DOE Announces Restrictions on Commercial Nuclear Trade With China

- New guidance would restrict advanced reactor, SMR trade with China
- Trade with China General Nuclear also being restricted
- NEI working to determine impact of new rules

Oct. 24, 2018—The U.S. government has announced a new policy framework for civil nuclear cooperation with China, citing concerns over Chinese diversion of sensitive technologies to military and other unauthorized uses. The policy imposes significant new restrictions on U.S. exports of commercial nuclear technology, equipment and material to China. The policy establishes a presumption of denial for multiple categories of export applications, including nonlight water advanced reactor and light water small reactor technology (SMR).

In a recent U.S. government briefing to industry, an interagency group cited “China’s efforts to obtain nuclear technology outside of established processes of U.S.-China civil nuclear cooperation” as the basis for curtailing U.S.-China nuclear commerce.

NEI Vice President of Suppliers, New Reactors and International Programs Dan Lipman acknowledged that the policy framework is based on legitimate concerns, but cautioned that careful implementation is critical to mitigate commercial harms.
“The U.S. government has undertaken a thorough review of civil nuclear cooperation with China and developed a policy that seeks to balance national and economic security concerns with potential harms to our strategically important industry,” Lipman said.

“NEI is working with our member companies to determine the scope of commercial impact from the policy framework. Given that various nuclear technologies will be shut out of the world’s largest market that impact is clearly significant and we are reviewing this very carefully.”

Applications for export authorizations to China under 10 CFR Part 110 and 10 CFR Part 810 have been on hold since last year during the National Security Council-led policy review. The U.S. Department of Energy published an overview of the new policy framework for DOE’s Part 810 authorization process, governing technology exports, and the U.S. Nuclear Regulatory Commission’s Part 110 process, governing the export of items. DOE and NRC announced that they will meet with applicants immediately in order to clear the backlog of pending applications.

In addition to blocking transfers to China of advanced reactor and nonlight water small reactor technology, the new policy framework will establish a presumption of denial for transfers to the China General Nuclear Power Group (CGN), a Chinese energy company that constructs and operates nuclear power plants, and for all new technology transfers after Jan. 1, 2018.

The guidance appears to have little effect on the approved transfer of large light water reactor technologies and components, such as those for the Westinghouse AP1000s currently operating in China. Four AP1000s under construction in China have started operations and are now connected to the electric grid.

According to DOE, the new guidance presumes approval for:

- amendments or extensions of existing Part 810 authorizations for technology transferred prior to Jan. 1, 2018
- applications for transfer of equipment and components in support of continuing projects such as the construction of AP1000, CAP-1000 and some components for CAP-1400 reactors.

The guidance presumes denial for:

- new Part 810 license applications and extensions for exports related to light water small modular reactors and nonlight water advanced reactors
- new technology transfers after Jan. 1, 2018
- any transfer to CGN and its subsidiaries or related entities
- exports for equipment and components related to direct economic competition with the United States, such as the Hualong One and unique U.S. components supporting CAP-1400 reactors
- applications for equipment and components to be transferred to CGN, CGN subsidiaries or related entities.

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Milestones

EPA Withdraws Plan for Duplicative Uranium Mining Rule

The U.S. Environmental Protection Agency (EPA) has announced that it is withdrawing a proposed rule regarding “in-situ” uranium recovery.

In-situ means drilling a well into a uranium deposit and injecting a liquid that dissolves some of the uranium and brings it to the surface, where it can be purified and sent for processing into nuclear fuel. The in-situ process entails minimal risk. To date, such operations have had no impact on drinking water, which is the subject of the rule.

NEI opposed this proposal when the EPA issued it in the last days of the Obama administration.

“The proposal was unnecessary, since no documented risks to the public or the environment have been identified,” said Doug True, senior vice president and chief nuclear officer of NEI. “Such mining is already regulated under a different federal law, the Uranium Mill Tailings Radiation Control Act of 1978, and by most of the states where in-situ recovery occurs. The EPA’s Scientific Advisory Board said the rule was not needed, and the structure of the rule posed legal problems. There is no benefit in these duplicative, unnecessary regulations.”

DOE Awards GE $33.7 Million to Improve Nuclear Reactor Fuel

General Electric Co. (GE) announced it has been awarded a $33.7 million project from the U.S. Department of Energy to continue development of advanced fuel rod technologies that are more robust and have improved performance during normal and accident conditions.

The key goal of the project is to develop and demonstrate new nuclear fuel rods that could be commercially deployed and set new standards in plant safety.

The project will be led by a team of scientists and engineers from GE’s Global Research Center in Niskayuna, New York, which has been working with Global Nuclear Fuel, a GE-led joint venture, the National Labs and the DOE on IronClad, an alternative material solution for fuel rods that is more durable in extreme conditions.

GE anticipates the new fuel rods will provide enhanced reliability, increased safety, operational flexibility and reduced cost by leveraging accident tolerant properties and be able to withstand extreme conditions for longer periods of time.

Second AP1000 Enters Commercial Operation

Haiyang 1 in China has completed 168 hours of full-power continuous operation, becoming the second AP1000 reactor to enter commercial operation.

Although operator China National Nuclear Corp. must still obtain necessary permits and documentation, the unit is now considered to be in commercial operation.

In September 2007, Westinghouse and its partner the Shaw Group received authorization to construct four AP1000 units in China: two at Sanmen Nuclear Power Plant and two more at Haiyang Nuclear Power Plant.
On Sept. 21, Sanmen 1 became the first AP1000 to enter commercial operation. Sanmen 2 is also expected to enter commercial operation by the end of this year, while Haiyang 2 is expected to start up early next year. << NEI Staff, overview@nei.org

**Taiwan to Vote on Nuclear Phase-Out**

A referendum on the Taiwanese government’s policy to phase out the use of nuclear energy by 2025 is to be held next month, Taiwan’s Central Election Commission announced.

Taiwan has four operable nuclear reactors which account for around 15 percent of the island’s electricity generation.

Taiwan’s Democratic Progressive Party (DPP) was elected in January 2016 with a policy of creating a “nuclear-free homeland” by 2025. Shortly after taking office, the DPP government passed an amendment to the Electricity Act, making its phase-out policy law.

The referendum proposal asks voters whether they agree with abolishing Paragraph 1 of Article 95 of the Electricity Act, which stipulates that “all nuclear energy-based power-generating facilities shall completely cease operations by 2025.” << NEI Staff, overview@nei.org

**Contracts**

**Hitachi Appoints Three More Partners for Welsh Nuclear Plant**

Three more companies, WS Atkins PLC, KBR and Wood, have been appointed by Hitachi Nuclear Energy Europe Ltd. to support delivery of the Wylfa Newydd nuclear power plant in Wales.

Hitachi Nuclear Energy Europe will supply the UK Advanced Boiling Water Reactors (ABWRs) for Wylfa Newydd, acting as architect engineer for the project. The architect engineer is responsible for design integration and technical consistency across all aspects of the plant.

Hitachi Nuclear Energy Europe announced that Atkins will support it on civil engineering design for the nuclear island. KBR has been appointed to work on project controls. Wood will support Hitachi Nuclear Energy Europe in its architect engineering role on technical specifications, procurement and design integration as well as managing interfaces with the project management contractor and the plant’s owner, Horizon Nuclear Power. << NEI Staff, overview@nei.org

**Transitions**

**Government**

President Donald Trump has designated Neil Chatterjee, to be chairman of the Federal Energy Regulatory Commission. Chatterjee replaces outgoing Chairman Kevin McIntyre. Chatterjee earlier served as chairman from August 2017 to December 2017.