

# The Nonproliferation Policy Education Center

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## Executive Director

Henry Sokolski

January 3, 2022

## Board of Advisors

To the members of the U.S. Nuclear Regulatory Commission and staff:

Mark Albrecht  
*Former Executive Secretary,  
National Space Council*

My name is Henry Sokolski. I am Executive Director of the Nonproliferation Policy Education Center, a 501 (c)3 nonpartisan, nonprofit, educational organization, which is primarily focused on the national security implications of the further spread of nuclear weapons-related technologies that also is concerned about promoting nuclear security and nuclear safety internationally. My letter is in response to the Nuclear Regulatory Commission's (NRC's) request for comments on the agency's proposed Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors (Docket ID NRC-2019-0062).

Peter Bradford  
*Vermont Law School*

Torrey Froscher  
*Former Senior  
CIA Official*

Robert Jervis  
*Columbia University*

The NRC is developing new requirements for the licensing and regulation of advanced nuclear reactors in response to the instructions of the Nuclear Energy Innovation and Modernization Act (NEIMA, Pub. L. 115 439). I note that NEIMA instructs the Commission to carry out the Act's instructions in a manner "consistent with the role of the Commission in protecting public health and safety and common defense and security."

Daniel M. Kammen  
*UC Berkley, Nuclear  
Engineering Dept.*

Richard P. Lawless  
*NVM Consulting, LLC*

In my view, the preliminary proposed rule language for the new licensing framework the NRC sets out for the licensing and regulation of advanced nuclear reactors does not fully meet the law's requirements.

John Lauder  
*Former Director, CIA  
Nonproliferation Center*

David Rapoport  
*University of California,  
Los Angeles*

The Commission states the new approach would (with our emphasis): (1) *Continue to provide reasonable assurance of adequate protection of public health and safety and the common defense and security*, (2) promote regulatory stability, predictability, and clarity, (3) reduce requests for exemptions from the current requirements in 10 CFR parts 50 and 52, (4) establish new requirements to address non-light-water reactor technologies, (5) recognize technological advancements in reactor design, and (6) *credit the response of advanced nuclear reactors to postulated accidents, including slower transient response times and relatively small and slow release of fission products*. The proposed rule would add 10 CFR part 53, "Licensing and Regulation of Advanced Nuclear Reactors."

Harvey Rishikof  
*Former Dean,  
National War College*

William Tobey  
*Belfer Center, Harvard  
University*

Simon "Pete" Worden  
*Breakthrough Initiatives*

I will restrict my comments to the fundamentals of the Commission's new approach, specifically points (1) and (6) above.

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## Adequate Protection

The Commission says it will continue its standard of “reasonable assurance of adequate protection of public health and safety and the common defense and security.” That sounds good, and we know that is the safety and security standard the NRC has been applying. But the standard in the Atomic Energy Act (Section 182) is “*adequate protection* to the health and safety of the public,” not “reasonable assurance of adequate protection.”

The Act makes clear, over and over, that the Commission’s responsibility is to protect the public. Acknowledging that perfection is unattainable, the Act softens the decision-making requirement for public protection with the qualification of “adequate.” So, what the law expects is that the commissioners provide adequate protection, which in practice they themselves define.

What the commissioners have done over the years, however, is to water down the nuclear safety standard by adding another qualifier—“reasonable assurance”—to the standard they have to apply, so it has become “reasonable assurance of adequate protection,” which on the face of it is a weaker standard.

Does changing the words make a difference in safety decisions? Yes, it clearly does. Honesty requires acknowledging that commissioners are often not familiar with the technical details underlying the decisions before them. It’s a lot easier to rationalize that you have carried out your safety responsibilities to provide adequate (not perfect) protection if you have the extra crutch of “reasonable assurance.” It makes a commissioner’s job easier, but the public is not getting what the law mandates.

The Commission should consider also that the Atomic Energy Act mandates that its counterpart at the Department of Energy, the Defense Nuclear Facilities Safety Board, apply the adequate protection standard (with added emphasis): “The Board shall recommend to the Secretary of Energy those specific measures that should be adopted to ensure that public health and safety are *adequately protected*. (Section 312). This makes for a strange, one might say embarrassing, state-of-affairs—the DOE legal standard, which follows the law, is stricter than that of the NRC.

## Advanced Reactor Characteristics and Safety

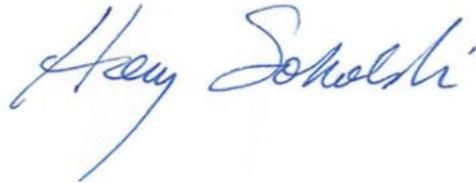
It is not entirely clear what the NRC has in mind in announcing it intends to “credit” the characteristics of advanced nuclear reactors in evaluating license application. At one level it is a truism: of course, in evaluating safety the NRC reviewers would analyze an advanced reactor design in terms of its characteristics. But the specific emphasis on this in the new approach suggests that the NRC thinks advanced reactors have safety advantages so the regulations can be relaxed. I hope this is not what the Commission intends, but in any case, the NRC should clarify the point.

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At a minimum, the NRC seems to be saying that in moving to what it calls advanced reactors, there is no need to reach for a higher safety standard. The impression that is left is that above all, the commissioners do not want to imperil the introduction of the new types of reactors. This is at odds with the historic approach of, say, the airline industry. When it introduced jet aircraft it expected to meet a much higher standard than was the case with propeller aircraft. The difference is of course that airlines have to attract passengers, so the public has a significant say in airline safety, whereas it has almost no say when it comes to safety of nuclear power plants. It is up to the commissioners to represent the public. They need to be more diligent in doing so. That is why the NRC should use the stricter safety standard of the Atomic Energy Act's—"adequate protection"—rather than a "reasonable assurance" of such.

Sincerely,



Henry D. Sokolski  
Executive Director  
The Nonproliferation Policy Education Center