

The Boice Report #2



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UNSCEAR—May 2012 Vienna Meeting

The 59th Session of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) was held 20–25 May 2012 in Vienna, Austria (<http://www.unscear.org/>). UNSCEAR was established by the General Assembly of the United Nations in 1955, and Shields Warren was the first U.S. representative. The UNSCEAR mandate is to assess and report levels and effects of exposure to ionizing radiation; the most recent report has five annexes covering medical radiation exposure, exposures of the public and workers from various sources of radiation, radiation exposures in accidents, health effects due to radiation from the Chernobyl accident, and effects of ionizing radiation on nonhuman biota (<http://www.unscear.org/unscear/en/publications.html>).

- 27 countries were represented, including new member states attending for the first time from Belarus, Finland, Pakistan, Republic of Korea, Spain, and Ukraine.
- A draft report on Fukushima was discussed and interim findings released (http://www.unis.unvienna.org/pdf/2012/UNSCEAR_Backgrounder.pdf). A health survey of two million Fukushima residents and workers is underway (Science 333:684–685; 2011). Independently, the World Health Organization released a report on preliminary dose estimates (http://whqlibdoc.who.int/publications/2012/9789241503662_eng.pdf).
- A draft report on Attributing Health Effects to Ionizing Radiation was discussed and should be ready in a year's time. The aim of the report is to clarify the assessment of potential harm from chronic low-level radiation exposures and the attributability of health effects from such exposures. Radioepidemiological studies are not able to convincingly demonstrate health effects for very low doses. UNSCEAR has not recommended the use of collective dose for calculating the possible number of radiation-induced health effects that might occur in the future within populations exposed to tiny doses (i.e., multiplying very low doses times large numbers of individuals). Neither has the International Commission on Radiological Protection or the National Council on Radiation Protection and Measurements (NCRP). More appropriate ways to express potential risk are being discussed.
- A draft report on Uncertainties in Risk Estimates for Cancer Due to Exposure to Ionizing Radiation was discussed and should be ready in a year's time. The UNSCEAR report will complement NCRP Report No. 171, *Uncertainties in the Estimation of Radiation Risks and Probability of Disease Causation*, which is nearing completion.
- A major report on Effects of Radiation Exposure on Children was discussed. The aim is to clarify whether children are more radiosensitive to the effects of radiation than are adults for specific cancers and health outcomes. An overview was presented at the March 2012 NCRP Annual Meeting by Fred A. Mettler, Jr., during his Warren K. Sinclair Keynote address (http://www.ncrponline.org/Annual_Mtgs/2012_Ann_Mtg/Mettler.pdf). For some cancers, children are clearly at greater risk; for other cancers, there appears to be no difference; and for a few cancers, children seem to be more resistant than adults.
- An informative report is being developed on Epidemiology of Low-Dose-Rate Exposures of the Public to Natural and Artificial Environmental Sources of Radiation and will compare

radiation risks computed from studies of the Techa River Cohort (Russian Federation), the Kerala (India) and Yangjiang (China) Cohorts in areas of high background radiation, and the Taiwan Cohort (^{60}Co containing buildings).

- Other documents discussed included Radiation Exposure from Electricity Generation, Biological Mechanisms of Radiation Actions at Low Doses, Exposure from Internal Emitters (Tritium and Uranium).
- The 60th session of UNSCEAR will be held in Vienna, Austria, 27–31 May 2013. ■



U.S. Delegation to 59th Session of UNSCEAR (20–25 May 2012 in Vienna, Austria) left to right, Lynn R. Anspaugh (University of Utah), R. Julian Preston (U.S. EPA), Fred A. Mettler, Jr. (U.S. Representative, University of New Mexico), John D. Boice, Jr. (NCRP, Vanderbilt University), E. Vincent Holahan (U.S. NRC), Naomi H. Harley (New York University)