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Honorable Lamar Smith
Chairman
Committee on Science, Space and Technology
House of Representatives
Washington DC 20515

Honorable Eddie Bernice
Ranking Member
Committee on Science, Space and Technology
House of Representatives
Washington DC 20515

Dear Chairman Smith and Ranking Member Johnson,

I write to indicate my strong support of HR4084, the Nuclear Energy Innovation Capabilities Act.

I am the Piggott Professor emeritus at Stanford University; former Director of the SLAC National Accelerator Lab, a DOE Office of Science Laboratory; Nobel Prize winner (physics 1976); recipient of the National Medal of Science (2014); advisor to the DOE Nuclear Energy Program Office since 2000; and among other things member of the National Academy of Sciences, and former President of both the American Physical Society and the International Union of Pure and Applied Physics.

The national nuclear energy program is important to our country for two reasons. The first, and most often discussed, it the role of nuclear energy in supplying clean affordable electricity to our country as well as to the rest of the world. HR4084 does get the DOE moving on advanced reactors which are hoped to reduce cost, improve safety, ease disposal of spent fuel, and reduce proliferation risk. The Bill would also improve the interaction between our National Laboratories and industry, and would give the U.S. a chance to remain an important player in the nuclear-energy field.

The second reason is the importance to our national security of properly regulated and controlled nuclear programs. Today we have much influence on what happens internationally with regard to safety and reducing proliferation risk since most of the technology of today's nuclear reactors comes from technology developed here. However, our influence is fading as the world moves ahead while we stand still on the reactor and fuel-cycle developments of the future.

Nuclear energy has a strategic dimension as well as being a source of emission free electricity. Today there is no question that China, India, Russia, and perhaps S. Korea are where the action is on new designs. The bill if enacted and supported will keep us where we belong, among the world leaders. Only the world leaders will have much influence over such things as uranium enrichment and plutonium breeding technology and regulations of the future.

However, I believe that the budgets outlined in section 8 of the proposed Bill poses a problem. The fast test facility that is to be built if all goes well is a $1.5-2 billion facility. At the peak of a 7 – 10 year construction cycle its budget would have to be $200 – 300 million per year. The current total NE budget is roughly $980 million, and because of NE's broad range of responsibilities it is hard to see how such a new program can be fit into an NE budget that is flat or rises at only 2% per year.

NE's responsibilities already include many programs of importance to our nuclear energy future such as an accident-tolerant fuels program for the LWR fleet (the workhorse reactor for the next 30 or so years), the refurbishment of the Transient Test Reactor and the Advanced Test Reactor (also required for testing of new designs), support for development of a repository for spent fuel, a university R&D program that is necessary for the future, the computer simulation programs that you call for, etc. I hope that the program can be better supported.

Sincerely,

Burton Richter

BR:jlm