

MEMORANDUM OF COOPERATION

BETWEEN

THE MINISTRY OF ECONOMY, TRADE AND INDUSTRY AND THE MINISTRY OF  
EDUCATION, CULTURE, SPORTS, SCIENCE AND TECHNOLOGY OF JAPAN, ON  
THE ONE SIDE

AND

THE DEPARTMENT OF COMMERCE AND THE DEPARTMENT OF ENERGY OF THE  
UNITED STATES OF AMERICA, ON THE OTHER SIDE,

CONCERNING RESEARCH AND DEVELOPMENT AND INDUSTRIAL  
COOPERATION IN THE NUCLEAR ENERGY SECTOR

The Ministry of Economy, Trade and Industry and the Ministry of Education, Culture, Sports, Science and Technology of Japan on the one side, and the Department of Commerce and the Department of Energy of the United States of America on the other side (hereinafter referred to collectively as the “Participants”) :

IN ACCORDANCE with the ongoing Japan-U.S. Economic Dialogue and the Statement of Intent signed on October 17, 2017, between the Ministry of Economy, Trade and Industry of Japan and the Department of Energy of the United States of America (hereinafter referred to as “DOE”);

AIMING to further the Japan-United States Strategic Energy Partnership announced on November 6, 2017, between Japan and the United States of America;

ACKNOWLEDGING the need for nuclear energy as a source of affordable, reliable, and clean baseload power, with the major premise of ensuring its safety, the desire to promote commercial partnerships in the nuclear energy sector to facilitate economic growth and energy security for both countries, and the need to safely and efficiently decommission and remediate nuclear power sites;

RECOGNIZING the need to enhance advanced nuclear technologies and human resources of the Participants’ countries, which contributes to addressing the security of energy supply and the reduction of greenhouse gas that both countries as well as the broader international community are facing;

SEEKING to promote the global leadership role of Japan and the United States in the area of civil nuclear energy;

DESIRING to further strengthen the two countries’ partnership on further research and development, advances, and innovations on the use of nuclear power that benefit society;

OBSERVING that the Participants’ countries are parties to the Treaty on the Non-Proliferation of Nuclear Weapons, the Convention on Nuclear Safety, the Convention on Supplementary Compensation for Nuclear Damage (CSC), and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, and

that both Participants' countries strongly support the safeguards system of the International Atomic Energy Agency (IAEA), including the Additional Protocol;

HAVING REGARD for the scope of cooperation set out in the Agreement for Cooperation between the Government of Japan and the Government of the United States of America Concerning Peaceful Uses of Nuclear Energy done at Tokyo on November 4, 1987, which entered into force on July 17, 1988; and

NOTING the special bond that exists between Japan and the United States, as exemplified by the response to the incident at Fukushima Daiichi Nuclear Power Station and desiring continued cooperation on its decommissioning and decontamination,

HAVE REACHED THE FOLLOWING RECOGNITION:

The Participants intend to cooperate, subject to their respective countries' national laws, regulations and international commitments, as follows:

#### Cooperation on Nuclear Research and Development, Including Innovative Reactors

- Reaffirm the importance of promoting the innovation of nuclear technologies through multi-layer international cooperation among public and private sectors in such areas as research and development and regulatory frameworks;
- Discuss ways of collaborating between Japan and the United States regarding innovative reactor research and development;
- Discuss mid-to-long term planning to create private-sector-led innovation, and in so doing promote dialogue and collaboration among relevant agencies, regulators, national laboratories, universities, and private sectors;
- Encourage private sector and university researchers to develop advanced reactors and to discuss means to promote research and development, such as experimental data sharing or paid use, personnel exchange, and further cooperation for sharing nuclear facilities in Japan and the United States;
- Encourage potential future partnerships to develop and deploy the next generation of advanced nuclear reactors, including small modular reactors, through dialogue including the Japan-U.S. Roundtable; and
- Recognize the importance of, and intent to further strengthen, the two countries' cooperation under the Civil Nuclear Energy Research and the Development Working Group of the Japan-U.S. Bilateral Commission on Civil Nuclear Cooperation.

#### Cooperation on Decommissioning and Back End Fuel Cycle Management

- Reaffirm the principle that contractual awards for the decommissioning of nuclear power plants and other related activities are expected to be based on the commercial, safety and technical merits of the different proposals and industrial partnerships;

- Support industrial collaboration in decommissioning of commercial nuclear power plants, research reactors, and other nuclear facilities, as well as the decontamination and remediation of Fukushima Daiichi Nuclear Power Station;
- Discuss means for further cooperation on enhancing capabilities in interim storage of spent nuclear fuels, including joint studies on dry cask storage;
- Support industrial collaboration in management and disposal of low-level radioactive waste, and sharing lessons learned between Japan and the United States;
- Launch a new dialogue regarding final disposal of high-level radioactive waste, to encourage joint studies on technologies including safety measures during the operational phase, and to deepen cooperation in public communication strategies including sharing effective lessons and experiences;
- Recognize the importance of, and intent to further strengthen, cooperation under the Decommissioning and Environmental Management Working Group of the Japan-U.S. Bilateral Commission on Civil Nuclear Cooperation;
- Facilitate further collaboration including cooperation between Japanese related agencies and DOE National Laboratories in the areas of decommissioning and decontamination;
- Collaborate in support of the Japan-U.S. Decommissioning Forum and the International Forum on the Decommissioning of the Fukushima Daiichi Nuclear Power Station, and other appropriate activities on decontamination and decommissioning; and
- Support the sharing of lessons on strategic planning, management oversight, communication with regulators, and stakeholder engagement learned in the areas related to decommissioning and other related areas in the civil nuclear sector.

#### Industrial Cooperation for Safety Improvement

- Welcome ongoing and future collaboration between the Atomic Energy Association (ATENA) established in July 2018, which represents the Japanese nuclear energy industry, and the nuclear industry in the United States to share knowledge and encourage discussion on technical issues of common interest at various opportunities such as international fora; and
- Welcome ongoing and future industrial cooperation, and additional forms of industrial cooperation, between Japanese and U.S. companies, including but not limited to safety improvements, such as cooperation on industrial peer reviews between the Japan Nuclear Safety Institute (JANSI) and the Institute of Nuclear Power Operation (INPO); and work on risk informed decision making.

## Contribution to Global Use of Nuclear Energy

- Welcome the progress of the Horizon project and future opportunities in the United Kingdom and other potential markets, with the partnerships between vendor companies, and between nuclear operators, and encourage further collaboration;
- Regard nuclear energy partnerships in Asia as crucial, and encourage a broadening of cooperation between Japanese and U.S. companies in Asia and other key regions; and
- Facilitate continued collaboration, including cooperation between Japanese related agencies and DOE National Laboratories in the areas of nuclear non-proliferation, security, safeguards and nuclear safety.

## Fora for Continued Engagement

- Continue agency-to-agency engagement under the Japan-U.S. Economic Dialogue Energy Cooperation Working Group and the Japan-U.S. Bilateral Commission on Civil Nuclear Cooperation, and promote sharing lessons learned on appropriately evaluating the value of base-load electricity sources in the market;
- Support the Nuclear Innovation: Clean Energy Future (NICE Future) initiative under the Clean Energy Ministerial to discuss the global roles, known and new, that nuclear energy innovation can play in bolstering economic growth, energy security, access to carbon-free energy, and environmental stewardship to advance clean energy goals; and
- Leverage existing private sector fora to enhance industry-to-industry exchange, such as the Japan-U.S. Roundtable, dialogue between Japanese and U.S. utilities, and others.

The Participants intend cooperation under this Memorandum of Cooperation (MOC) to commence on the date of the last signature.

The Participants are expected to bear their own costs and expenditures incurred in the course of implementing this MOC. The activities conducted by the Participants and other related agencies under this MOC are contingent upon the availability of funds and other resources, and subject to the laws and regulations of their respective countries.

This MOC is not legally binding and does not give rise to any rights or obligations under domestic or international law.

The Participants intend to address any differences of opinion arising between them in regarding to the interpretation of this MOC through friendly consultation between the Participants.

Any revision to the content of this MOC is expected to be done in writing by the Participants.

Either side may cease cooperation under this MOC and is expected to provide at least 30 days advance written notice to the other side.

Signed in quadruplicate in the English language.

FOR THE MINISTRY OF ECONOMY,  
TRADE AND INDUSTRY OF JAPAN:

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

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Date:  
Place:

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Date:  
Place:

FOR THE MINISTRY OF EDUCATION,  
CULTURE, SPORTS, SCIENCE AND  
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