

# **Overview of Current and Planned Publications and Conferences of the National Council on Radiation Protection and Measurements**

**Thomas S. Tenforde**  
*NCRP President*

**67<sup>th</sup> Meeting of the NEA Committee on Radiation  
Protection and Public Health**

**Paris, France  
May 12-14, 2009**

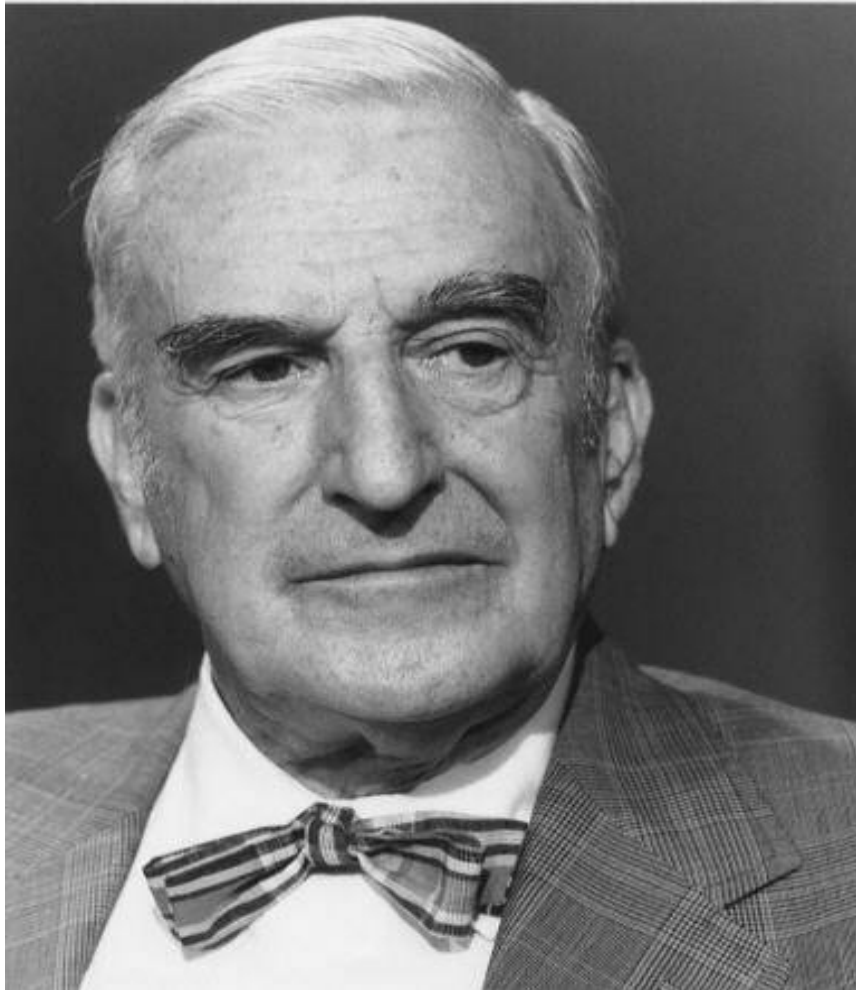


# NCRP History

**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**



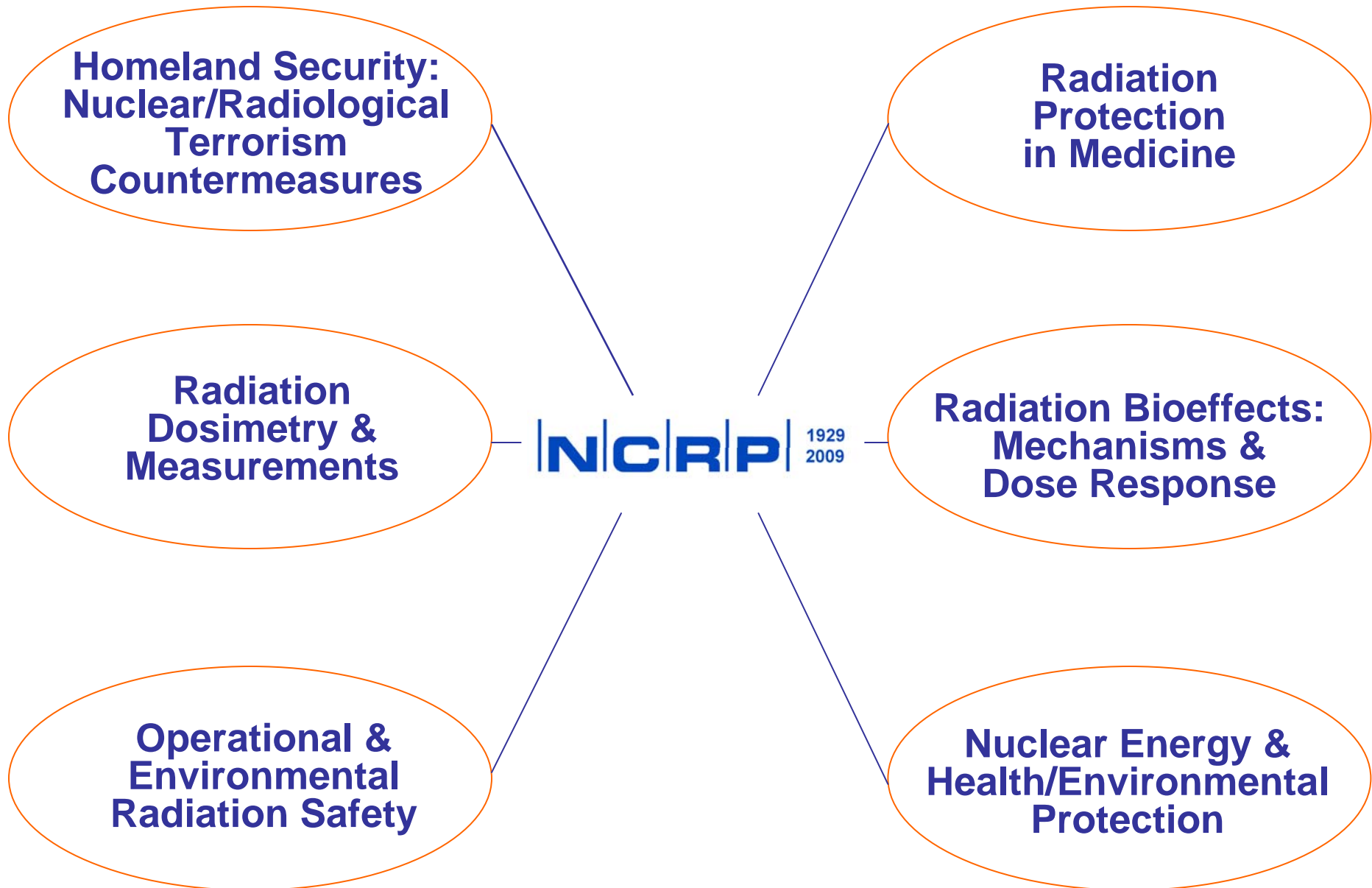
# Key Elements of NCRP's Charter Under U.S. Public Law 88-376

## *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, and
4. **Cooperate with national and international governmental and private organizations**



# Focal Areas of NCRP Reports and Conferences



# NCRP Strategic Program Plan



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<http://NCRPonline.org>

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

## NEW PUBLISHED

### 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



CAARS uses one or more high-energy (5 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. 166, *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 concludes 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!

**2008 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 53 % 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 >**



**Mery 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



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**N|C|R|P**  
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# 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 will prepare 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* 89(5), 2005]



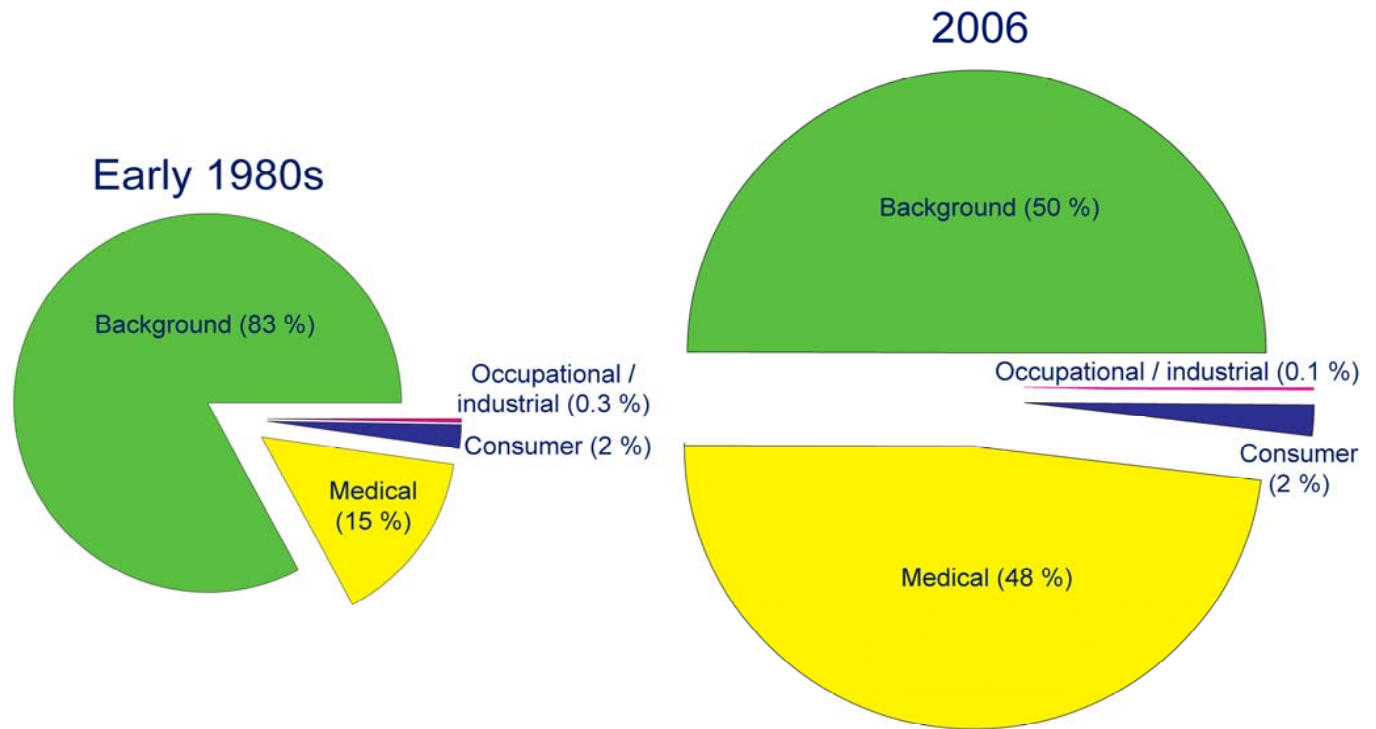
# NCRP Publications on Nuclear and Radiological Terrorism (con't)

## *Countermeasures to Terrorism Acts:*

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



# 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. 147 (2004) and Report No. 151 (2005)** on, respectively, *Structural Shielding Design for Medical X-Ray Imaging Facilities and Megavoltage X-Ray and Gamma-Ray Radiotherapy Facilities*
- **Report No. 155**: *Management of Radionuclide Therapy Patients* (2006)
- **Report No. 159**: *Risk to the Thyroid from Ionizing Radiation* (2008)
- **Report of Scientific Committee 1-17** (to be published in 2010): *Second Cancers and Cardiopulmonary Effects After Radiotherapy*



# Radiation Protection in Medicine (con't)

- **Report of Scientific Committee 2-3** (to be published in 2010): *Radiation Dose Management for X-Ray Guided Interventional Medical Procedures*
- **Consensus guidance publication** (to be issued in 2010): *Applications of Computed Tomography in Emergency Medicine*
- **Scientific Committee 4-3** (to be published in 2011): *Diagnostic Reference Levels in Medical Imaging: Recommendations for Application in the United States*



# Radiation Protection in Medicine (con't)



- **Scientific Committee 4-4** (to be published in 2011): *Reproductive and Developmental Effects of Radiation to the Gonads, Embryo, and Fetus*
- **Proceedings of the 43rd Annual NCRP Meeting (April 16-17, 2007)**: *Advances in Radiation Protection in Medicine* [published in *Health Physics* **95**(5), 2008]

# 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** (to be published in 2010): *Uncertainties in Internal Radiation Dosimetry*
- **Report of Scientific Committee 6-4** (to be published in 2010): *Principles and Practices of Radiation Dose Reconstruction*



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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)
- **Report of Scientific Committee 2-4** (to be published in 2009): *Self-Assessment of Radiation Safety Programs*

# Fundamental Radiobiology and Radiation Risk Assessment



- **Report of Scientific Committee 1-13** (to be published in 2009): *Impact of Individual Susceptibility and Previous Radiation Exposure on Radiation Risk for Astronauts*
- **Report of Scientific Committee 1-16** (to be published in 2011): *Uncertainties in the Estimation of Radiation Risks and Probability of Disease Causation*
- **Report of Scientific Committee 1-20** (to be published in 2012): *Variation in Biological Effectiveness of Photons as a Function of Energy*

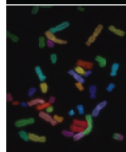
# Analysis of Biological and Human Health Impacts of Low-Dose Radiation Exposures [Proceedings of 2008 Annual Meeting to be published in *Health Physics* 97(5), 2009]



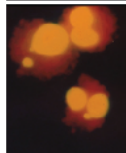
**N|C|R|P**



Forty-Fourth  
Annual Meeting Program



Low Dose and  
Low Dose-Rate Radiation  
Effects and Models



April 14–15, 2008

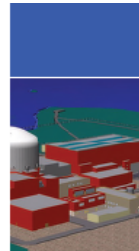
Bethesda North Marriott Hotel  
& Conference Center  
5701 Marinelli Road  
North Bethesda, MD 20852

# 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
- 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



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

