

---

# 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons

22 May 2015

Original: English

---

New York, 27 April-22 May 2015

## **Implementing the Treaty on the Non-Proliferation of Nuclear Weapons: peaceful uses of nuclear energy**

### **Working paper submitted by the United States of America\***

This U.S. working paper highlights steps NPT parties can take to promote access to the peaceful uses of nuclear energy and makes recommendations for the Review Conference in this important area. The U.S. national report to the Review Conference contains greater detail concerning specific U.S. activities.

The United States is fully committed to promoting access to nuclear energy for peaceful purposes throughout the world in accordance with Article IV of the NPT. Article IV acknowledges the right of NPT Parties to conduct research and to pursue the development of nuclear energy for peaceful purposes without discrimination and “in conformity with Articles I and II of the Treaty.” As reflected in the NPT, a strong nonproliferation regime is a necessary basis for ensuring robust cooperation in the peaceful uses of nuclear energy.

#### *The Review Conference could:*

- Reaffirm that nothing in the Treaty shall be interpreted as affecting the inalienable right of all the parties to the Treaty to develop research, production, and use of nuclear energy for peaceful purposes without discrimination and in conformity with articles I, II, and III of the Treaty.
- Reaffirm that the Treaty plays a unique role in providing a framework that fosters international confidence and cooperation in the peaceful uses of nuclear energy. By aiming to ensure that nuclear materials, equipment, technology and facilities do not contribute to nuclear proliferation, the Treaty creates an essential basis for robust nuclear cooperation and the transfer of material, equipment, and technology.

The United States meets its peaceful uses commitments in a variety of ways, including through nuclear trade and technical assistance through the IAEA, bilaterally, and through other means.

---

\* The present document is issued without formal editing.



### **Support for IAEA Technical Assistance**

The IAEA Statute contains the objective of accelerating and enlarging “the contribution of atomic energy to peace, health, and prosperity throughout the world.” A major component of the IAEA’s efforts in this area is carried out through its Technical Cooperation program, supported by contributions to the Technical Cooperation Fund (TCF). The IAEA provides a broad spectrum of assistance to Member States with respect to the responsible development of nuclear power and to the non-power applications of nuclear energy, including to food security, water resource management, human health (e.g., cancer treatment and work to more effectively and quickly diagnose the Ebola virus), and protection of the environment. IAEA programs directly contribute to the development of Member States, including by addressing the Millennium Development Goals, and we expect them to be equally relevant in future implementation of the Post-2015 Development Agenda. Regional cooperation agreements also provide an important mechanism to facilitate cooperation on nuclear applications within a particular region or globally. Since 2010, the United States has provided over \$108 million to support the IAEA Technical Cooperation Fund, about 25 percent of the total, and an additional \$33 million to support IAEA technical cooperation above and beyond projects funded through the TCF.

By meeting their TCF commitments, states provide critical stability in the TC planning and implementation process. At the same time, the IAEA and Member States need to work to ensure that the program continues to respond efficiently and effectively to the needs of all Members States, especially the Least Developed Countries. In addition to meeting their commitments to the TCF, NPT Parties can support the IAEA’s programs by providing experts to participate in IAEA technical meetings, or by providing additional funding toward training, fellowships, Cost-Free Experts, and Coordinated Research Projects.

The IAEA is unique among international organizations in having dedicated nuclear applications laboratories that support its activities, develop new technologies, and provide training. These laboratories are central to Agency efforts to accelerate and enlarge Member States’ access to nuclear technologies for peaceful purposes. The IAEA’s ongoing Renovation of the Nuclear Applications Laboratories at Seibersdorf (ReNuAL) project aims bring these facilities up to date by providing fit-for-purpose laboratories that will enable the Agency to better fulfill its peaceful uses mandate. The United States has already provided significant funding and expertise to launch this project, and at this Review Conference announced an additional pledge of \$2 million towards the IAEA’s efforts to renovate these facilities. We encourage other states to join us in this support.

#### *The Review Conference could:*

- Note with appreciation the IAEA’s activities related to nuclear science, technology, and nuclear power and non-power applications and the Agency’s efforts to increase their contribution to peace, health, and development.
- Recognize the importance of and endorse IAEA activities that meet the objective of fostering sustainable development and protecting the environment. Such activities include projects aimed at improving human and animal health, agriculture, and water management, as well as combatting climate change.

- Encourage Member States to cooperate and support fully the efforts of the IAEA to expand the extent that nuclear sciences and applications are utilized to promote development for all, including the achievement of the Millennium Development Goals and the Post-2015 Development Agenda.
- Continue efforts within the IAEA to enhance the effectiveness, efficiency, and transparency of its Technical Cooperation Program.
- Encourage Member States to make pledges and contributions to enable the IAEA to complete the Renovation of the Nuclear Applications Laboratories at Seibersdorf (ReNuAL) by the end of 2017.
- Encourage Parties in a position to do so to participate in the Technical Cooperation program on a reimbursable basis through government cost sharing in order to enhance the availability of TCF resources for the Least Developed Countries and maximize the availability of Agency expertise to Member States most in need.
- Welcome and encourage the work of regional cooperative arrangements as an effective means for advancing the peaceful use of nuclear energy, recognizing that they can be an effective means of providing assistance and facilitating technology transfer.
- Call on NPT Parties to engage with and support these groups, noting the contributions of the African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology; the Regional Cooperative Agreement for the Advancement of Nuclear Science and Technology in Latin America and the Caribbean; the Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology for Asia and the Pacific; and the Cooperative Agreement for Arab States in Asia for Research, Development and Training related to Nuclear Science and Technology, as well as the strategy for the IAEA Technical Cooperation program in the European region.
- Encourage states to contribute expertise to IAEA training programs as appropriate, including by hosting training courses, fellowships, and scientific visits.
- Urge the IAEA to continue implementing efforts that contribute to greater understanding and a well-balanced perspective of the role of nuclear science and technology in sustainable global development and future efforts to address climate change and the health of the world's oceans.
- Encourage the IAEA's efforts in providing information on potential contributions of nuclear power to mitigating climate change, in advance of the 21st session of the Conference of States Parties to the Framework Convention on Climate Change, to be held in Paris in 2015, and similarly encourages such efforts that would contribute to the implementation of the commitments of the parties to that Convention.

**IAEA Peaceful Uses Initiative:**

At the 2010 NPT Review Conference the United States announced the establishment of the IAEA Peaceful Uses Initiative (PUI), and that the United States would contribute \$50 million to the Initiative over the next five years. The PUI

supports implementation of Article IV of the NPT, which requires NPT States Parties that are “in a position to do so” to “cooperate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes”.

The United States has contributed more than \$50 million to the PUI since 2010. At least 17 other IAEA Member States and the European Union have joined the United States in supporting the PUI by providing monetary or in-kind contributions to the Initiative. U.S. PUI funds support areas that include human health, water resource management, food security, protection of the environment, and nuclear power infrastructure development. PUI contributions have provided the IAEA with additional flexibility and resources to support high priority Member State projects and to respond to unforeseen challenges, sometimes on short notice. The PUI has not led to any decrease in IAEA Member State contributions to the IAEA Technical Cooperation Fund. Therefore, the PUI is complementing the traditional mechanism of support through the TCF. More than 150 Member States have now benefited from the PUI. In 2015, the United States is committing an additional \$50 million in continued support for the PUI over the coming five years.

*The Review Conference could:*

- Endorse the IAEA’s Peaceful Uses Initiative (PUI) as a flexible mechanism to mobilize voluntary extrabudgetary resources to help to address national and regional development needs of NPT Parties, and encourage Parties to make contributions to the Initiative.

#### **Bilateral Cooperation and Capacity Building:**

The United States supports the efforts of countries considering nuclear power to build the national infrastructure needed to pursue the highest standards for safety, security and nonproliferation. This cooperation includes not only direct commercial cooperation, but also cooperation to help States embarking on nuclear energy programs to develop the necessary infrastructure to support their ambitions in a safe and secure manner.

Currently, the United States has in force 22 formal, legally-binding nuclear cooperation agreements involving 49 partners. These agreements provide the legal framework for nuclear commerce, including the export of nuclear material, nuclear reactors, and significant reactor components. In addition, U.S. technical agencies, such as the U.S. Nuclear Regulatory Commission and the U.S. Department of Energy, have cooperative arrangements with their counterparts in more than 40 countries. Such arrangements allow for the exchange of scientific and technological information, best practices, and training. When engaging in nuclear cooperation, the United States is mindful of the importance of supporting the development of the skilled workforce needed for the peaceful use of nuclear energy, with necessary attention to nonproliferation, nuclear safety, nuclear security, and safeguards.

*The Review Conference could:*

- Emphasize the need for States embarking on nuclear energy programs to develop a robust national technical, human resource, and regulatory infrastructure to ensure safety and security for all reactor and fuel cycle activities consistent with

international standards, guidelines, and recommendations at a very early stage of the process.

- Welcome cooperation among States Parties and assistance available through the IAEA and bilaterally to build capacity for sustainable use of nuclear energy for peaceful purposes under the highest standards of safety, security, and nonproliferation, and call for enhanced cooperation to that end.
- Welcome educational and outreach programs, including from the IAEA, to promote access to peaceful nuclear power, and encourage States Parties in a position to contribute to such efforts to do so, including by making their own educational programs available to states developing nuclear energy.
- Welcome regulatory cooperation programs such as the International Regulatory Development Partnership as a means for established regulators to work with the regulators of countries with new and emerging nuclear energy programs to ensure the development of a strong, independent regulator.
- Welcome the activities of the International Framework on Nuclear Energy Cooperation and similar cooperative programs to supplement IAEA assistance and to help ensure that the peaceful applications of nuclear energy and nuclear science and technology, as well as the use of nuclear energy for peaceful purposes, proceed in a manner that is efficient and meets the highest standards of safety, security and non-proliferation.

#### **Nuclear Power and the Fuel Cycle:**

In Prague in April 2009, President Obama stated that, “we should build a new framework for civil nuclear cooperation, including an international fuel bank, so that countries can access peaceful power without increasing the risks of proliferation”. Countries in compliance with their nonproliferation obligations and considering or expanding nuclear power programs should be assured that they will have reliable access both to peaceful nuclear technologies and to fuel services, and that they need not consider the expense and difficulty of developing indigenous enrichment or reprocessing capabilities. While the global demand for reactor fuel is met through the international nuclear fuel market, establishing additional fuel assurance mechanisms, such as international fuel banks, reinforces confidence and diversifies supply. The United States has strongly supported the development of such mechanisms. We have welcomed approval by the IAEA Board of Governors of three fuel assurance mechanisms for IAEA Member States. These include the nuclear fuel reserve in Angarsk, Russia, which the IAEA Board of Governors approved in 2009; the low-enriched uranium (LEU) bank under IAEA auspices, approved in 2010; and the Model Nuclear Fuel Assurances Agreement proposed by the United Kingdom and approved in 2011, which provides a mechanism for assured supply between partner states and the IAEA. The United States has fully supported each of these measures, and will continue to consider additional multilateral measures to ensure reliable access to nuclear fuel, an objective of Action 58 in the 2010 NPT Action Plan.

In addition, in August 2011, the Department of Energy formally announced the availability of nuclear fuel from the American Assured Fuel Supply (AAFS). The AAFS is a reserve of approximately 230 tons of LEU downblended from highly enriched uranium declared excess to defense needs. This material is held in reserve

to address disruptions in the nuclear fuel supply. In the event of a fuel supply disruption in which LEU cannot be obtained through normal market conditions, U.S. suppliers may also apply for use of the AAFS, after which they would be able to supply that fuel to foreign entities under appropriate conditions for activities covered under an existing U.S. nuclear cooperation agreement.

*The Review Conference could:*

- Endorse fuel assurance mechanisms, including the IAEA LEU bank, as ways to provide further confidence to states that they can exercise their right to the peaceful use of nuclear energy.
- Encourage further development of nuclear reactor technologies that are safer, more economic, more resource efficient, and reduce proliferation risks, including ones that are more suitable for the electric power grids of smaller markets.
- Encourage international cooperation in the safe management of spent fuel and radioactive waste, including exploring multinational approaches to their storage and disposal.
- Encourage application of best practices in mining and processing, including those for environmental management of uranium mining.

#### **Fissile Material Minimization:**

The United States recognizes that the civil use of weapons-usable materials, particularly highly enriched uranium (HEU) and separated plutonium, requires special precautions and that it is of great importance that they are appropriately secured, consolidated, and accounted for. In order to provide practical alternatives that encourage and enable states to minimize the use of HEU in civilian programs, we encourage and support efforts to use non-HEU technologies for the production of radioisotopes, taking into account the need for an assured and reliable supply of medical isotopes. Similarly, the United States implements a reactor conversion program, which supports the conversion of domestic and international civilian research reactors and isotope production facilities from the use of HEU to low-enriched uranium (LEU) fuel, where technically and economically feasible.

*The Review Conference could:*

- Encourage States concerned to further minimize the use of HEU in civilian applications, including in research reactors and isotope production facilities, as well as through the use of non-HEU technologies to enhance the long-term reliability of supply in the production of medical and other important radioisotopes.
- Encourage states to keep their civilian stocks of separated plutonium to the minimum level.

#### **Nuclear Safety and Liability:**

Nuclear Safety is a key element for the peaceful use of nuclear energy, and continuous efforts are required to ensure that the technical and human requirements for safety are maintained at the highest level. We are still dealing with the after

effects of the accident at the Fukushima Dai-ichi nuclear power plants in 2011. Immediately following that event, we responded to help our ally in its time of need. In the hours and days that followed, 24,000 American service members took part in the Tomodachi relief effort, and our best scientists worked night and day to help contain the dangerously damaged Fukushima reactors. Since then, we are encouraged by world-wide efforts that have reviewed the foundations of the nuclear safety system and drawn valuable lessons learned from the event. International cooperation on nuclear safety-related matters, including through the IAEA, is important, and there are a number of key international conventions and codes of conduct of direct relevance. The United States has supported the IAEA Action Plan on Nuclear Safety since its adoption by the IAEA Board of Governors in 2011, and we want to re-emphasize our continuing support for it.

We also welcome and strongly support the February 9, 2015, Vienna Declaration on the *Principles for the Implementation of the Objective of the Convention on Nuclear Safety to Prevent Accidents and Mitigate Radiological Consequences*. It is a commitment by Contracting Parties to reinvigorate the principles of the Convention, which sends a powerful message to the world that we understand our responsibilities on nuclear safety and are meeting them in a way that can inspire confidence in the future peaceful uses of nuclear energy and technology. We further note the entry into force of the Convention on Supplementary Compensation for Nuclear Damage (CSC), a significant achievement in the improvement of the international legal framework and in the implementation of the Action Plan. We also recognize the importance of effective nuclear liability mechanisms to provide a framework for prompt compensation, if necessary, for damage due to a nuclear accident.

*The Review Conference could:*

- Call on Parties to ensure that the use of nuclear energy is accompanied by ongoing implementation of the highest standards of safety and security, in particular as articulated in IAEA safety standards and nuclear security guidance.
- Welcome the progress in enhancing the implementation of the Convention on Nuclear Safety and encourage Contracting Parties to fully participate in the Convention's review process.
- Endorse the principle set forth in the 2015 Vienna Declaration on Nuclear Safety that new nuclear power plants are to be designed, sited, and constructed consistent with the objective of preventing accidents in their commissioning and operation.
- Encourage Parties to implement the recommendations of the Code of Conduct on the Safety and Security of Radioactive Sources, the Code of Conduct on the Safety of Research Reactors, and the Nuclear Safety Action Plan endorsed by the General Conference of IAEA in September 2011.
- Further encourage States to join and implement the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, the Convention on Early Notification of a Nuclear Accident, and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency.

- Emphasize the importance of the establishment, implementation and continuous improvement of national emergency preparedness and response measures and mitigation capabilities in a manner that addresses both nuclear security and nuclear safety.
- Encourage efforts to assist States in meeting IAEA standards of nuclear safety, bilaterally and through the IAEA.
- Note the importance of the upcoming IAEA Fukushima Report as a valuable document for understanding how to incorporate lessons learned and further improve nuclear safety and emergency response in case of a nuclear accident.
- Welcome the Multinational Design Evaluation Program and the Small Modular Reactors (SMR) Regulators Forum as mechanisms through which countries can collaborate on issues related to new reactor designs.
- Encourage IAEA Member States to host peer review and follow up missions in the field of nuclear safety and security, such as the Integrated Regulatory Review Service, Operational Safety Review Teams, and International Physical Protection Advisory Service to conduct national reviews on a regular basis.
- Encourage IAEA Member States to share publicly the outcomes of these review missions in order to strengthen further nuclear safety and security worldwide.
- Encourage, as appropriate, membership in an international nuclear liability instrument and adoption of national law consistent with the liability principles set forth in the international nuclear liability instruments.
- Welcome the entry into force of the Convention on Supplementary Compensation for Nuclear Damage (CSC) and encourage states to join.

---