



Department of Energy

Washington, DC 20585

July 29, 2016

Dr. Richard Meserve
Covington & Burling LLP
850 Tenth Street, NW
Washington, D.C. 20001-4956

Dr. Joy Rempe
360 Stillwater
Idaho Falls, ID 83404

Dear Dr. Meserve and Dr. Rempe:

I request that you form a team, comprised of members from the Nuclear Energy Advisory Committee's (NEAC's) Nuclear Reactor Technology, Facilities and International subcommittees, to assess the need and determine the requirements for an irradiation test reactor which would augment existing domestic capabilities to support the development and deployment of advanced non-light water reactors as well as to accommodate the future needs of light water reactor technologies. Nuclear power is an important carbon free power source for the U.S. and the world. Beginning around 2030 a significant number of operating U.S. nuclear reactors will reach 60 years of age and questions exist over the ability to extend operation to 80 years. Interest is increasing in exploring the development and deployment of advanced reactor technologies using non-light water coolants. These interests, coupled with draft legislation under consideration by the United States Congress, point to a growing interest in the construction of an irradiation test reactor capability in the U.S.

The purpose of this review is to independently determine the requirements and overall capabilities (e.g., neutron spectrum/spectra, testing environments, etc.) for a new irradiation test reactor and to perform a comparison with alternate facilities, methodologies, and approaches for meeting these needs and providing these capabilities. The needs, capabilities and options should be examined from the long term perspective (2030 and beyond).

The requirements review team should consider the needs of the entire user community including National Laboratories, academia, industry, reactor vendors, supply chain manufactures (fuels, I&C, heat exchangers), material suppliers, the United States Government (DOE, NRC, NASA, NNSA, DOD, etc.), and the international community as well as the time frame, if needed, that an irradiation test reactor capability would be required. The needs of the user community should be obtained via one-on-one meetings and/or the use of questionnaires or other communication mechanisms. In this context, the evaluation of the need for a US facility should include consideration of whether US needs can be met by facilities that exist or that are planned abroad. This evaluation should be

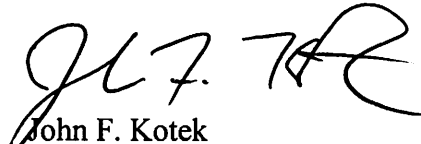


coordinated with the NEAC International Subcommittee's effort identify international nuclear facilities that the U.S. nuclear industry could leverage to support the further development of the GAIN Initiative and complement existing U.S. facilities.. A summary of this information should be presented in a public workshop in order to further facilitate feedback from the community on the needs of the users.

In parallel with the collection of the user community needs, the National Laboratories will be tasked with examining the range of technical options that could best meet the requirements of the user community, including an assessment of the cost, schedule and key risks associated with those technical options. Resources from the National Laboratories will also be made available to conduct meetings and/ or workshops and support the review team, as needed.

The team/sub-committee should conduct its meetings and or workshops as needed over the next several months with a status report provided during the late 2016 full NEAC meeting and final report delivered March 1, 2017. John Herczeg from my staff will provide assistance and coordination for the sub-committee, as well as coordination with our National Laboratories. The final report should recommend what capabilities, if anything, are required to address the perceived need for an irradiation test reactor, and when these capabilities should be available.

Sincerely,



John F. Kotek
Acting Assistant Secretary
for Nuclear Energy

cc: Dr. Michael Corradini
Chair, NEAC Nuclear Reactor Technology Subcommittee

Dr. John Sackett
Chair, NEAC Infrastructure Subcommittee

Dr. John Kelly
Deputy Assistant Secretary for Nuclear Reactor Technologies

Thomas J. O'Connor
Director, Office of Advanced Reactor Technologies

John Herczeg
Deputy Assistant Secretary for Fuel Cycle Technologies

Regis Matzie
Chair, NEAC International Subcommittee