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Secretary, US Nuclear Regulatory Commission  
Washington DC 20555-001  
Attn: Rulemakings and Adjudications Staff

Re: Docket ID NRC-2015-0057

Comment on Petitions to Amend Standards for Protection Against  
Radiation

To the Secretary,

As an enthusiastic supporter of nuclear energy, most especially Generation IV Nuclear Technology, I have become acutely aware that the irrational and unfounded fear among much of the public, including and maybe especially, the environmental community, about radiation is impeding development of technologies that very well could enable us to begin to turn the tide of global climate change, and much more.

In my comment on the pending petitions, I want to make two points.

The first is that the existing official standards for radiation protection are based on the "linear, non-threshold" concept, LNT, which goes back to the 1940's and 1950's. Edward J. Calabrese, and others, have established to the satisfaction of many knowledgeable experts, including petitioners, that the LNT standard from the start was driven by ideology and not science, and was deliberately and deceptively misleading. (Calabrese article attached hereto, marked Exhibit 1.)

No responsible thinking person can accept the idea that radiation regulations, which are critical to the health and safety of the public and to the efficient functioning of large parts of our economy, should be based on anything other than the best possible scientific data from all relevant

disciplines. The petitioners ask for nothing less. They also ask for nothing more.

My second point involves, and amplifies, the “radiophobia” mentioned by petitioner, Mark L. Miller.

In my observation and experience, the majority of so-called environmentalists are seriously afflicted with “radiophobia”. These are the very people who are most likely to accept both the scientific truth, and the looming threat, posed by global climate change. They are also likely to accept that climate change is caused by man-made greenhouse gasses, largely CO<sub>2</sub>.

According to the EPA, in 2013, about 82% of the US greenhouse gas emissions from human activity was CO<sub>2</sub>. Combustion of fossil fuels to generate electricity is the single largest source of CO<sub>2</sub> in the nation, accounting for about 37%. That explains the recent push of the Obama Administration for its Clean Power Plan.

The only CO<sub>2</sub> generated by nuclear power is in the process of building the plant. After that, the amount emitted is miniscule, effectively nothing. Nuclear energy indisputably qualifies as “clean energy”.

I calculated from figures I found on the World Nuclear Association’s website that, also in 2013 in the US, nuclear power produced 62.6% of the “clean”, CO<sub>2</sub>-free, electricity. The remaining 37.4% was divided among hydro (22.2%), wind (12.9%), with solar and geothermal together coming in only at about 2.0%.

Meanwhile, back on June 3 of this year, at the OPEC International Seminar in Vienna, IEA Executive Director, Maria van der Hoeven, concluded her remarks asking her audience to consider the fact that

“....to reach the per capita electricity consumption that the US had in 1965, developing Asia would need to add over 5000 GW of new power generation capacity. This corresponds to five times the entire power plant capacity of OECD Europe today.....That is what is in store for us tomorrow.”

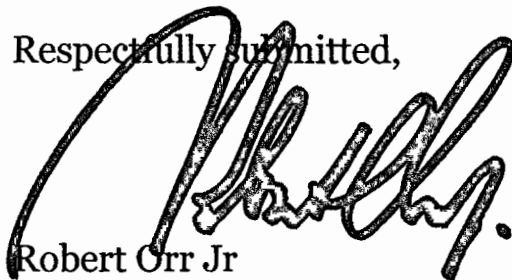
What does all this mean? It means we do not stand a realistic chance of solving the climate change threat, a threat seen by many as an existential

threat in the not too distant future, without a dramatic expansion in the development of nuclear power, most especially Generation IV technology like the Molten Salt Reactor. And that truth does not include adding the power being sought by the developing world described by the head of the IEA.

The corollary to the foregoing is that, unless the NRC changes its Standards for Protection Against Radiation away from the deceptive and non-scientific, ideologically-driven LNT standard, a significant portion of the environmental community, prisoners of their sincere but viscerally irrational fears of radiation, even low level radiation, will likely *never* accept nuclear power, even safe Gen IV nuclear power. Without that support, future development of nuclear power will likely limp along slowly forward, if it doesn't stall or even decline.

Limping is the last thing that humanity needs at this late hour. We need bold, exponential growth in nuclear power and we need it yesterday. Reliance on LNT policy is a major, maybe the major, road block to a future of clean, safe, affordable, and abundant nuclear electric power, a correspondingly cleaner and less threatening environment, at the same time giving hope to developing nations for an improved standard of living.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert Orr Jr.', written over the typed name.

Robert Orr Jr  
Attorney-at-Law

Enc – Edward J. Calabrese, “On the origins of the linear no-threshold (LNT) dogma by means of untruths, artful dodges, and blind faith”, *Environmental Research*, 142 (2015), 432-442.

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