May 18, 2007

MEMORANDUM TO: R. William Borchardt, Director
Office of New Reactors

James E. Dyer, Director
Office of Nuclear Reactor Regulation

Charles L. Miller, Director
Office of Federal and State Materials and
Environmental Management Programs

Michael F. Weber, Director
Office of Nuclear Material Safety and Safeguards

Roy P. Zimmerman, Director
Office of Nuclear Security and Incident Response

FROM: Brian W. Sheron, Director ***/RA/ M. Johnson for***
Office of Nuclear Regulatory Research

SUBJECT: ANNUAL UPDATE ON THE ACTIVITIES OF THE NATIONAL COUNCIL ON RADIATION PROTECTION AND MEASUREMENTS

In order to remain abreast of the activities of the National Council on Radiation Protection and Measurements (NCRP or the Council), the Office of Nuclear Regulatory Research (RES) has reviewed the enclosed 2006 NCRP annual report. That report describes the Council's effort to serve the public interest by developing and disseminating information and recommendations on matters of radiation protection and measurement. It also describes scientific, administrative, and financial aspects of the NCRP program, with emphasis on the completion of scientific studies, and identifies areas where the Council believes new work can yield important contributions.

During 2006, the NCRP published the following major reports:

- Report No. 153, "Information Needed to Make Radiation Protection Recommendations for Space Missions Beyond Low-Earth Orbit," describes information needed to make radiation protection recommendations for space missions beyond low-Earth orbit (LEO). This report provides recommendations on important information required to provide radiation protection guidance for astronauts in deep-space missions.

- Report No. 154, "Cesium-137 in the Environment: Radioecology and Approaches to Assessment and Management," summarizes the current state of knowledge on

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cesium-137 (Cs-137 or radiocesium) in the environment and identifies future management issues concerning ecosystems contaminated with Cs-137. This report provides a general review of knowledge about sources and levels of Cs-137, natural processes that explain its highly varied behavior in aquatic and terrestrial ecosystems, transport parameters for dose and risk assessment models, and practical approaches that have been used to mitigate the environmental and health impacts of significant levels of radiocesium contamination.

- Report No. 155, "Management of Radionuclide Therapy Patients," supersedes Report No. 37 on this subject that was published in 1970. The report provides radiation protection guidance for physicians, medical physicists, healthcare professionals, visitors to medical facilities, family members of radionuclide therapy patients, and members of the general public who may be in the proximity of, or involved in the care of, persons treated with therapeutic quantities of radioactive material.

- Report No. 156, "Development of a Biokinetic Model for Radionuclide-Contaminated Wounds and Procedures for Their Assessment, Dosimetry and Treatment," presents an extensive analysis of the dosimetry and uptake of radioactivity into the systemic circulation and body tissues from a contaminated wound. The biokinetic wound model developed in this report represents a comprehensive approach to evaluating the radiation dose to an exposed individual resulting from this route of radionuclide uptake.

In addition, during 2006, RES continued funding a grant that supports the revision of Report No. 93, "Ionizing Radiation Exposure of the Population of the United States." The scope of work includes all sources of radiation exposures to include background radiation, industrial source, medical patient, occupational, and consumer products. Review and publication of this report is scheduled to occur in 2008.

The NCRP also held its 43rd annual meeting on April 16–17, 2007, at the Crystal City Marriott in Arlington, VA. Under the meeting's major theme, "Advances in Radiation Protection in Medicine," participants discussed the (1) rapid adoption of relatively new medical radiation diagnostic and therapeutic procedures, (2) current state of patients' understanding of received radiation doses, and (3) associated health risks for each topic. The meeting focused on diagnostic radiology, nuclear medicine, interventional radiology, radiation oncology, and interdisciplinary issues such as the implications of radiation dose-response models for the prediction of long-term patient responses to irradiation from diagnostic and therapeutic procedures.

Dr. Patricia W. Durbin, from Lawrence Berkeley National Laboratory, presented the 31st Lauriston S. Taylor Lecture on Radiation Protection, entitled "The Quest for Therapeutic Actinide Chelators." Dr. James Brink, Chair of the Department of Diagnostic Radiology, Yale University, gave the 4th Annual Warren Sinclair Keynote Address, entitled "Use and Misuse of Radiation in Medicine." The NCRP will hold its 44th annual meeting on April 7–8, 2008, again at the Crystal City Marriott in Arlington, VA. The theme for that meeting will be "Low Dose and Low Dose-Rate Radiation Effects and Models."

Enclosure:
As stated

cc w/enclosure: M. Virgilio, DEDMRT

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