

Summary of Current and Planned Reports and Conferences of the National Council on Radiation Protection and Measurements

Thomas S. Tenforde

President

**Interagency Steering Committee on
Radiation Standards Meeting**

Washington, DC

October 15, 2009

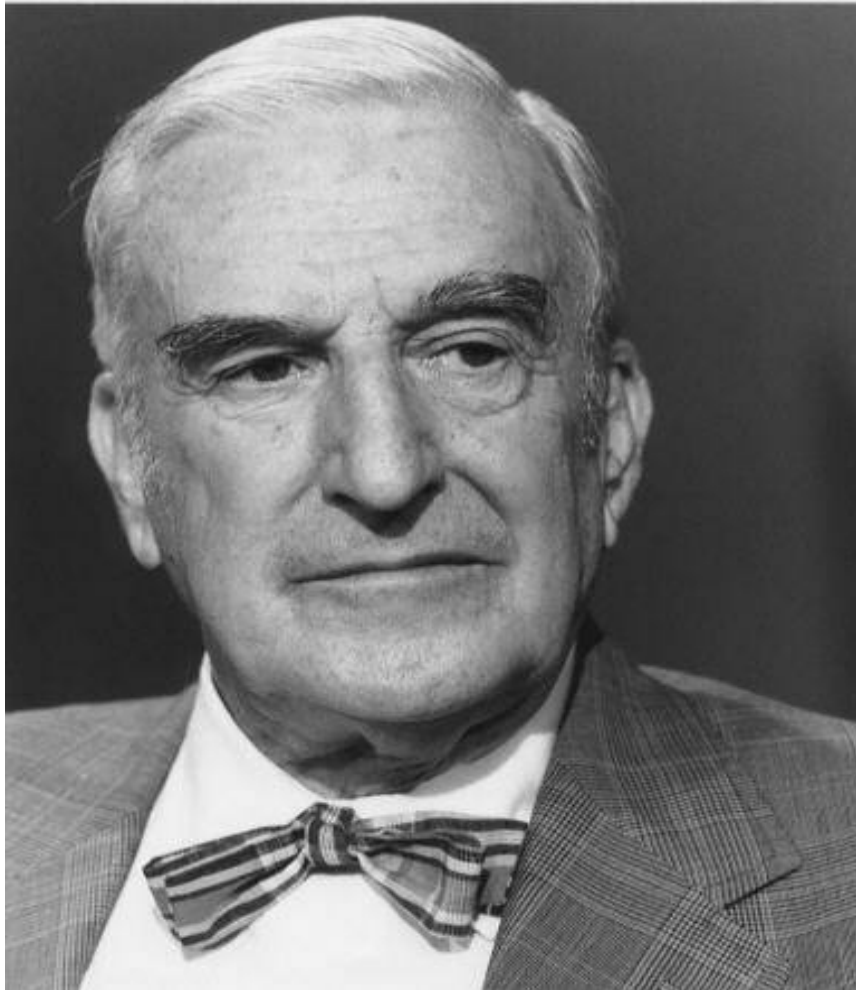


NCRP History

1929: U.S. Advisory Committee on X-ray and Radium Protection.

1946: U.S. National Committee on Radiation Protection.

1964: National Council on Radiation Protection and Measurements (NCRP) chartered by U.S. Congress.



**Lauriston Sale Taylor
June 1, 1902 – Nov. 26, 2004**



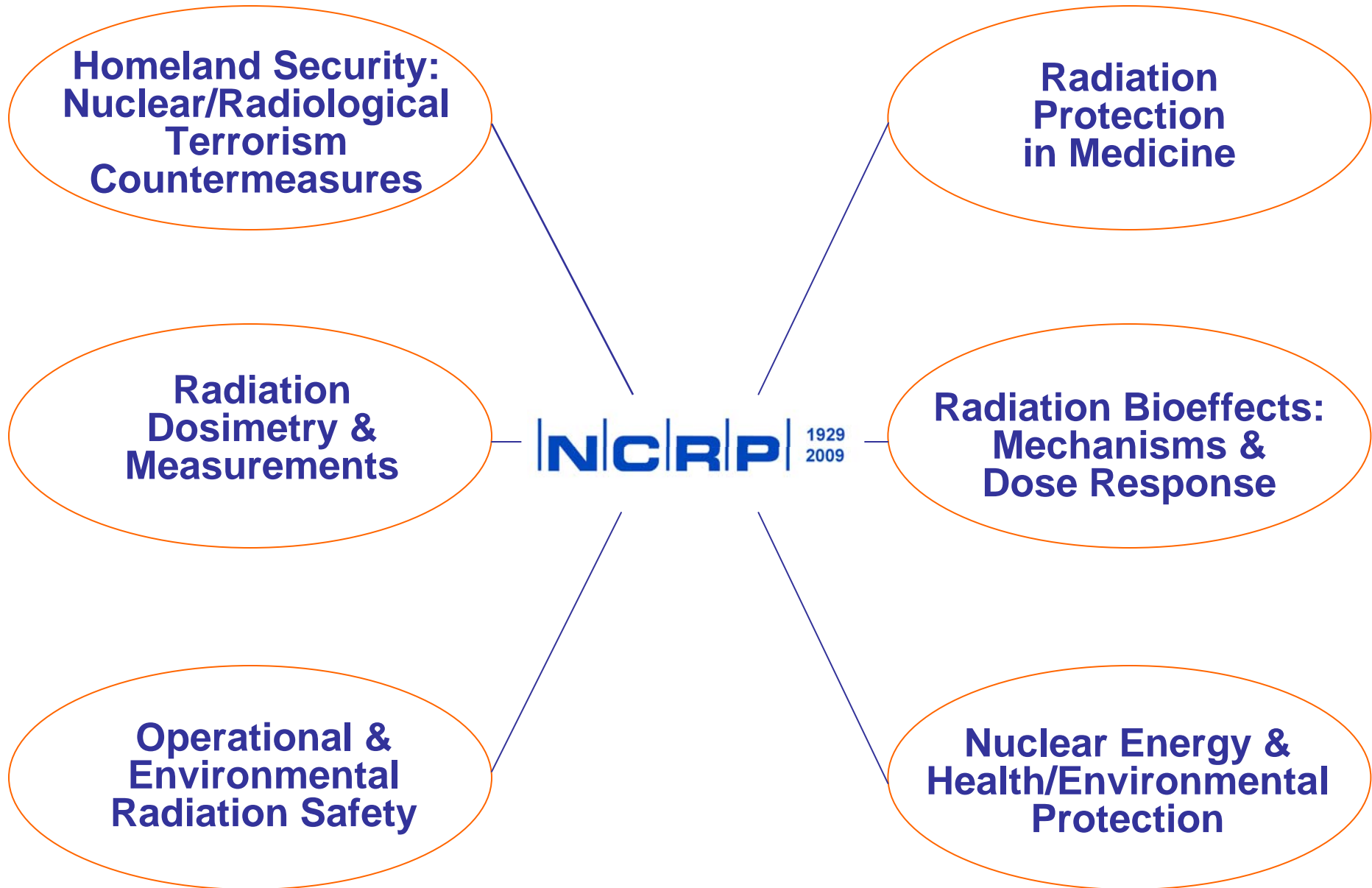
Key Elements of NCRP's Charter Under U.S. Public Law 88-376

Cornerstones of role in radiation health protection:

- 1) **Provide information and recommendations in the public interest about:**
 - a) **protection against radiation; and**
 - b) **radiation measurements, quantities and units.**
- 2) **Develop basic concepts of radiation protection;**
- 3) **Facilitate effective use of combined resources of organizations concerned with radiation protection;**
- 4) **Cooperate with national and international governmental and private organizations; and**
- 5) **Disseminate the results of the Council's work.**



Focal Areas of NCRP Reports and Conferences



NCRP Strategic Program Plan



ORDER PUBLICATIONS ONLINE

<http://NCRPonline.org>

About NCRP | Our Mission | Current Program | News & Events | Publications | Members | Related Organizations

HELP SUPPORT

Informing the public about radiation exposure and protection

NCRP's mission is to formulate and widely disseminate information, guidance and recommendations on radiation protection and measurements which represent the consensus of leading scientific thinking. The Council's mission also encompasses the responsibility to facilitate and stimulate cooperation among organizations concerned with the scientific and related aspects of radiation protection and measurements.

[Congressional Charter >](#)
[Message from the President >](#)

NCRP Publications

Cargo Scanning with Accelerator-Produced High-Energy X Rays



CAARR uses one or more high-energy (8 to 10 MV) electron accelerators to generate x rays that are used to scan cargo conveyances for the purpose of detecting special nuclear material or shielding designed to conceal radioactive material.

[Browse NCRP Publications >](#)

News & Events

NCRP Report No. 160, *Ionizing Radiation Exposure of the Population of the United States*

[NCRP press release >](#)
[Pie chart >](#)
[Summary table >](#)

Council elections held during the NCRP Business Meeting, March 3, 2009 >

American Society of Radiologic Technologists, American Registry of Radiologic Technologists panel conclude that more education is necessary for CT utilization: "Ultimately, when medical imaging and radiation therapy professionals thoroughly understand CT operation, techniques and protocols, they can optimize dose and perform safer examinations" >

NCRP and ebrary® Partner to Provide Content Solutions >

Draft NCRP report played a role in two requirements in the Medicare Improvements for Patients and Providers Act >

Available!

2009 Annual Meeting Presentations, *Future of Nuclear Power Worldwide: Safety, Health and Environment* >

[Photographs >](#)

33rd Lauriston S. Taylor Lecturer, John D. Boice, Jr., "Radiation Epidemiology: The Golden Age and Remaining Challenges" >

[Introduction >](#)

[Lecture >](#)

[John Boice & family perform "Epidemiology" >](#)

["Epidemiology" lyrics >](#)

2008 Annual Report, 2008 Year in Review >

[NCRP Strategic Program Plan for 2008-2010 >](#)

Did You Know?

NCRP and the Alliance for Radiation Safety in Pediatric Imaging Offer Free Parent Education Materials >

Nuclear power in China: "The country is poised to revise its energy development plans by nearly doubling its nuclear power capacity in the next decade," energy authorities have said >

AMA meeting: Doctors told to reveal financial stake in referrals. Doctors should base referrals on "objective, medically relevant criteria." These would include the American College of Radiology's appropriateness criteria for medical imaging >

A recent study by the Massachusetts Medical Society titled, "Investigation of Defensive Medicine in Massachusetts," concluded that roughly 33 % of the CT scans ordered by obstetrician/gynecologists, emergency physicians, and family practitioners were not motivated by medical need >

President Tenforde presented a plenary lecture at the International Radiation Protection Association 12th Congress held in Buenos Aires from November 20-24 >



Mary Walchuk interviewed Dr. Tenforde for an article entitled *The Status of NCRP, A Dialogue with President Tenforde* for the September issue of *Health Physics News* >

NCRP Executive Director, Dr. David A. Schauer made a presentation on "Current and Planned NCRP Activities" at the 7th Annual Mid-Atlantic States Radiation Conference >

2008-2010

Strategic Program Plan



Key Elements of U.S. Readiness for Radiological Terrorism



NCRP Publications on Nuclear and Radiological Terrorism

Detection of Terrorist Weapons & Materials:

- *Commentary No. 16: Screening of Humans for Security Purposes Using Ionizing Radiation Scanning Systems (2003)*
- *Commentary No. 17: Pulsed Fast Neutron Analysis System Used in Security Surveillance (2003)*
- *Commentary No. 20: Radiation Protection and Measurement Issues Related to Cargo Scanning with Accelerator-Produced High-Energy X Rays (2007)*



NCRP Publications on Nuclear and Radiological Terrorism (con't)

Detection of Terrorist Weapons & Materials:

In 2009-2014 NCRP is preparing a series of six Commentaries (2) and Reports (4) on *Radiation Health Protection Aspects of the U.S. Department of Defense Program to Develop Active Detection Technologies (ADTs) for Nuclear and Radiological Materials That Represent a Threat to National Security* [ADT methods under consideration include high-intensity bremsstrahlung radiation, monoenergetic gamma rays, and particulate radiations including neutrons, protons, and muons]



NCRP Publications on Nuclear and Radiological Terrorism (con't)

Countermeasures to Terrorism Acts:

- **Report No. 138:** *Management of Terrorist Events Involving Radioactive Material (2001)*
- **Commentary No. 19:** *Key Elements of Preparing Emergency Responders for Nuclear or Radiological Terrorism (2005)*
- **Proceedings of 40th Annual NCRP Meeting (April 14-15, 2004):** *Advances in Consequence Management for Radiological Terrorism Events [published in *Health Physics*, Vol. 89(5), 2005]*



NCRP Publications on Nuclear and Radiological Terrorism (con't)

Countermeasures to Terrorism Acts:

- **Report No. 161: Management of Persons Contaminated with Radionuclides (2008)**
- **Report of Scientific Committee 4-2: Population Monitoring and Decontamination Following a Nuclear or Radiological Incident** (publication expected in 2010)
- **Report of Scientific Committee 2-2: Responding to the Aftermath of Nuclear and Radiological Terrorism: A Guide for Decision Makers** (publication expected in 2010)



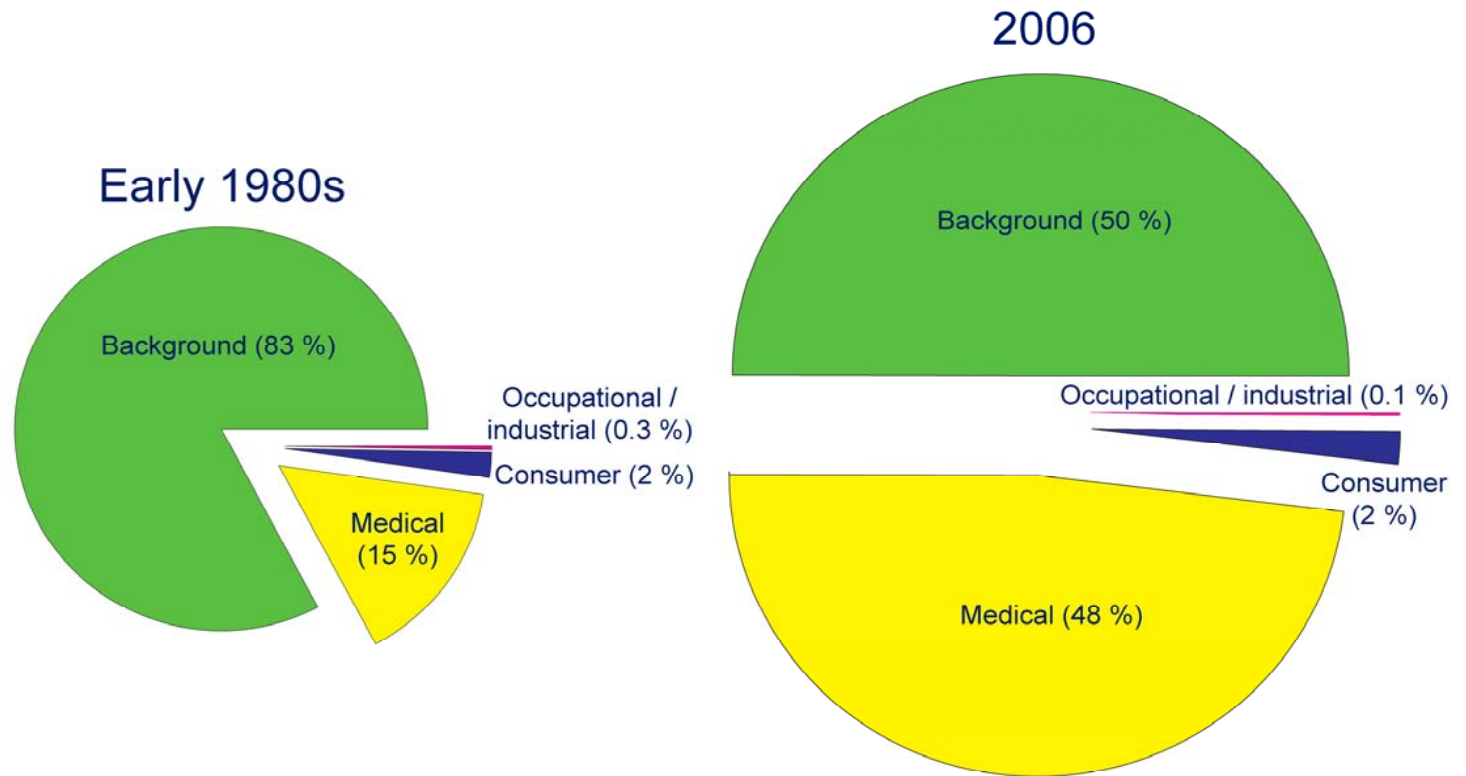
NCRP Publications on Nuclear and Radiological Terrorism (con't.)



Late-Phase Recovery from an Act of Terrorism:

- **Report of Scientific Committee 5-1:**
Approach to Optimizing Decision Making for Late-Phase Recovery from Nuclear or Radiological Terrorism Incidents (publication expected in 2013)

NCRP Report No. 160, *Ionizing Radiation Exposure of the Population of the United States*



	Early 1980s	2006
Collective effective dose (person-Sv)	835,000	1,870,000
Effective dose per individual in the U.S. population (mSv)	3.6	6.2

Radiation Protection in Medicine



- **Report No. 155: *Management of Radionuclide Therapy Patients (2006)***
- **Report No. 159: *Risk to the Thyroid from Ionizing Radiation (2008)***
- **Proceedings of the 43rd Annual NCRP Meeting (April 16-17, 2007): *Advances in Radiation Protection in Medicine* [published in *Health Physics*, Vol. 95(5), 2008]**

Radiation Protection in Medicine (con't.)

Reports in preparation:

- **Scientific Committee 1-17: *Second Cancers and Cardiopulmonary Effects After Radiotherapy* (publication expected in 2010)**
- **Scientific Committee 2-3: *Radiation Dose Management for X-Ray Guided Interventional Medical Procedures* (publication expected in 2010)**
- **Scientific Committee 4-3: *Diagnostic Reference Levels in Medical Imaging: Recommendations for Application in the United States* (publication expected in 2011)**



Radiation Protection in Medicine (con't.)

Reports in preparation (con't):

- **Scientific Committee 4-4: Adverse Effects of Radiation on the Gonads, Embryo, and Fetus** (publication expected in 2011)
- **Summary of Workshop on Computed Tomography in Emergency Medicine: Ensuring Appropriate Use** (September 23-24, 2009); basis for 2010 consensus paper on “Guidelines for Application of Computed Tomography in Emergency Medicine”



Dosimetry and Measurements

- **Report No. 156**: *Development of a Biokinetic Model for Radionuclide-Contaminated Wounds and Procedures for Their Assessment, Dosimetry and Treatment (2006)*
- **Report No. 158**: *Uncertainties in the Measurement and Dosimetry of External Radiation (2007)*
- **Report of Scientific Committee 6-3**: *Uncertainties in Internal Radiation Dosimetry (publication expected in 2010)*
- **Report of Scientific Committee 6-4**: *Principles and Practices of Radiation Dose Reconstruction (publication expected in 2010)*



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Operational Health and Environmental Radiation Protection



- **Report No. 152**: *Performance Assessment of Near-Surface Facilities for Disposal of Low-Level Radioactive Waste (2005)*
- **Report No. 154**: *Cesium-137 in the Environment: Radioecology and Approaches to Assessment and Management (2006)*
- **Report No. 157**: *Radiation Protection in Educational Institutions (2007)*

Operational Health and Environmental Radiation Protection (con't)



- **Report of Scientific Committee 2-4: *Self-Assessment of Radiation Safety Programs***
(publication expected in 2009)
- **Scientific Committee 64-22: *Design of Effective Effluent Monitoring and Environmental Surveillance Programs***
(publication expected in 2011)

Fundamental Radiobiology and Health Protection

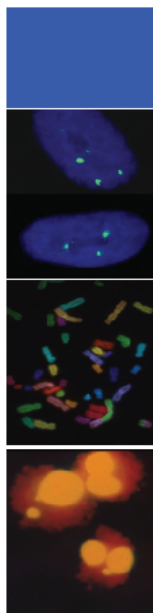


- **Scientific Committee 1-13**: *Impact of Individual Susceptibility and Previous Radiation Exposure on Radiation Risk for Astronauts* (publication expected in 2010)
- **Scientific Committee 1-16**: *Uncertainties in the Estimation of Radiation Risks and Probability of Disease Causation* (publication expected in 2011)
- **Scientific Committee 1-20**: *Variation in Biological Effectiveness of Photons as a Function of Energy* (publication expected in 2012)

Analysis of Biological and Human Health Impacts of Low-Dose Radiation Exposures [Proceedings of 2008 Annual Meeting to be published in *Health Physics*, Vol. 97(5), 2009]



N|C|R|P



**Forty-Fourth
Annual Meeting Program**

**Low Dose and
Low Dose-Rate Radiation
Effects and Models**

April 14–15, 2008

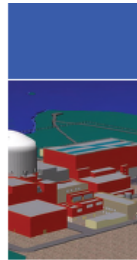
Bethesda North Marriott Hotel
& Conference Center
5701 Marinelli Road
North Bethesda, MD 20852

NCRP's Strategic Initiative on Biological and Human Health Effects of Low-Dose Radiation

- ***Primary Goal:*** Prepare definitive publication during 2011 to 2016 on biological effects and potential human health implications of exposure to low dose and low dose-rate radiation; planning workshop held at NCRP on December 1-2, 2008
- Report will contain:
 - up-to-date reviews of *laboratory and human epidemiology studies*
 - effects of *radiation quality* and *dose rate*
 - integration of results into *reliable, predictive models of human health effects* at low doses
 - *health protection* and *regulatory implications* of findings, and *effective communication* of projected risks of low-dose radiation exposure



Areas of Increasing Importance to NCRP are the Safety, Health and Environmental Protection Aspects of a Growing Nuclear Industry Worldwide



Forty-Fifth
Annual Meeting Program



Future of Nuclear Power
Worldwide: Safety, Health
and Environment



March 2–3, 2009

Hyatt Regency Bethesda
One Bethesda Metro Center
7400 Wisconsin Avenue
Bethesda, MD 20814

NCRP's Primary Role in Radiation Health Protection Guidance

The hallmark of NCRP activities is providing reliable recommendations for radiation protection policies and practices based on scientific consensus

- View NCRP website at <http://NCRPonline.org>
- View and purchase NCRP publications at <http://NCRPpublications.org>
- **NCRP 2010 Annual Meeting: *Communication of Radiation Benefits and Risks in Decision Making***
- March 8-9, 2010 at Hyatt Regency Conference Center in Bethesda, Maryland

