THIRD WAY

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Advanced Nuclear Appropriations

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Third Way strongly supports advanced nuclear energy as a way to safely and reliably meet our energy needs while helping in the fight against climate change. Last year, we released a report introducing the nearly 50 companies in North America working on advanced nuclear technologies. Since that time, interest and excitement around nuclear innovation has spiked in Washington, with both Congress and the Obama Administration looking for ways to support America's advanced nuclear entrepreneurs.

The FY2017 appropriations process offers a number of relatively low-cost and high-impact opportunities for the federal government to accelerate private sector growth and success in this promising new industry. Our top appropriations recommendations are explained below.

Preparing the NRC to License Advanced Reactors

Advanced nuclear reactors face a significant regulatory roadblock: there is no timely pathway for the federal government to approve the license for these new, very different reactor designs. The Nuclear Regulatory

Commission (NRC) is the premier nuclear licensing organization in the world. But, as we noted last year, tackling this new challenge requires new funding.

To address this need and in support of its Mission Innovation initiative, the Obama Administration's FY2017 budget calls for $5 million for the NRC's Office of New Reactors, which is responsible for advanced reactor licensing support.

If there is not a pathway for these reactors to get licensed in the United States, they will be licensed and built in other countries, with less robust regulatory agencies. Additional funding would help ensure that advanced nuclear technology is developed, licensed, and built in the United States.

Recommendation: Provide at least $5 million in new NRC funding to support advanced reactor licensing.

Industry Partnerships

In the 2015 Omnibus, Congress directed the Department of Energy (DOE) to use $12.5 million of appropriated funds for an advanced reactor concept competition with industry. In accordance with this directive, in January of this year, the DOE announced a multi-year cost-share award of up to $80 million with X-energy and Southern Company Services to address key technical challenges to the design, construction, and operation of next generation nuclear reactors.

However, the President's budget proposes cutting the Advanced Reactor Technologies program, the program through which the cost-share is funded, by $28 million; the budget justification clarifies that this decrease came in part from cutting the cost-share.

To ensure that this promising initiative moves forward, Congress should fund the Advanced Reactor Technology program at FY2016 enacted levels and include report language directing some of this funding go to the cost-share, as they did in the FY2015 Omnibus.

Recommendation: Fund the Advanced Reactor Technology program at the FY2016 enacted level and include report

language directing the DOE to continue the industry cost-share.

Supporting SMR Licensing and Deployment

The Small Modular Reactor (SMR) Licensing Technical Support Program began in 2012 as a way to advance the certification, licensing, and siting of domestic SMR designs, and to reduce economic, technical, and regulatory barriers to their deployment. Through this program, NuScale was selected under a funding announcement opportunity and has worked with DOE to accelerate the commercialization of SMR technology.

FY2017 is proposed to be the final year of funding for the SMR program. Fully funding the program at the requested $89 million will allow the program to effectively lay the groundwork for future SMR and other advanced reactor licensing, confirming that a concept can move from initial idea through deployment with federal support.

Recommendation: Fully fund the SMR Licensing Technical Support Program at $89 million.

Moving Beyond SMRs

Industry partnerships, like the SMR program and the advanced reactor cost-share initiative, have been a cost-effective and efficient way to accelerate the licensing and design of advanced reactors. What's needed now is a path to commercialization for non-light water advanced reactors. Because the private sector is actively working on developing these reactors, DOE should start planning how to support commercialization now.

Recommendation: Congress can follow up on the success of the SMR program by including the following report language:

Reactor Concepts Research, Development and Demonstration -- The Committee recognizes that some advanced fission and fusion electricity generation designs may offer significant environmental, economic, and safety advantages over the current light water

reactor designs available today. The Department launched an effort in FY2015, the Gateway for Accelerated Innovation in Nuclear (GAIN) initiative, to support concept development of new reactors. The Committee supports this effort to drive new reactor designs to commercialization through cost-shared activities with industry. In FY2017 the Committee urges the Department to focus on a strategy for demonstration of advanced nuclear prototypes, including light water SMR, non-light water reactor, and fusion designs. To this end the Department should evaluate its capabilities to host and oversee advanced reactor prototypes on DOE-owned property with the goal of licensing and commercializing new designs as fast as possible.

Additionally, in light of the success of the Small Modular Reactor Licensing Technical Support Program and the continued need for federal support of advanced nuclear reactors, the Committee directs the Department to report to Congress within six months of enactment on the most effective next steps for furthering advanced nuclear reactors, potentially including a licensing technical support program for non-light water advanced reactors, developing a test reactor to provide fast neutrons, or a program for near-term SMR commercialization. Any proposed program should include both input from the advanced nuclear industry on their needs and an industry cost-share.

Nuclear Energy Enabling Technologies

The Nuclear Energy Enabling Technologies (NEET) program sponsors R&D and strategic infrastructure investments to develop crosscutting nuclear technologies. This program provides computational tools for reactor simulation and enables external researchers to access DOE's nuclear energy capabilities.

In November 2015, the Administration announced the Gateway for Accelerated Innovation in Nuclear (GAIN) program, whose goal is to make DOE's facilities, scientists, laboratories, and knowledge more accessible to entrepreneurs and scientists working on advanced nuclear technologies. This includes making a nuclear energy

infrastructure database available to companies and providing them assistance in navigating the regulatory process. Under the NEET program, $2.185 million has been proposed for GAIN, of which $2 million is set aside for vouchers that will help entrepreneurs pay for the work they do at DOE's labs. GAIN will also rely on other important areas of the overall NEET program, which saw a decrease from $111.6 million enacted in 2016 to the $89.5 million in the 2017 request (-20%).

Recommendation: Restore the NEET budget to FY 2016 enacted levels to ensure DOE laboratory support to industry through user support functions is not diminished.

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