

## eNews

A new [executive order](#) by President Donald Trump, ordering the reform of the Nuclear Regulatory Commission, directs the Nuclear Regulatory Commission (NRC) to reconsider the use of the linear-non-threshold (LNT) model and the as low as reasonably achievable (ALARA) principle, stating that “Those models lack sound scientific basis and produce irrational results, such as requiring that nuclear plants protect against radiation below naturally occurring levels.”

While the order speaks specifically to the use of the LNT model and ALARA principle in the nuclear power industry, as opposed to in medicine, the ALARA principle is foundational in all radiation safety practices and programs. It is embodied in federal and state radiation protection regulations and radiation protection programs impacting medical, nuclear power, and other radiation workers. It is also the guiding standard of care for radiation protection practices for patients.

“This represents a paradigm shift from longstanding tenets of radiation safety and protection,” says M. Mahesh, PhD, President of AAPM. “While the executive order may have profound and broad ranging implications for the nuclear power industry, its impact for medical applications of ionizing radiation remains unclear. Regardless of whether this order results in any changes to the use of current risk models, medical physicists will remain committed to safety in all that we do - for patients, healthcare workers, and the public.”

In the context of patient care, “The benefits of using radiation that is medically necessary and optimized to diagnose or treat disease always outweigh any radiation risk,” reiterates Cynthia McCollough, PhD, diagnostic medical physicist and past President of the AAPM. “Optimized means appropriate for the task, too low of a dose is just as concerning as too high of dose – maybe even more so because the wrong diagnosis could be made if the dose is too low, which will negatively impact patient care.”

AAPM will monitor effects of this executive order and continue to communicate relevant information to its membership. It will also work with other stakeholders in the nuclear regulatory space towards ensuring that science, and not politics, is the driving force behind any new regulations. Staying engaged in the process will also ensure that the organization is prepared for any potential impact on the use of ionizing radiation in medicine.