



NUCLEAR ENGINEERING AND RADIOLOGICAL SCIENCES

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January 7, 2016

The Honorable Lamar Smith
Chairman
Committee on Science, Space
and Technology
2321 Rayburn House Office Building
Washington, DC 20515

The Honorable Eddie Bernice Johnson
Ranking Member
Committee on Science, Space
and Technology
394 Ford House Office Building
Washington, DC 20515

The Honorable Randy Weber
Chairman
House Science Subcommittee on Energy
Technology
2319 Rayburn House Office Building
Washington, DC 20515

The Honorable Alan Grayson
Ranking Member, Subcommittee on Energy
House Committee on Space, Science and
Technology
2321 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Smith, Ranking Member Johnson, Chairman Weber, and Ranking Member Grayson:

I am writing to you to offer my strong support for HR4084, the Nuclear Energy Innovation Capabilities Act of 2015, in my capacity as Department Chair of the Nuclear Engineering and Radiological Sciences Department at the University of Michigan.

There is a crucial need for the United States to develop the carbon-free, baseload electricity generation from nuclear power that is required to meet climate-change mitigation goals. Nuclear power currently provides the vast majority of carbon-free electricity in the USA and will continue this role for the foreseeable future.

While the USA currently leads the world in nuclear power generation and research, this lead is being seriously and rapidly eroded by China and Russia, with their huge investments in advanced, non-light water reactor science and technology. This legislation will marshal the combined resources of U.S. industry, national laboratories and academia. In particular, this partnership between institutions is crucial to ensure company and university access to advanced neutron generation facilities that can only be developed at national laboratories. This will enable universities to train the next generation of scientists and engineers on state-of-the-art facilities. The regulatory, safety and management infrastructure at U.S. national laboratories will also enable experiments to be performed that would not be possible at universities and companies.

In addition to neutron facilities, the legislation provides for the broader enhancement of nuclear engineering capabilities and research programs, that are essential to the timely development of advanced fission reactor systems, fusion energy systems and reactor systems for space exploration. These investments are crucial to maintain the nation's strength in these critical areas of technology in which we cannot afford to fall behind. High performance computational simulation capabilities/ tools and experimental verification are also essential to develop new nuclear reactor technologies and enhance our nation's leadership in their development. Support for research activities to maximize national research facilities is exemplified by research in

physical properties to simulate degradation of materials and behavior of fuel forms in reactor environments.

This legislation will provide the funding commitment and federal facilities for the U.S to maintain its lead in light water reactors and to continue to extend this lead to the science and technology of advanced non-light water reactors. The engineers and scientists trained on national laboratory facilities will ensure that this nation retains the capabilities to lead the world in developing the next generations of safe, clean nuclear reactors that minimize waste.

I appreciate your sponsorship of this important legislation.

Sincerely,

Ronald M. Gilgenbach