## RulemakingForm3CEm Resource

**From:** Craig Brown [cbrown@monkeybridge.com]
**Sent:** Wednesday, August 19, 2015 4:44 PM
**To:** RulemakingComments Resource
**Subject:** [External_Sender] Docket Nos. PRM-20-28, PRM-20-29, and PRM-20-30, NRC-2015-0057

Dear Secretary,

The NRC should reject the three petitions for rulemaking cited in the subject line out of hand. The agency should not even have accepted them for public comment in the first place, as they are frivolous and based on unsound science.

These three petitions seek to drastically weaken radiation protection standards and change the NRC's regulations from the Linear No-Threshold (LNT) model endorsed by the National Academies of Sciences to a "hormesis" model accepted by no one but a few pro-nuclear power fanatics. Indeed, the hormesis model, rather than recognizing that any dose of radiation exposure may be harmful and should be avoided if possible, turns that scientifically-documented premise on its head and argues that low doses of radiation exposure may actually be beneficial. There is no solid evidence of any kind that that is the case.

As Harvard's Richard R. Monson, chair of the National Academies of Science (NAS)'s BEIR VII committee stated in 2006, "The scientific research base shows that there is no threshold of exposure below which low levels of ionizing radiation can be demonstrated to be harmless or beneficial." This conclusion came from the latest study that NRC and other federal agencies commissioned NAS to carry out to update radiation risk information, so NRC should not be considering radical proposals that contradict its own update.

Further, it is the US Environmental Protection Agency (EPA) that is charged with setting radiation protection of the public overall and its most recent update of the Blue Book (EPA 402-R-11-001, 2011), like the NRC's current standards (which are themselves too weak), continue to be based on the LNT model. Adoption by the NRC of the "hormesis" model would put the agency in direct and unnecessary conflict with the EPA on this critical underpinning of public health and safety regulation.

As the chief of EPA's radiation section said in 2009, "Although recent radiobiological findings indicate novel damage and repair processes at low doses, LNT is supported by data from both epidemiology and radiobiology. Given the current state of the science, the consensus positions of key scientific and governmental bodies, as well as the conservatism and calculational convenience of the LNT assumption, it is unlikely that EPA will modify this approach in the near future".

If anything, the NRC should move in the opposite direction, as significant research indicates that long-term exposure to low levels of radiation may carry a greater risk of harm than the LNT model presents. It is also well established that radiation causes other kinds of health damage in addition to cancer, but the regulations and risk studies ignore these, and thus are inadequate in that sense.

The petitioners have done the nation a disservice by attempting to weaken these standards using a scientifically suspect model, and thus directing attention away from the real need to strengthen those standards, in particular to account for the reality that radiation is more harmful to children, especially girls, and to women than it is to men, and that the "standard man" approach used by the NRC allows for even greater exposure levels to those who are more vulnerable.

Any changes to radiation regulations contemplated by the NRC should be in the direction of strengthening, not weakening them.

Craig Brown
2908 Southbrook Drive
Bloomington, MN 55431
US

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