

University of Missouri's Alternative Schedule Request

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U.S. Nuclear Regulatory Commission

June 23, 2011

Reason for Meeting



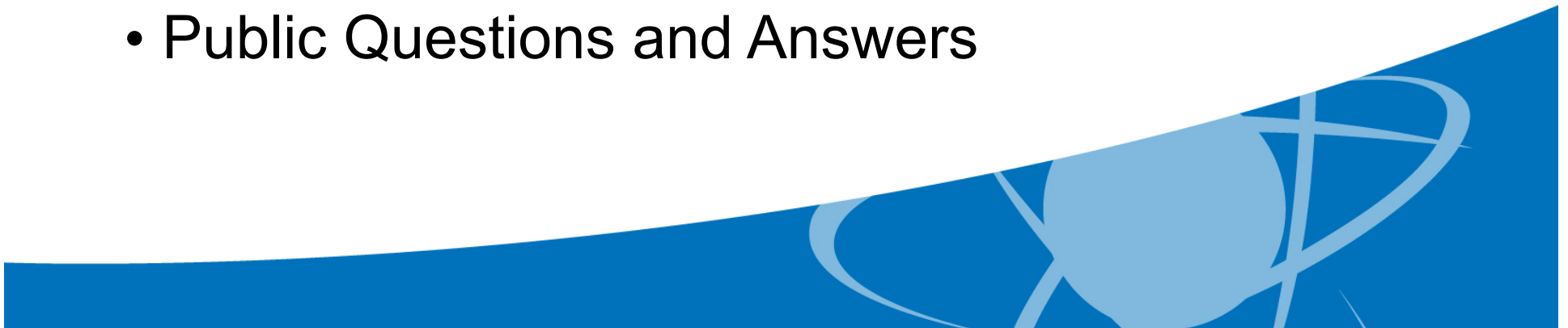
To discuss University of
Missouri's license application
request for an alternative
schedule for decommissioning
of Pickard Hall



Meeting Purpose



- Provide a summary of the University's Proposal for an Alternative Schedule for Decommissioning of Pickard Hall
- Describe opportunities on how to participate in NRC's review process and ways to provide comments
- Public Questions and Answers



Meeting Agenda



- **NRC Presentation**
 - Overview of the NRC
 - Radiation and Radioactivity
 - Pickard Hall
- **University of Missouri's Presentation**
- **NRC Presentation**
 - Decommissioning Process
 - NRC Licensing Process
 - Mechanisms for Stakeholder Involvement
 - NRC Inspection Process
 - NRC Review Status
- **Break**
- **Public Questions and Answers**



NRC Presenters



- Christine Lipa
 - Branch Chief; Materials Control, ISFSI, and Decommissioning Branch; RIII, NRC

- Katie Streit
 - Health Physicist; Materials Control, ISFSI, and Decommissioning Branch; RIII, NRC

- Mike LaFranzo
 - Senior Health Physicist; Materials Control, ISFSI, and Decommissioning Branch; RIII, NRC



Overview of the NRC

Who is the NRC?



- Independent Federal Agency
- Regulates civilian use of nuclear material
- Regulatory Responsibility
 - Licensing
 - Safety
 - Security
 - Environmental
 - Inspection
 - Enforcement



NRC's Mission



To regulate the nation's civilian use of **byproduct**, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and to protect the environment.

Protection
of Public
Health and
Safety



Byproduct Material



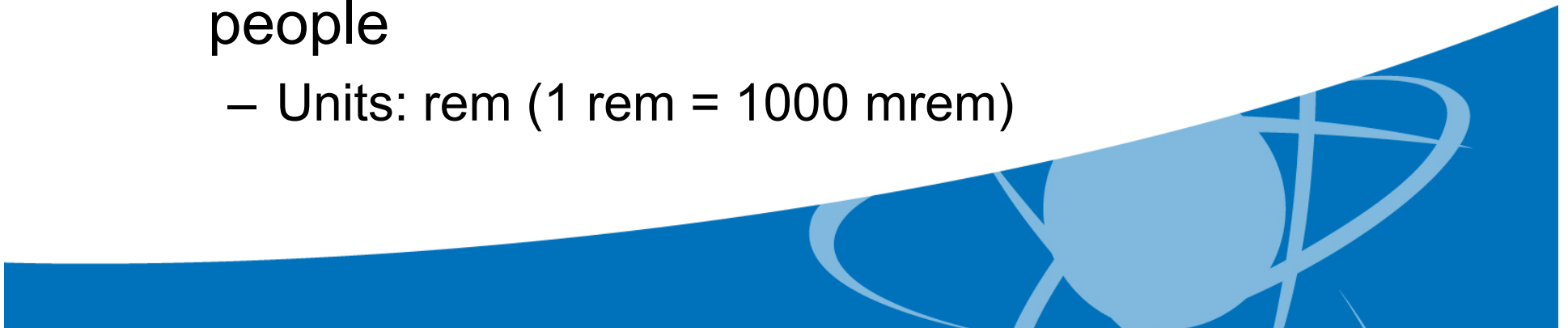
- Energy Policy Act of 2005 expanded NRC regulatory jurisdiction to include discrete sources of Radium-226, a Naturally Occurring Radioactive Material (NORM)
- Transition Phase (72 FR 59157)
 - NRC gained authority of NORM in the state of Missouri after September 30, 2008
 - 1 year transitional period



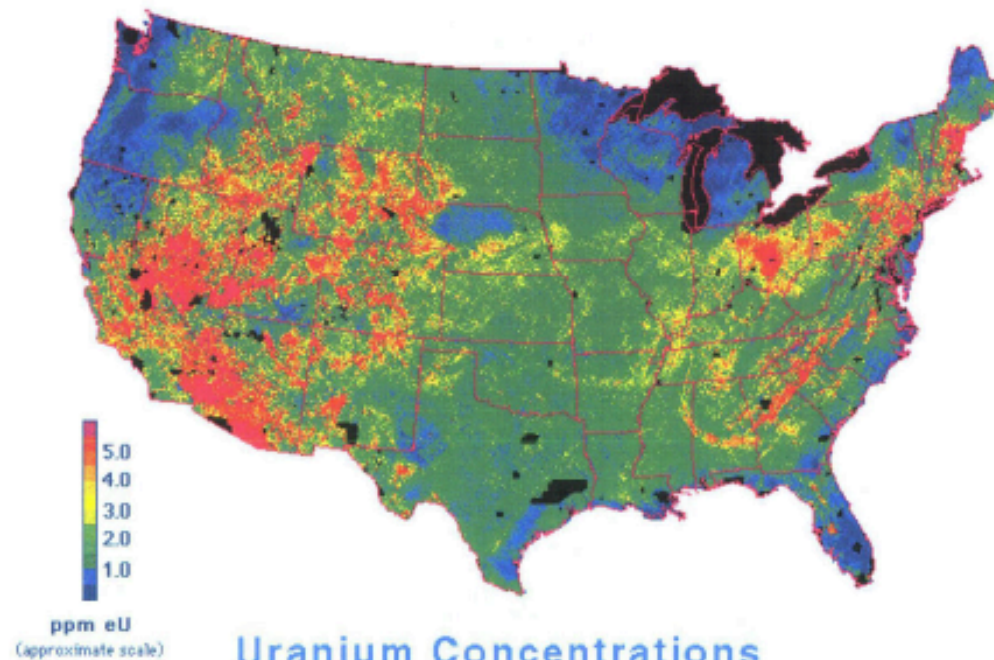
Radiation & Radioactivity

Radiation

- **Radioactive material** is material which emits **radiation** through decay
- Different types of radiation represent different types of hazards (internal & external)
- Dose is measure of radiation exposure to people
 - Units: rem (1 rem = 1000 mrem)



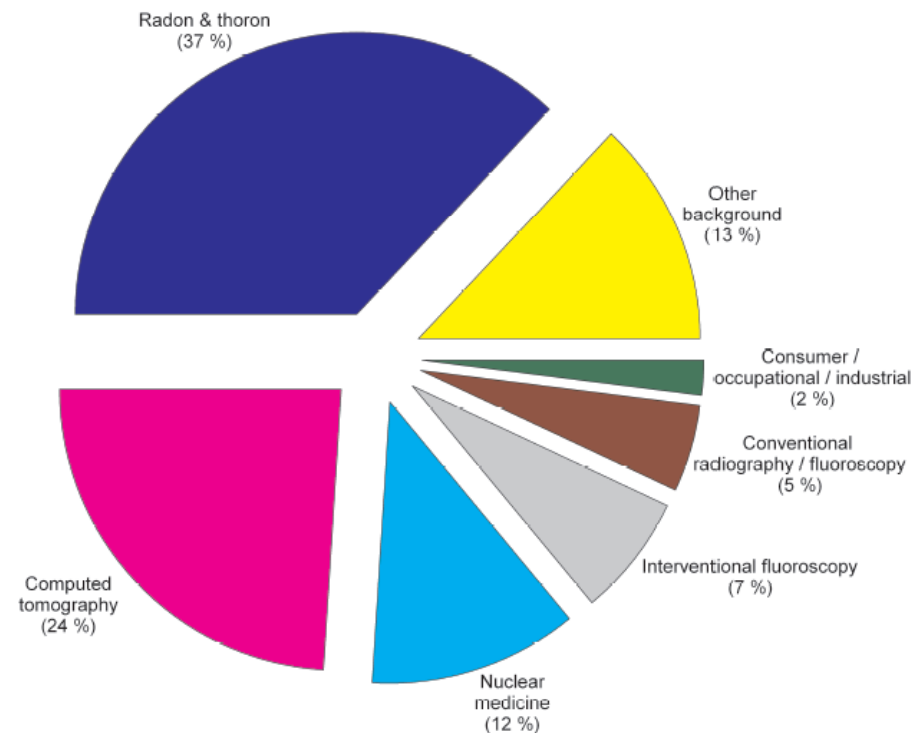
Radioactive Material is found in Nature



Source of data: U.S. Geological Survey Digital Data Series DDS-9, 1993

Average Exposure

Average Exposure in the United States is
620 mrem per year



Source: National Council on Radiation Protection (NCRP) Report 160, 2009

Examples of Average Exposures

Source	Amount (mrem/yr)
Air (natural Radon)	200
Terrestrial Radiation	46
Food and Drinks (e.g., potassium)	40
Medical X-Ray	40
Cosmic Radiation at Columbia, MO elevation	28

Source: U.S. EPA “Calculate your Radiation Dose” at
<http://www.epa.gov/radiation/understand/calculate.html>



Pickard Hall

Pickard Hall

- NRC received notification on November 17, 2009 that Naturally Occurring Radioactive Material had been identified in Pickard Hall in excess of NRC release criteria
- Characterization Survey results showed localized areas that required radiological controls
 - Attic, Steam Feeder Tunnel, behind walls, and under floor tiles

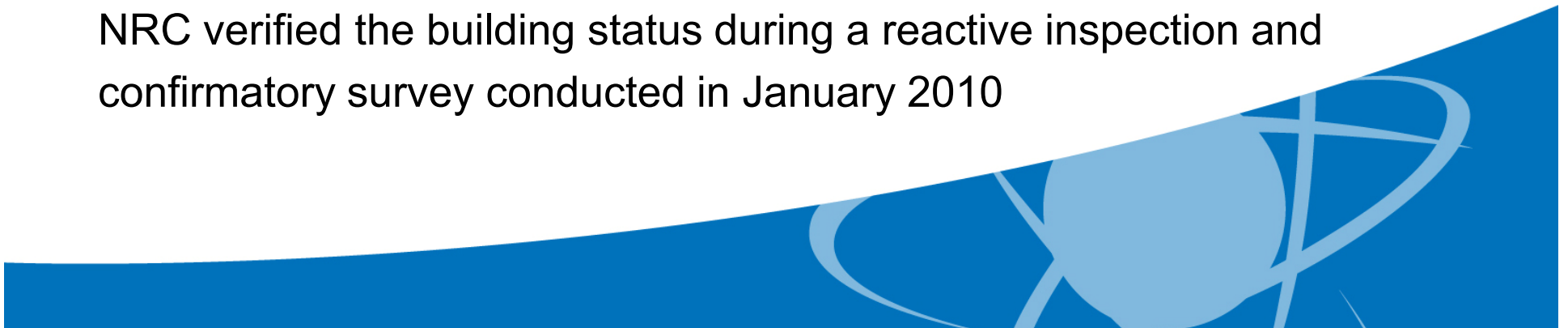


NRC Verified Building Status



- Building is safe for use
- Radiological controls are adequate to ensure building occupants and public safety
- No NRC dose limits have been exceeded

NRC verified the building status during a reactive inspection and confirmatory survey conducted in January 2010



Doses at Pickard Hall



- Dosimetry Monitoring Results
 - Highest quarterly result was 13 mrem, or approximately the same as an average person receives from consuming natural radioactive material found in food and drinks
 - Provided as an attachment to the licensee's request
- NRC has verified licensee performed dose assessment which concluded no dose limits have been exceeded in the buildings current configuration



University of Missouri Presentation

Decommissioning Process

Decommissioning



- *Decommissioning* means to remove a facility safely from service and reduce residual radioactivity to a level that permits release of property
- Release removes the facility from a NRC license and can allow licensee's to release the property from their control



Decommissioning Plan



- Is necessary when new procedures are needed for the decommissioning of the facility
- Decommissioning Plans Include
 - Planned Decommissioning Activities
 - Health and Safety Procedures
 - Decommissioning Schedule
 - Final Status Survey Design
 - Building Release Limits

10 CFR 30.36



Timeliness Rule

10 CFR 30.36



Within 1 year of Notification,
Decommissioning Timeliness Rule
Requires Submittal of:

A Decommissioning Plan

- OR -

An Alternative Schedule



Alternative Schedule Requirements

- All regulations and licensee conditions continue to apply until site is fully decommissioned and site is released
- Alternative Schedule Requirement
 - Necessary for the effective conduct of decommissioning operations
 - Presents no undue risk from radiation to the public health and safety
 - In public interest

10 CFR 30.36



University's Alternative Schedule Request



- Justification Provided in University's Request
 - Building listed on the National Register of Historic Places and houses the Museum of Art and Archaeology and its artifacts
 - Safe & Stable Condition
 - Operational controls & Periodic Surveys
 - Characterization Survey Results
 - Public Interest
 - Building and Museum provide educational, cultural, and historic value

NRC is reviewing the University's request.

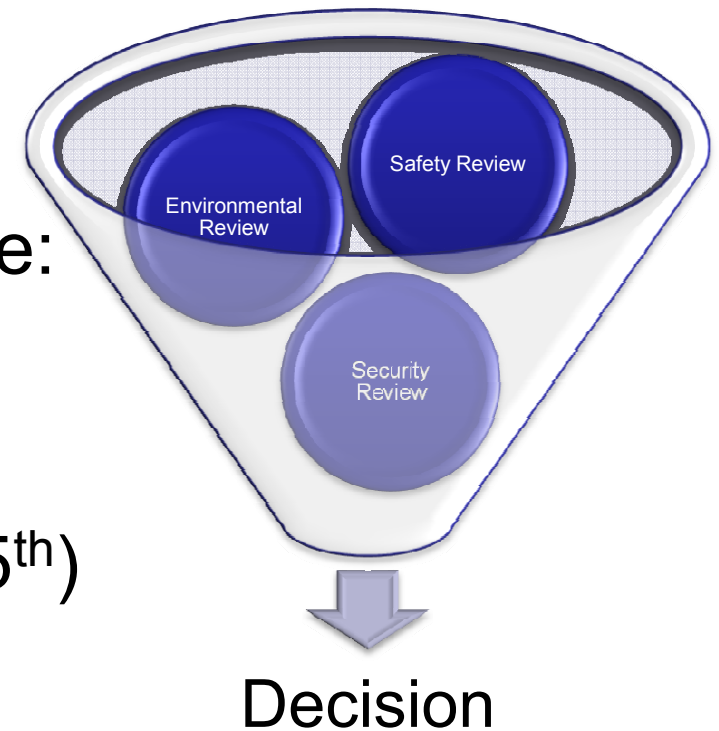


NRC License Review

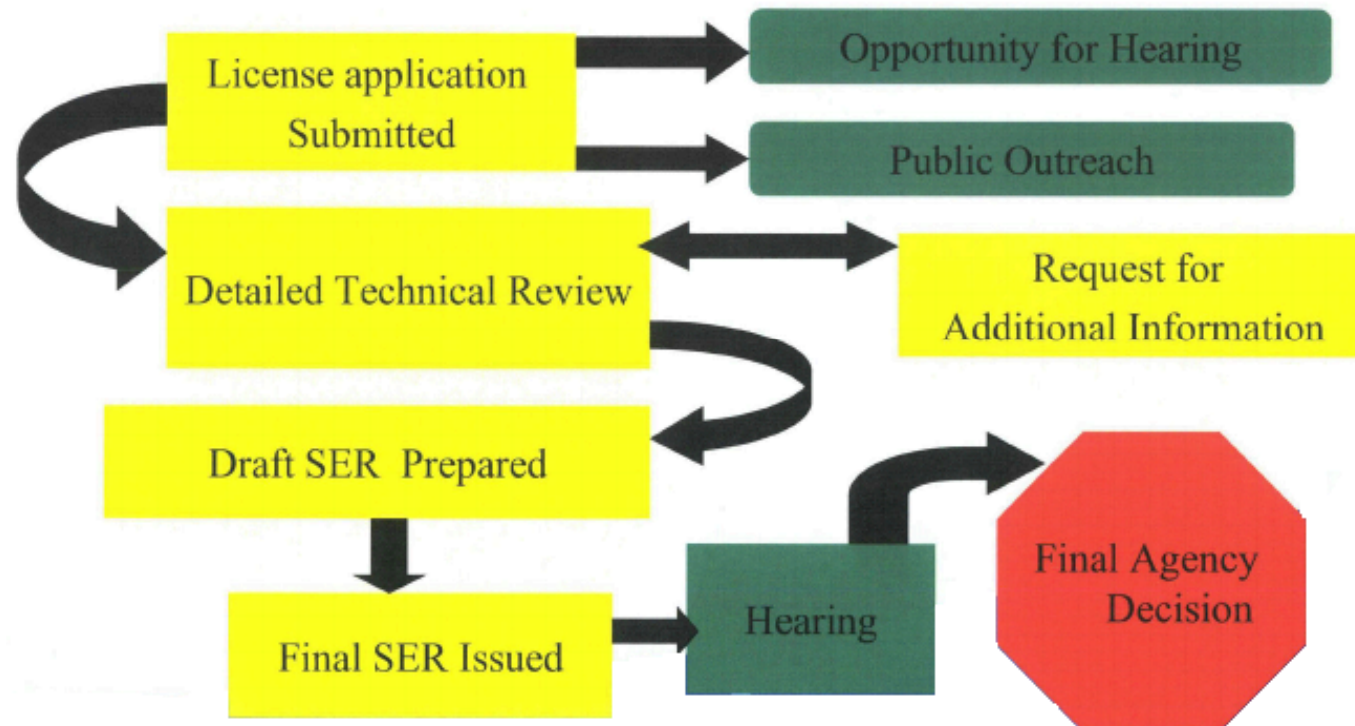
NRC's Review Process



- Technical Review of the amendment request will include:
 - Safety Review
 - Security Review
 - Environmental Review
- Public Comment Period (July 5th)
- Documented in a safety evaluation report and environmental assessment



Safety Review Process



NRC Review of the Request



- **Ensure public health and safety**
 - Verify the facility will remain in a safe configuration
 - Verify controls are in place to quickly identify if conditions change
 - Verify licensee's characterization survey results
 - As Low As Reasonably Achievable (ALARA)
 - Findings will be documented in a Safety Evaluation Report
- **Ensure Necessity and Public Interest**
- Application will be reviewed using NUREG-1757, "Consolidated Decommissioning Guidance"

Mechanisms for Stakeholder Involvement

Public Involvement



- Comment Period
- Public Meetings
- Opportunity for an Atomic Safety & Licensing Board Hearing

We want
Your
Insights,
Input,
Perspective



Public Involvement



- Comments may be sent to:
 - Mail to:

Cindy Bladey, Chief
Rules, Announcements, and Directive Branch
Office of Administration, Mail Stop TWB-05-B01M
U.S. Nuclear Regulatory Commission,
Washington, DC 20555-0001
 - Fax to:

Rules, Announcements, and Directive Branch
301-492-3446



Public Involvement



- Comments will be posted on NRC web and will not be edited to remove personal information
- Request a hearing by July 5, 2011, as described in *Federal Register* notice (76 FR 26322)

NRC strives
to maintain
openness
in license
review



NRC Review Status

NRC Review Status



- NRC is currently performing the Technical Review of the Request, No decision has been Made
- NRC began reviewing application March 21, 2011 and expect the review to take 1 year
- July 5th is due date for comments and request of a hearing

NRC Inspections

NRC Inspection Activities



- NRC Began a Reactive Inspection on January 26, 2010
- If amendment is approved, periodic inspections will be conducted to verify compliance with commitments, regulatory requirements, and University procedures



Inspections Scope



- Review public and occupational exposures
- Operational Controls
- Removal or Remediation Activities
- Confirmatory Surveys



Documents & Contact Information

NRC Documents



- <http://www.nrc.gov/reading-rm/adams.html>
- Select “Begin Web-based ADAMS Search”
- Select “Advanced Search Tab”
- Select Docket Number in Documents Properties and enter “03002278”
- Select Document Date in Document Properties to narrow search



Contact Information



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 - Prema.Chandrathil@NRC.gov
 - 630-829-9663



For More Information



- For more information regarding Decommissioning, see: <http://www.nrc.gov/about-nrc/regulatory/decommissioning.html>
- For more information regarding Naturally Occurring Radioactive Material, see: <http://nrc-stp.ornl.gov/narmtoolbox.html>
- For the NUREG-1757 documents, see: <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1757/>
- For 10 CFR 30.36, see: <http://www.nrc.gov/reading-rm/doc-collections/cfr/part030/part030-0036.html>



Break

Questions?