

The Boice Report #32



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Changing Times and Paradigms—Regulations You Might Live With



Glamor Bear first appeared in the [September 2013](#) issue of *Health Physics News* as the gongor for the NCRP WARP conference.

Arguing for or against linear no-threshold or risks at 10 mSv is like a rocking chair: it keeps you agitated but gets you nowhere (with literary license apologies to Erma Brombeck, Corrie Ten Boom, and country singer Sophy). But what to do since guidance is needed and mandated by law to protect the public and workers at radiation levels below which epidemiology can unambiguously reveal health effects? Sound judgment based on the best available science is essential to inform regulators and protection authorities. The United States is [revising radiation regulations](#) and now is an opportunity to make a difference and join the conversation. The National Council on Radiation Protection and Measurements (NCRP) has begun a comprehensive update to [Report No. 116](#) on providing radiation protection guidance for the United States and created a first-ever Council Committee ([CC-1](#)) to this end. The 2015 NCRP Annual Meeting is titled [“Changing Regulations and Radiation Guidance: What Does the Future Hold?”](#) and will be held 16–17 March. These efforts are timely given the renewed interest in low-dose radiation effects reflected by a recent House of Representatives bill ([H.R. 5544](#)) and a recent workshop on whether it is time for a new report from a Biological Effects of Ionizing Radiation ([BEIR VIII](#)) committee.

Mission of CC-1: CC-1 (photo on page 25) is charged with updating and expanding NCRP Report No. 116 on Limitation of Exposure to Ionizing Radiation. Ken Kase (NCRP) and John Boice are the cochairs of CC-1. Since 1993, substantial advances in radiation effects knowledge, as well as radiation protection understanding and culture, have occurred. New knowledge has been obtained on radiation effects at lower doses than apparent in 1993. Noncancer effects such as cardiovascular disease and cataracts are emerging as potentially important concerns. Ethics and the severity of health outcomes have not been addressed in a context of radiation protection. The Fukushima nuclear reactor accident and the ever-rising increase in [population exposure](#) to radiologic imaging examinations (computed tomography [CT] examinations, positron emission tomography scans, and nuclear medicine procedures) have increased the awareness of the importance of radiation protection guidance in the United States.

In 2007 the International Commission on Radiological Protection (ICRP) published an update of its recommendations ([ICRP Publication 103](#)). Subsequently, an important ICRP report on deterministic effects and noncancer effects was published in 2013 ([ICRP Publication 118](#)). While the goals for radiation protection in the United States are the same as those for the international community, there are [differences](#) in degree and approach to obtaining these goals (i.e., in implementing the three pillars of radiation protection of justification, optimization [as low as reasonably achievable], and dose limitation).

2015 NCRP Annual Meeting: The title for the 2015 NCRP Annual Meeting is “Changing Regulations and Radiation Guidance—What Does the Future Hold?” Don Cool (U.S. Nuclear Regulatory Commission [NRC]), Kathy Pryor (Pacific Northwest National Laboratory), and Ruth McBurney (Council of Radiation Control Program Directors) are the Program Committee chair and cochairs, respectively. Also on the committee are Isaf Al-Nabulsi (U.S. Department of Energy), Armin Ansari

(Centers for Disease Control and Prevention [CDC]), Renate Czarwinski (International Radiation Protection Association), Jon Edwards (U.S. Environmental Protection Agency [EPA]), John MacKinney (U.S. Department of Homeland Security), Don Miller (Food and Drug Administration [FDA]), Mike Noska (FDA), and Mike Ryan (*Health Physics Journal*). The [program](#) is available and you can register for free at registration.ncrponline.org! Ken Kase (NCRP honorary vice president) will present the 12th Warren Sinclair Lecture, "Influence of the NCRP on Radiation Protection in the United States: Guidance and Regulation." The 39th Taylor Lecture, "Dosimetry of Internal Emitters: Contributions of Radiation Protection Bodies and Radiological Events," will be given by Keith Eckerman (Oak Ridge National Laboratory). The 1st Thomas Tenforde Topical Lecture, "Ethics and Radiation Protection," will be given by Jacques Lochard (ICRP). This will be a remarkable gathering so stop rockin' and register!

Renewed interest in low-dose radiation programs: Breaking from the political dramas reflected in the [House of Cards](#), our House of Representatives recently passed a bill ([H.R. 5544](#)) "to increase the understanding of the health effects of low doses of ionizing radiation." I appreciated the bipartisan [support for this bill](#), including support of the representative from my state of Maryland, Rep. Donna Edwards. Stimulated, in part, by [a letter written](#) to the Honorable John P. Holdren (assistant to the President for science and technology) in March 2013, H.R. 5544 directs that the "Director of the Department of Energy Office of Science shall carry out a research program on low dose radiation. The purpose of the program is to enhance the scientific understanding of and reduce uncertainties associated with the effects of exposure to low dose radiation in order to inform improved risk management methods." Hopefully the Senate will be able to consider such legislation sometime next year. (See "[Inside the Beltway](#)" in this newsletter.)

In November 2014, the Nuclear and Radiation Studies Board of the National Academy of Sciences held a public meeting to discuss whether it was time to consider initiating a [BEIR VIII report](#). The presentations and discussions on the latest developments in radiation science were informative but limited given the severe time constraints to cover all things radiation in a day. Although the [BEIR VII](#) report was published a while ago in 2006, it was my view that the new knowledge acquired since then was not sufficient or paradigm-shifting enough to warrant a new report at this time. However, within the next several years new data from the [Million Worker Study](#), the [atomic bomb survivor investigation](#), and other important health studies will be available that are very likely to shift paradigms and thus justify a new comprehensive evaluation.

Don't forget to [register](#) for the NCRP 2015 annual meeting and experience firsthand the latest on radiation protection, regulations, future trends, and the needs for paradigm-shifting research.

NCRP Council Committee 1 (CC-1) on Radiation Protection Guidance for the United States, December 2014, Bethesda Maryland



vice president, NCRP), Donald Miller (FDA), Bill Irwin (Vermont Department of Health), and Armin Ansari (CDC); not in photo, Ralph Andersen (Nuclear Energy Institute), Mike Boyd (EPA), Larry Dauer (Memorial Sloan Kettering Cancer Center), Fred Mettler (New Mexico VA Health Care System), and Marvin Rosenstein (NCRP technical staff consultant).

Front row, left to right, Gayle Woloschak (Northwestern University), Kathy Higley (Oregon State University), Jim Adelstein (Harvard, NCRP honorary vice president), and Donald Cool (NRC); back row, left to right, Jerry Bushberg (vice president, NCRP; University of California, Davis), Darrell Fisher (Dade Moeller, Health Group), Julian Preston (EPA, retired), John Boice (cochair, NCRP), Ken Kase (cochair, honorary