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.


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

- Radiation Protection in Medicine
- Radiation Bioeffects: Mechanisms & Dose Response
- Nuclear Energy & Health/Environmental Protection
- Operational & Environmental Radiation Safety
- Radiation Dosimetry & Measurements
- Homeland Security: Nuclear/Radiological Terrorism Countermeasures
Key Elements of U.S. Readiness for Radiological Terrorism

GUIDANCE

RESPONSE

RECOVERY & RESTORATION

DETECTION & DETERRENCE

RDD or IND
NCRP Publications on Nuclear and Radiological Terrorism

Detection of Terrorist Weapons & Materials:

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:


• **Commentary No. 19: Key Elements of Preparing Emergency Responders for Nuclear or Radiological Terrorism (2005)**

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

Countermeasures to Terrorism Acts:


• **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)
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)

<table>
<thead>
<tr>
<th>Source</th>
<th>Early 1980s</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective effective dose (person-Sv)</td>
<td>835,000</td>
<td>1,870,000</td>
</tr>
<tr>
<td>Effective dose per individual in the U.S. population (mSv)</td>
<td>3.6</td>
<td>6.2</td>
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Radiation Protection in Medicine

- **Report No. 159**: *Risk to the Thyroid from Ionizing Radiation* (2008)
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 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)
Operational Health and Environmental Radiation Protection

Operational Health and Environmental Radiation Protection (con’t)

- **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)
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
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