



# NATIONAL COUNCIL ON RADIATION PROTECTION AND MEASUREMENTS

President: John D. Boice, Jr.; Senior Vice President: Jerrold T. Bushberg; Executive Director: Kathryn D. Held  
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December 19, 2017

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A nongovernment,  
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Representative Lamar Smith  
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United States House of Representatives  
Washington, D.C. 20510

Representative Roger Marshall  
Member  
Committee on Science, Space, and Technology  
United States House of Representatives  
Washington, D.C. 20150

Re: Support for H.R. 4675: the "*Low-Dose Radiation Research Act of 2017*"

Dear Chairman Smith and Representative Marshall:

As President of the National Council on Radiation Protection and Measurements (NCRP), and on behalf of the Council, the NCRP wholeheartedly supports the *Low-Dose Radiation Research Act*.

The NCRP was chartered in 1964 by Congress to provide guidance to the nation on all areas in radiation protection. We are a Council of over 100 elected radiation professions in the United States and include physicians, physicists, biologists, regulators, engineers, laboratory scientists, ethicists, communication experts, educators, epidemiologists, statisticians, economists, dentists, and emergency response specialists.

There is no question that the United States needs to return to our past when we dominated the world in low-dose radiation research. We had vibrant research programs that addressed our national needs. This is no longer the case. The NCRP believes the United States is in a crisis in that we no longer have sufficient human capital to understand and address all the health and safety issues associated with the ever increasing exposure to low doses of ionizing radiation. Only increased research and educational opportunities can provide the answer. Where are the radiation professionals, now and for the future? The *Low-Dose Radiation Research Act of 2017* goes a long way to get the nation "back to the future".

The American public is exposed to ever increasing levels of radiation. The *Act* is to be applauded because it calls for a long-term national strategy to meet societal needs associated with exposures in medicine, nuclear waste and facility cleanups, nuclear power generation, increased air travel and cosmic-ray exposures, technologically enhanced naturally occurring radioactive materials in the environment from hydraulic fracturing, radiation worker compensation, and the possibility of terrorist events. Low-dose radiation research is also critical to the nation's plan for space exploration. Radiation is a limiting if not the limiting factor in going to Mars. NCRP conducts radiation research and provides guidance to NASA in these regards.

The nation needs educational and training opportunities in radiation research. Where are the radiation biologists, radiation chemists, radiation epidemiologists, radiation health and medical physicists, basic radiation scientists, and radiation regulators? Are there sufficient numbers? It already will take many years to create a pipeline since the pipe (e.g. educational programs) no longer exist or is severely kinked.

NCRP believes strongly that it is essential to integrate the low-dose radiation biology understanding with the human epidemiologic experience to fully understand and estimate risk in the low-dose domain as well as provide new approach to managing these exposures without unduly curtailing the beneficial uses of radiation in our society. I am the project officer of an interagency-supported effort to study one million U.S. radiation workers and veterans aimed at examining and quantifying the consequence of receiving low doses over many years. While it may be true that the “proper study of mankind is man”, it is essential that the radiation biology be intertwined in the process.

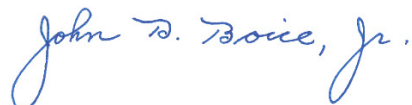
I applaud the initial funding level for the first year to be of the order of \$20 million. This stimulus is sorely needed for the United States to begin regaining prominence in radiation research as well as provide needed jobs and training for future professionals. Other countries in Europe, and particularly Germany, are lightyears ahead of the United States in having ongoing programs to meet future needs for radiation professionals.

The *Act* would not only produce new knowledge on low-dose radiation effects and mechanisms, but in doing so should start replenishing the pool of radiation professionals that is essential for developing the guidelines for managing low-dose exposures and thus protecting the public and workers.

I’ve reached the twilight of my career. I have an urgency to complete as many projects as I can, to mentor a few more young scientists, and to establish or sustain programs in radiation research and radiation protection. Your *Act* is a light to the future. I hope that it will gain momentum and be a hallmark legislation that does change the future!

Finally, I hope you will call on the NCRP at any time. We literally (and legislatively) are your National Council on Radiation Protection and we strive to serve in all ways possible.

Yours sincerely,

A handwritten signature in blue ink that reads "John D. Boice, Jr." with a stylized flourish at the end.

John D. Boice, Jr., Sc.D.  
President, NCRP  
Professor of Medicine, Vanderbilt University



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## Personal Addendum

### How Government Opportunities Created a Career in Government and Service to the Nation

I started my career in radiation research nearly 50 years ago in the late 1960s. After graduating from Texas Western College (now the University of Texas at El Paso), an Atomic Energy Commission fellowship allowed me to train as a nuclear engineer. The Viet Nam war changed my circumstances, but a few years later the U.S. Public Health Service (USPHS), supported additional training which resulted in several degrees including a doctoral degree in radiation epidemiology from Harvard. Such opportunities were available in the 1960s and early 1970s, but are no longer exist. There are few if any broad government-supported training opportunities that could lead to careers in radiation science that are sufficient to support the needs of the nation. Where are the STEM-like opportunities? My opportunities, for which I remain grateful, spurred me to serve in the USPHS for 27 years where I created and became the first Chief of the Radiation Epidemiology Branch at the National Cancer Institute. I also am Professor of Medicine at Vanderbilt University and conduct radiation health studies, including childhood cancer survivor research. Each year for the past 25 years I represented the United States in Vienna, Austria serving on the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). For 20 years I represented the United States as a Main Commissioner on the International Commission on Radiological Protection, the international group that provides guidance on radiation protection and managing low dose exposures. I have served the NCRP since 1977, currently as President for the past 6 years. I served for 10 years on the congressionally-mandated Veteran's Board on Dose Reconstruction (VBDR) to help with streamlining the compensation opportunities for our U.S. veterans who participated in aboveground nuclear weapons tests. I testified before your committee in 2011 after the Fukushima accident. I co-authored the March 2013 letter that was sent from Columbia University to the Honorable John P. Holden, Assistant to the President for Science and Technology, which influenced H.R. 35 (2015) in that some of the recommendations mirrored ones we had suggested. This is not so much a testimony of my personal abilities, but more so to the exceeding small and diminishing pool of senior radiation professionals that could be called upon. And this number is dwindling.

As my career is nearing its end, one question has troubled me for the past several years: **"who will replace me?"** The *Act* might be the essential jump start for the future.