

# Regulatory Perspectives on Radiation Protection

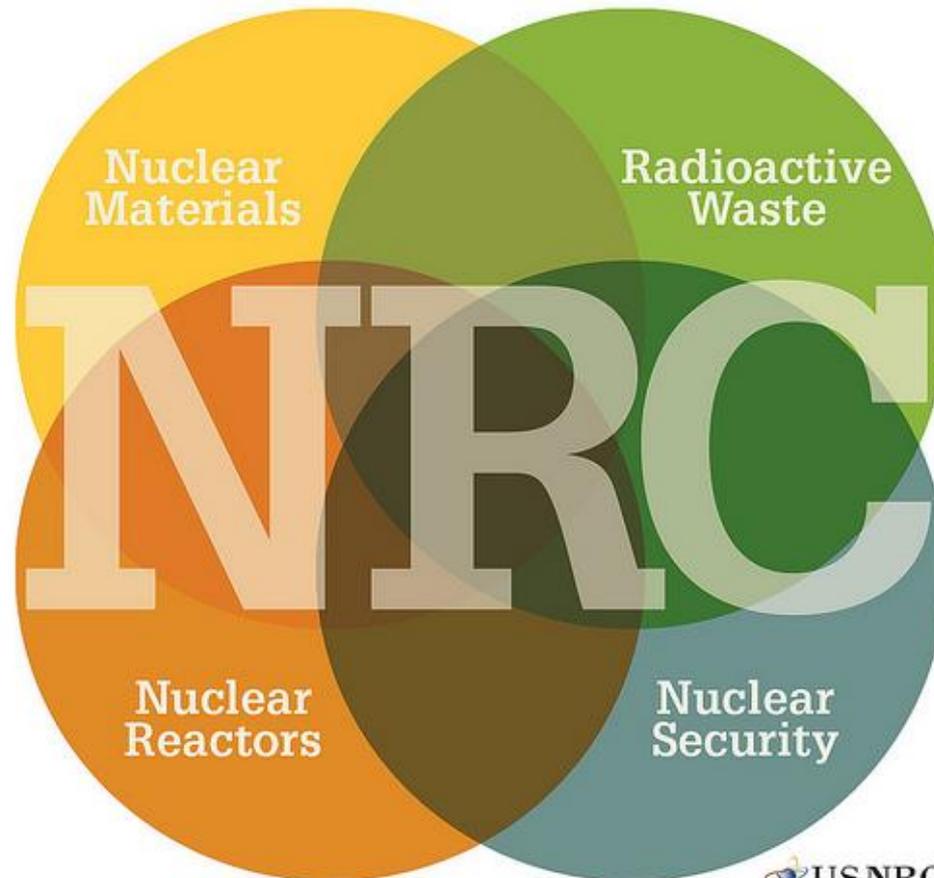
Allison M. Macfarlane, Chairman  
U.S. Nuclear Regulatory Commission

Health Physics Society Annual Meeting  
July 14, 2014  
Baltimore, Maryland



# What We Regulate

## NRC Areas of Regulation



# Rulemaking Activities

- **10 CFR Part 20**: Standards for Protection against Radiation
- **10 CFR Part 50, Appendix I**: Numerical Guides for Design Objectives and Limiting Conditions for Operation to Meet the Criterion 'ALARA' for Radioactive Material in Power Reactor Effluents
- **10 CFR Part 61**: Low-level Radioactive Waste
- **Waste Confidence**
- **10 CFR Part 35**: Medical Use of Byproduct Material

# Research Activities

- National Academies Cancer Risk Study
- Regulatory Basis Support for Part 20 and Part 50, Appendix I
- Radiation Protection Computer Code Analysis and Maintenance Program (RAMP)
- 10 CFR Part 35, Patient Release





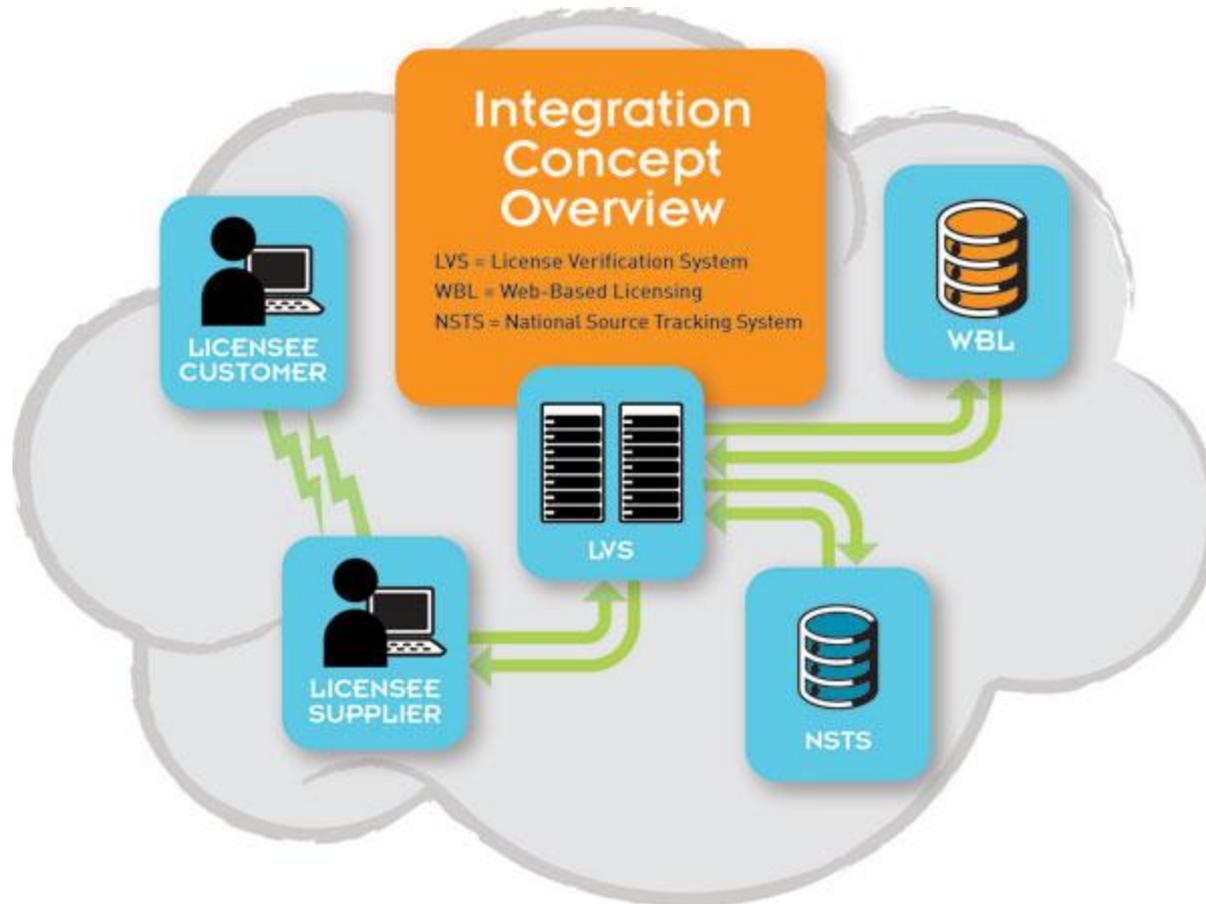
# Management of CER: Potential Applicability to Material Licensees/ Agreement States

Rulemaking	2014	2015	2016	2017	2018	2019
<b>Part 37 – Materials Security</b>						
<b>Part 40 – Integrated Safety Analysis</b>						
<b>Part 71 – IAEA Compatibility Amendments</b>						
<b>Part 73 – SGI-M Changes</b>						
<b>Part 73 – Criminal Sanctions for Sabotage</b>						
<b>Part 20 – Prompt Remediation</b>						
<b>Part 35 – Integrated Rule</b>						
<b>Part 73 – Cybersecurity for Materials Licensees</b>						
<b>Part 30 – PCTE Membranes Petition Response</b>						
<b>Part 20 – Comprehensive Revisions</b>						
<b>Part 61 – Comprehensive Revisions</b>						

# Radioactive Source Security

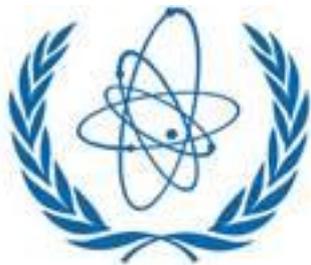


# Integrated Source Management Portfolio (ISMP)





# International Cooperation on Radiation Protection



**IAEA**

International Atomic Energy Agency

INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION

**ICRP**



# Public Outreach

To convert from	To	Multiply by
Curies (Ci)	becquerels (Bq)	$3.7 \times 10^{10}$
millicuries (mCi)	megabecquerels (MBq)	37
microcuries ( $\mu$ Ci)	megabecquerels (MBq)	0.037
millirads (mrad)	milligrays (mGy)	0.01
millirems (mrem)	microsieverts ( $\mu$ Sv)	10
milliroentgens (mR)	microcoulombs/kilogram ( $\mu$ C/kg)	0.258
becquerels (Bq)	curies (Ci)	$2.7 \times 10^{-11}$
megabecquerels (MBq)	millicuries (mCi)	0.027
megabecquerels (MBq)	microcuries ( $\mu$ Ci)	27
milligrays (mGy)	millirads (mrad)	100
microsieverts ( $\mu$ Sv)	millirems (mrem)	0.1
microcoulombs/kilogram ( $\mu$ C/kg)	milliroentgens (mR)	3.88

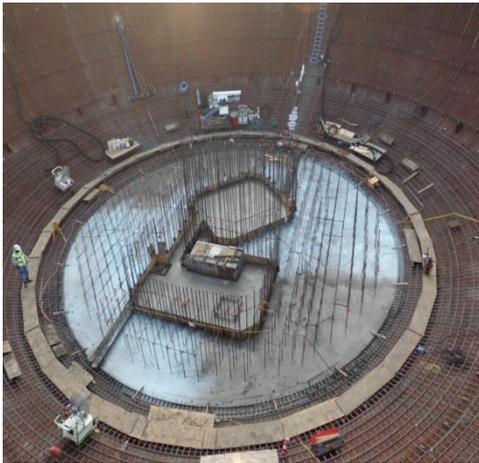


# Patient Release





# Addressing NRC's Future



# Nuclear Education Grant Program

- Helping to train tomorrow's experts
- 98 NRC grants (\$28 million) to health physics and radiochemistry programs from FY 09 to FY 13



# Questions?

