

Regulatory Perspectives on Radiation Protection

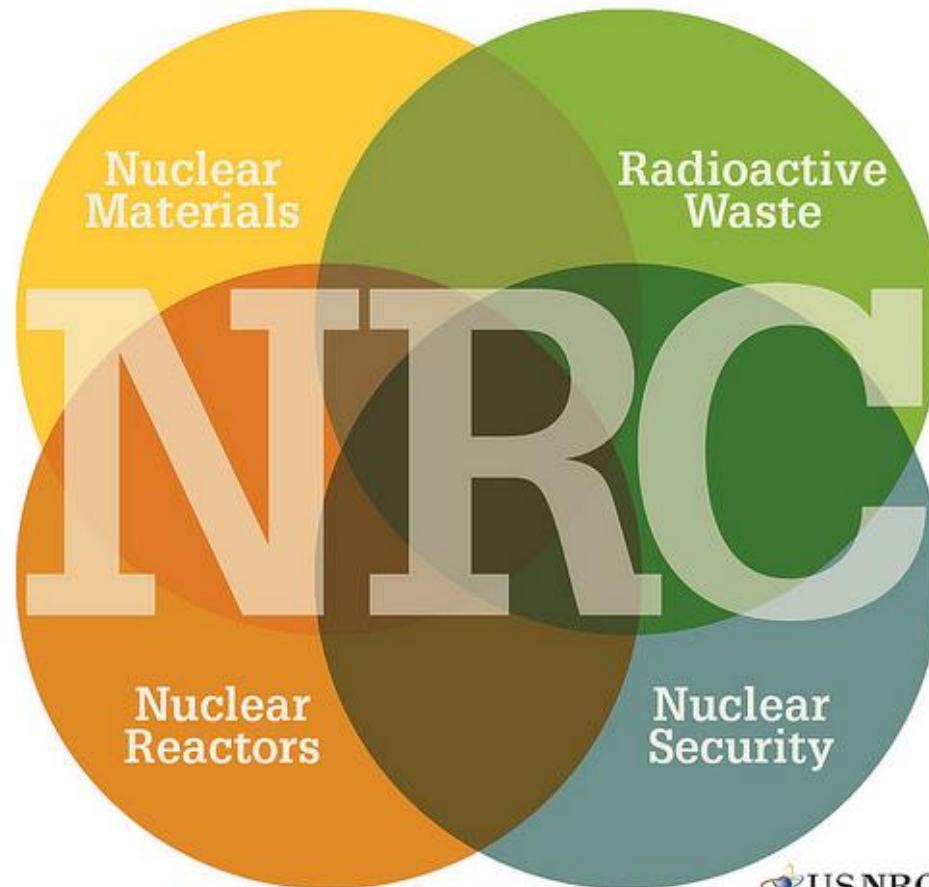
Allison M. Macfarlane, Chairman
U.S. Nuclear Regulatory Commission

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





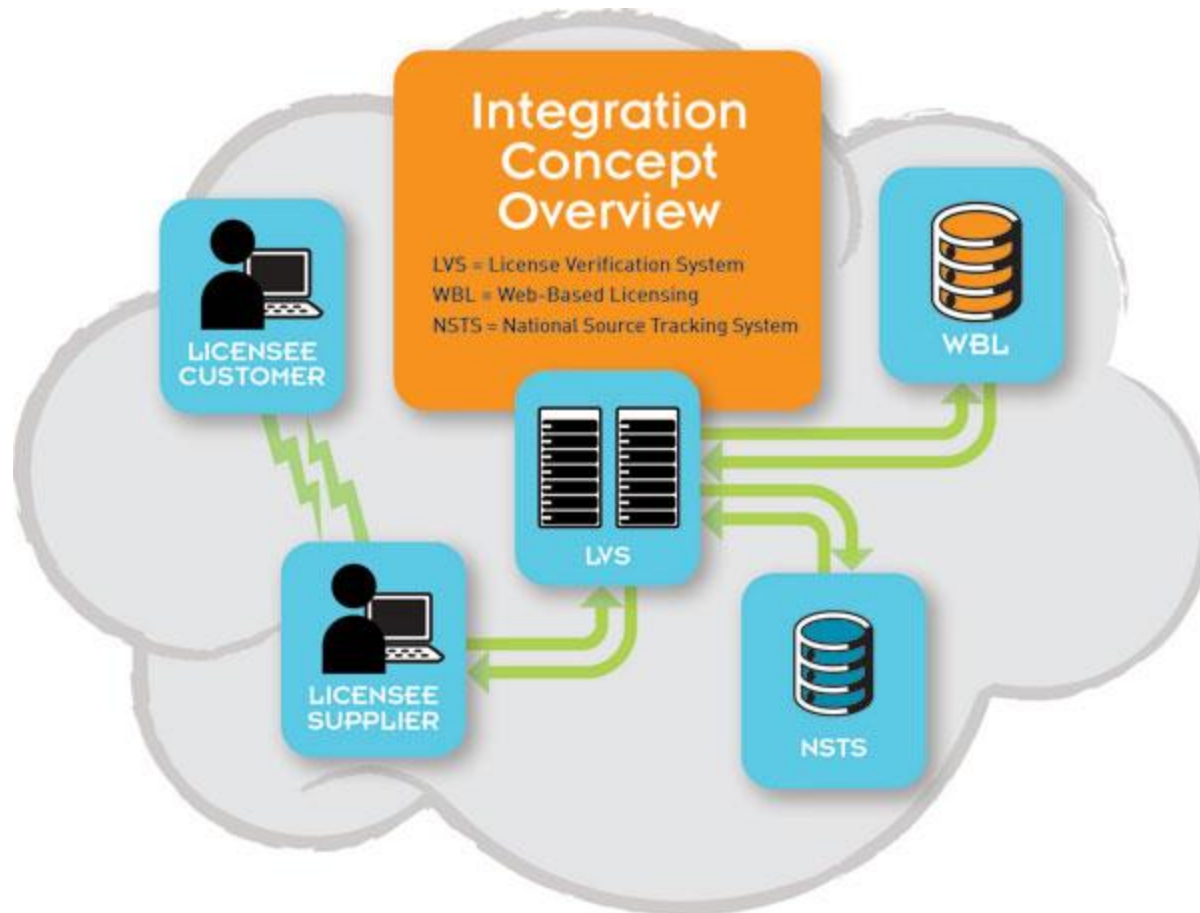
Management of CER: Potential Applicability to Material Licensees/ Agreement States

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

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)	3.7×10^{10}
millicuries (mCi)	megabecquerels (MBq)	37
microcuries (μ Ci)	megabecquerels (MBq)	0.037
millirads (mrad)	milligrays (mGy)	0.01
millirems (mrem)	microsieverts (μ Sv)	10
milliroentgens (mR)	microcoulombs/kilogram (μ C/kg)	0.258
becquerels (Bq)	curies (Ci)	2.7×10^{-11}
megabecquerels (MBq)	millicuries (mCi)	0.027
megabecquerels (MBq)	microcuries (μ Ci)	27
milligrays (mGy)	millirads (mrad)	100
microsieverts (μ Sv)	millirems (mrem)	0.1
microcoulombs/kilogram (μ C/kg)	milliroentgens (mR)	3.88

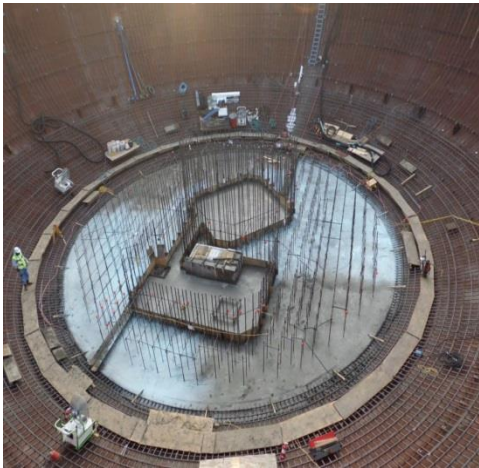


Patient Release





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?

