearing in Section III.C. of this Arrangement.
2. Proprietary information received under this Arrangement may be disseminated by the receiving Party without prior consent to contractors and consultants of the receiving Party located within the geographical limits of that Party's country provided:
  - a. that the proprietary information is used by such contractors; and
  - b. consultants only for work within the scope of their contracts with the receiving Party relating to the subject matter of the proprietary information, and shall not be used by such contractors and consultants for any other private commercial purposes; and
  - c. that such dissemination is made on a case-by-case basis to contractors and consultants who have executed a non-disclosure agreement; and
  - d. that such proprietary information shall bear the restrictive legend appearing in Section III.C. of this Arrangement.
3. With the prior written consent of the Party furnishing proprietary information under this Arrangement, the receiving Party may disseminate such proprietary information more widely than otherwise permitted under the terms set forth in this Arrangement. The Parties shall endeavor to grant such approval to the extent permitted by their respective national laws, regulations and policies, provided:
  - a. that the entities receiving proprietary information under Section III.D.3. of this Arrangement, including domestic organizations permitted or licensed by the receiving party to construct or operate nuclear production or utilization facilities, or to use nuclear materials and radiation sources, have executed a non-disclosure agreement; and
  - b. that the entities receiving proprietary information under Section III.D.3. of this Arrangement, including domestic organizations permitted or licensed by the receiving party to construct or operate nuclear production or utilization facilities, shall not use such proprietary information for any private commercial purposes; and

- c. that those entities receiving proprietary information under Section III.D.3. of this Arrangement that are domestic organizations permitted or licensed by the receiving Party, agree to use the proprietary information only for activities carried out under or within the terms of their specific permit or license.

E. Marking Procedures for Other Confidential or Privileged Information of a Documentary Nature

A Party receiving under this Arrangement other confidential or privileged information shall respect its confidential nature, provided such information is clearly marked so as to indicate its confidential or privileged nature and is accompanied by a statement indicating:

1. that the information is protected from public disclosure by the government of the transmitting Party; and
2. that the information is transmitted under the condition that it be maintained in confidence.

F. Dissemination of Other Confidential or Privileged Information of a Documentary Nature

Other confidential or privileged information may be disseminated in the same manner as that set forth in Section III.D., "Dissemination of Documentary Proprietary Information."

G. Non-Documentary Proprietary or Other Confidential or Privileged Information

Non-documentary proprietary or other confidential or privileged information provided in seminars and other meetings organized under this Arrangement, or information arising from the attachments of staff, use of facilities, or joint projects, shall be treated by the Parties according to the principles specified for documentary information in this Arrangement; provided, however, that the Party communicating such proprietary or other confidential or privileged information has placed the recipient on notice as to the character of the information communicated.

H. Consultation

If, for any reason, one of the Parties becomes aware that it will be, or may reasonably be expected to become, unable to meet the non-dissemination provisions of this Arrangement, it shall immediately inform the other Party. The Parties shall thereafter consult to define an appropriate course of action.

I. Other


Nothing contained in this Arrangement shall preclude a Party from using or disseminating information received without restriction by a Party from sources outside of this Arrangement.

#### IV. FINAL PROVISIONS

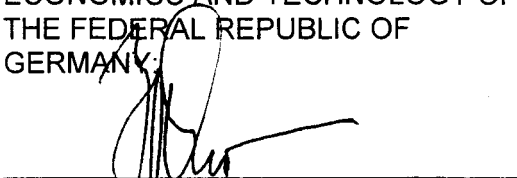
- A. Nothing contained in this Arrangement shall require either Party to take any action that would be inconsistent with its existing laws, regulations, and policy directives. Should any conflict arise between the terms of this Arrangement and those laws, regulations, and policy directives, the Parties agree to consult before any action is taken. No nuclear information related to proliferation-sensitive technologies shall be exchanged under this Arrangement.
- B. Unless otherwise agreed, all costs resulting from cooperation pursuant to this Arrangement shall be the responsibility of the Party that incurs them. The ability of the Parties to carry out their obligations is subject to the appropriation of funds by the appropriate governmental authority and to laws and regulations applicable to the Parties.
- C. Cooperation under this Arrangement shall be in accordance with the laws and regulations of the Parties' respective countries. Any dispute or questions between the Parties concerning the interpretation or application of this Arrangement shall be settled by mutual agreement of the Parties.
- D. This Arrangement shall enter into force upon signature and, subject to paragraph E of this Section, shall remain in force for a period of five years. It may be extended for a further period of time by written agreement of the Parties.
- E. Either Party may terminate this Arrangement after providing the other Party written notice 180 days prior to its intended date of termination.

DONE at Vienna, Austria on this 20th day of September 2011, in duplicate, in the English and German languages, both texts being equally authentic.

FOR THE NUCLEAR REGULATORY  
COMMISSION OF THE  
UNITED STATES OF AMERICA:

  
\_\_\_\_\_  
Gregory B. Jaczko, Chairman

FOR THE FEDERAL MINISTRY OF  
ECONOMICS AND TECHNOLOGY OF  
THE FEDERAL REPUBLIC OF  
GERMANY:

  
\_\_\_\_\_  
Hans-Joachim Otto  
Parliamentary State Secretary

Addendum "A"  
USNRC-BMWi Safety Research Exchange  
Areas in Which the USNRC is Performing or Sponsoring Safety Research

1. Digital Instrumentation and Control
2. Reactor and Electrical Equipment Qualification
3. Environmental Transport
4. Radionuclide Transport and Waste Management
5. Dry Cask Storage and Transport
6. Fire Safety Research
7. Nuclear Fuel Analysis
8. Severe Accident Analysis
9. Operating Experience and Generic Issues
10. Human Factors Engineering
11. Organizational Factors/Safety Culture
12. Human Reliability Analysis (HRA)
13. Probabilistic Risk Assessments
14. Radiation Protection and Health Effects
15. Seismic Safety
16. State of the Art Risk Consequences
17. Reactor Containment Structural Safety
18. Reactor Vessel and Piping Integrity
19. Regulatory Guide Update
20. New and Advanced Reactor Designs
21. Decommissioning
22. Thermal Hydraulic Code Applications and Maintenance
23. Uncertainty Analysis for Thermal Hydraulic Kinetics
24. Coupled 3D Neutronics and Plant Thermal Hydraulics
25. Medical Isotope Production
26. Long-term Operational Management
27. Plant and Systems Operations

Addendum "B"

Some Areas in Which the BMWi is Currently Performing or Sponsoring Safety Research

1.     **COMPONENT INTEGRITY AND QUALITY ASSURANCE**  
Materials and Structures (all loading conditions)  
Material Stress and Strain  
Limits of Material Strength  
Non-destructive Examinations (NDE)  
Non-destructive Material Characterization
  
2.     **TRANSIENTS AND ACCIDENT SEQUENCES**  
(Including Severe Accidents and Accident Management)  
Primary Circuit Thermalhydraulics  
Core Melt in Vessel and ex Vessel  
Containment  
Hydrogen  
Fission Product Behaviour and Source Term  
Fire  
External Impacts Including Airplane Crash
  
3.     **MAN-MACHINE INTERACTION**  
Human Performance  
Man-Machine Interfaces  
Digital I&C and System Diagnostics
  
4.     **RISK AND RELIABILITY**  
Level 2 PSA Including Fire PSA  
Seismic PSA  
Dynamic PSA
  
5.     **SPENT FUEL MANAGEMENT**  
Safety of Shipping Casks  
Safety of Long Term Dry Interim Storage  
Safety of Casks for Final Disposal  
Cask Safety in Mechanical and Thermal Accidents including Aircraft Crash  
Mechanical and Thermal Cask Analyses  
Long Term Performance of Materials and Components including Used Fuel

## **INTELLECTUAL PROPERTY ADDENDUM**

Pursuant to Section III. of this Arrangement:

### **I. General Obligation**

The Parties will ensure adequate and effective protection of intellectual property created or furnished under this Arrangement and relevant implementing arrangements. Rights to such intellectual property will be allocated as provided in this Addendum.

### **II. Scope**

- A. This Addendum is applicable to all cooperative activities undertaken pursuant to this Arrangement, except as otherwise specifically agreed by the Parties or their designees.
- B. For purposes of this Arrangement, "intellectual property" will mean the subject matter listed in Article 2 of the Convention Establishing the World Intellectual Property Organization, done at Stockholm, July 14, 1967, and may include other subject matter as agreed by the Parties.
- C. Each Party will ensure, through contracts or other legal means with its own participants, if necessary, that the other Party can obtain the rights to intellectual property allocated in accordance with this Addendum. This Addendum does not otherwise alter or prejudice the allocation between a Party and its nationals, which will be determined by that Party's laws and practices.
- D. Except as otherwise provided in this Arrangement, disputes concerning intellectual property arising under this Arrangement will be resolved through discussions between the concerned participating institutions, or, if necessary, the Parties or their designees. Upon mutual agreement of the Parties, a dispute will be submitted to an arbitral tribunal for binding arbitration in accordance with the applicable rules of international law. Unless the Parties or their designees agree otherwise in writing, the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL) will govern.
- E. Termination or expiration of this Arrangement will not affect rights or obligations under this Addendum.

### **III. Allocation of Rights**

- A. Each Party will be entitled to a non-exclusive, irrevocable, royalty-free license in all countries to translate, reproduce, and publicly distribute scientific and technical journal articles, reports, and books directly arising from cooperation under this Arrangement. All publicly distributed copies of a copyrighted work prepared under this provision will indicate the names of the authors of the work unless an author explicitly declines to be named.

IPR-2

- B. Rights to all forms of intellectual property, other than those rights described in Section III.A above, will be allocated as follows:
- (1) Visiting researchers will receive rights, awards, bonuses and royalties in accordance with the policies of the host institution.
  - (2)(a) Any intellectual property created by persons employed or sponsored by one Party under cooperative activities other than those covered by Section III.B(1) will be owned by that Party. Intellectual property created by persons employed or sponsored by both Parties will be jointly owned by the Parties. In addition, each creator will be entitled to awards, bonuses and royalties in accordance with the policies of the institution employing or sponsoring that person.
  - (b) Unless otherwise agreed in an implementing or other arrangement, each Party will have within its territory a right to exploit or license intellectual property created in the course of the cooperative activities.
  - (c) The rights of a Party outside its territory will be determined by mutual agreement considering the relative contributions of the Parties and their participants to the cooperative activities, the degree of commitment in obtaining legal protection and licensing of the intellectual property, and such other factors deemed appropriate.
  - (d) Notwithstanding Section III.B(2)(a) and (b) above, if either Party believes that a particular project is likely to lead to or has led to the creation of intellectual property not protected by the laws of the other Party, the Parties will immediately hold discussions to determine the allocation of rights to the intellectual property. If an agreement cannot be reached within three months of the date of the initiation of the discussions, cooperation on the project in question will be terminated at the request of either Party. Creators of intellectual property will nonetheless be entitled to awards, bonuses and royalties as provided in Section III.B(2)(a).
  - (e) For each invention made under any cooperative activity, the Party employing or sponsoring the inventor(s) will disclose the invention promptly to the other Party together with any documentation and information necessary to enable the other Party to establish any rights to which it may be entitled. Either Party may ask the other Party in writing to delay publication or public disclosure of such documentation or information for the purpose of protecting its rights in the invention. Unless otherwise agreed in writing, the delay will not exceed a period of six months from the date of disclosure by the inventing Party to the other Party.

#### **IV. Business Confidential Information**

In the event that information identified in a timely fashion as business-confidential is furnished or created under this Arrangement, each Party and its participants will protect such information in accordance with applicable laws, regulations, and administrative practices. Information may be identified as "business-confidential" if a person having the information may derive an economic benefit from it or may obtain a competitive advantage over those who do not have it, and the information is not generally known or publicly available from other sources, and the owner has not previously made the information available without imposing in a timely manner an obligation to keep it confidential.