

Proposed Disposal of Radioactive Waste from the Hematite Decommissioning Project

Rebecca Tadesse
U.S. Nuclear Regulatory Commission

NRC Presenters



- John Hayes
 - Project Manager
- James Kennedy
 - radioactive waste disposal
- David Brown
 - radiation safety and environmental protection



Reasons for meeting



- Proposed Westinghouse Hematite disposal is first since Idaho Department of Environmental Quality rulemaking and U.S. Ecology Idaho permit modification
- Enhanced outreach for certain 20.2002 disposals



Meeting Topics

- Purpose
- U.S. NRC
- Westinghouse Hematite, MO site
- Westinghouse Hematite May 21 application
- Information on radiation and radioactivity
- NRC safety and environmental review process
- Public comments



Purpose



- To inform you about a May 21 Westinghouse application to NRC to dispose of low-activity radioactive waste containing special nuclear material at US Ecology Idaho
- To inform the public of an opportunity to participate in NRC's review process
- To allow NRC to hear public questions and concerns



Who is the U.S. NRC?

- Independent regulatory agency established in 1974
- Regulates the nation's civilian use of certain radioactive material to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment.
- NRC regulates nuclear power plants, medical and industrial uses of radioactive materials, and waste disposal



NRC Review Activities

- May 21 – Westinghouse application
- June 18 - Application accepted for review by NRC
- July 6 - *Federal Register* notice offers an opportunity to comment and to request a hearing (74 FR 31994)
- July 21 – Meeting with Westinghouse



NRC Review Activities (cont'd)

- NRC is reviewing the application now
- NRC will complete a Safety Evaluation Report and an Environmental Assessment
- Sept 6 – due date for comments and request for hearing

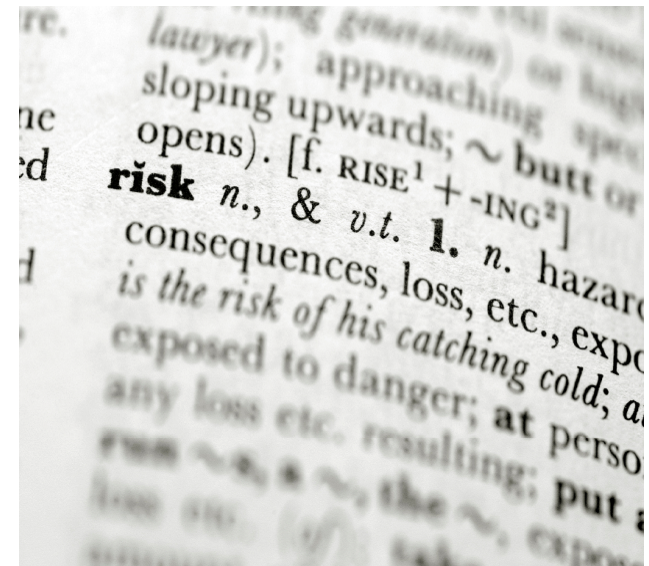


Radiation and Radioactivity

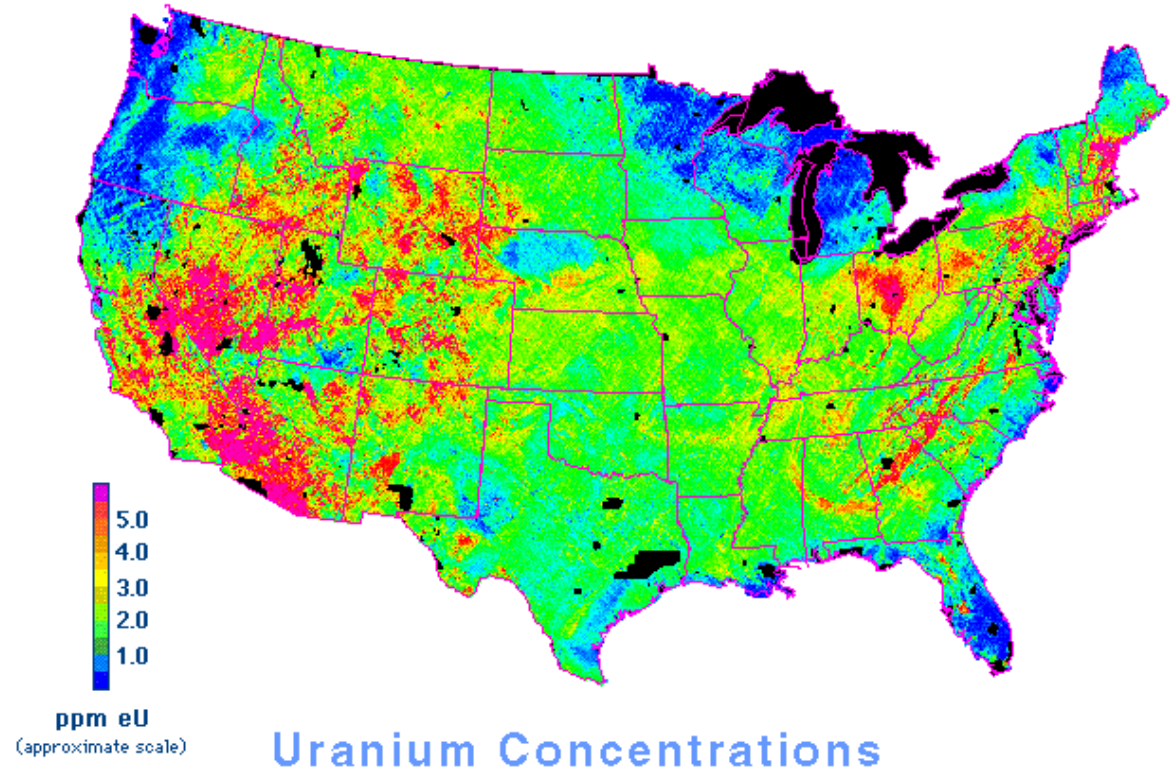
David Brown
U.S. Nuclear Regulatory Commission

Definitions

- Radioactivity and radiation
- Radiation dose
- millirem
- Source, byproduct, and special nuclear material
- Security of radioactive material
- Criticality safety



Radiation all around us

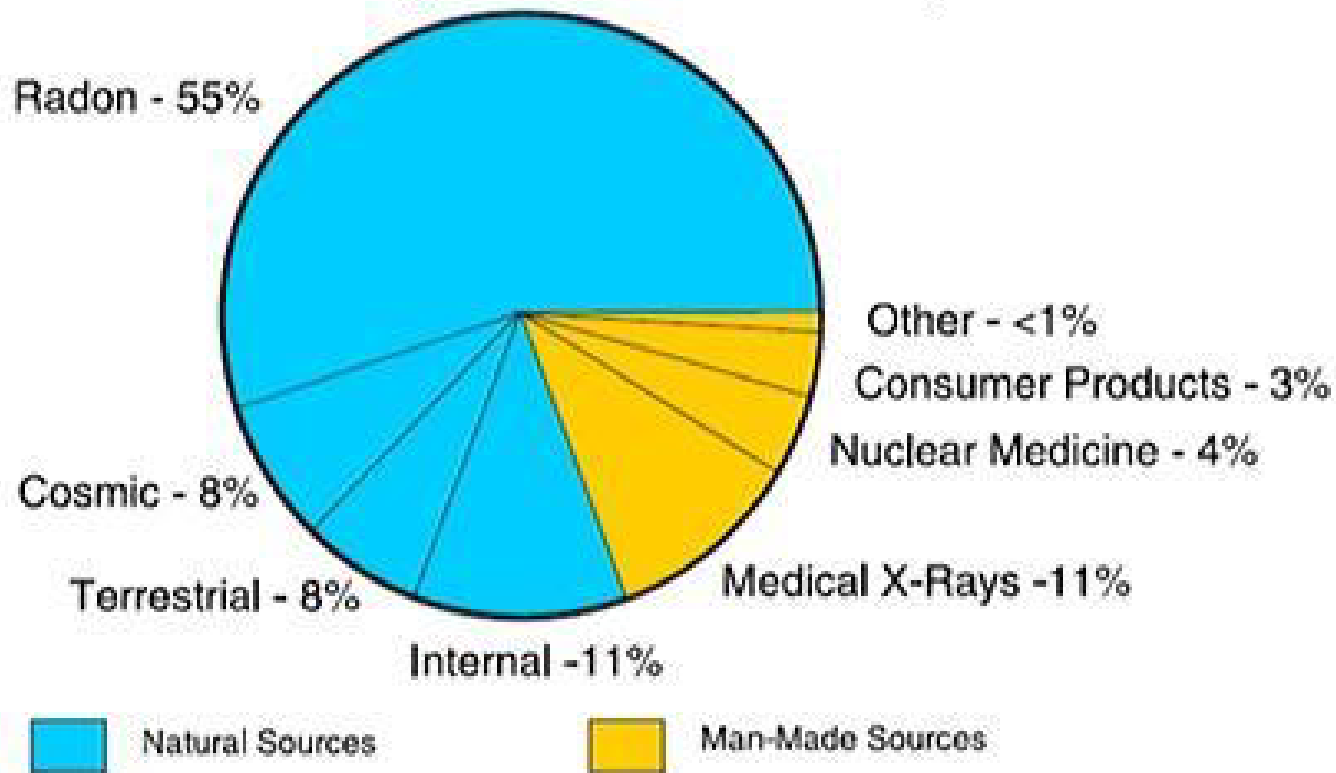


Source of data: U.S. Geological Survey Digital Data Series DDS-9, 1993



Sources of Radiation Exposure in the United States*

Total exposure is 360 millirem/yr



* Source: National Council on Radiation Protection (NCRP) Report 93, 1987.

Hematite Project Overview

John Hayes

U.S. Nuclear Regulatory Commission

Westinghouse Hematite Site



- Nuclear fuel manufacturing facility from 1956 – 2001
- Produced nuclear fuel until 1974 for the U.S. Government
- Produced nuclear fuel for commercial use since 1974



Hematite Waste

- 50,000 tons in the form of soil and debris
- Includes uranium enriched in uranium-235
- About 5% of Hematite waste will also contain hazardous chemicals



Description of Proposal



- Westinghouse requested disposal of low activity waste under 10 CFR 20.2002
- Disposal at U.S. Ecology Idaho
- U.S. Ecology would be exempt from 10 CFR 30.3 and 10 CFR 70.3 for Westinghouse Hematite low activity waste



Public Participation



- Comments may be sent to:
John Hayes
U.S. Nuclear Regulatory Commission
Two White Flint North, Mail Stop T8F5
11545 Rockville Pike
Rockville, MD 20852–2738

Telephone: (301) 415–5928;
Fax: (301) 415–5369;
e-mail: john.hayes@nrc.gov.

- Request a hearing by September 6, 2009, as described in the *Federal Register* notice.



Disposal of Low Activity Waste

James Kennedy

U.S. Nuclear Regulatory Commission

Topics



- 10 CFR 20.2002
- Past use
- Spectrum of radioactive wastes
- NRC review team



10 CFR Part 20, Subpart K – waste disposal

- Approved disposal methods:
 - Incineration
 - Licensed disposal facility
 - Geologic repository
 - Release in effluents
 - Other (20.2002)
- 10 CFR 20.2002
 - Disposal “not otherwise authorized”
 - Case-by-case

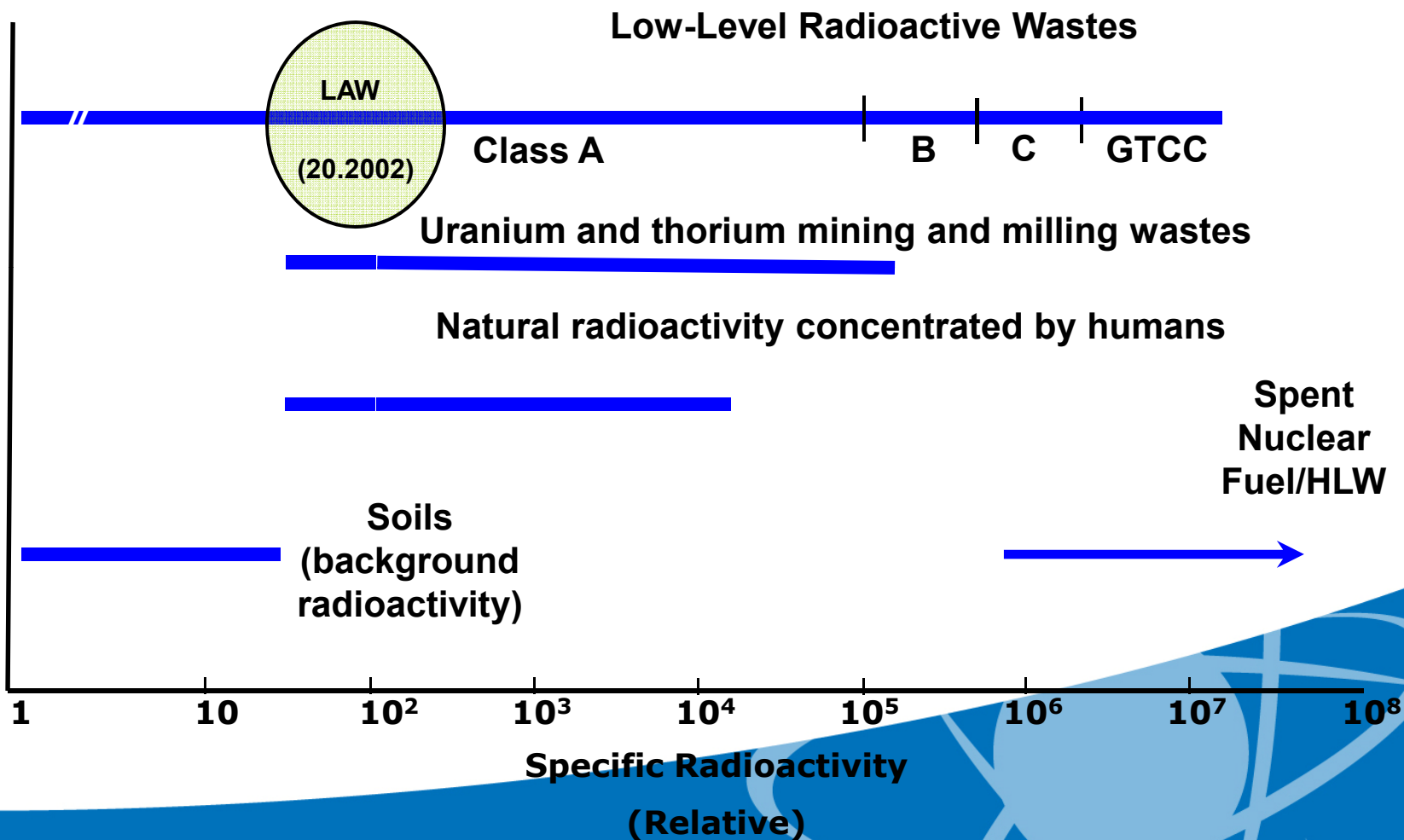


History of use -- 20.2002

- More than 100 requests in last 30 years
- Several requests each year, on average
- Several for U.S. Ecology, Grand View facility
- Disposals are typically in hazardous and solid waste landfills, especially last 10 years



Context—the Spectrum of Radioactive Wastes

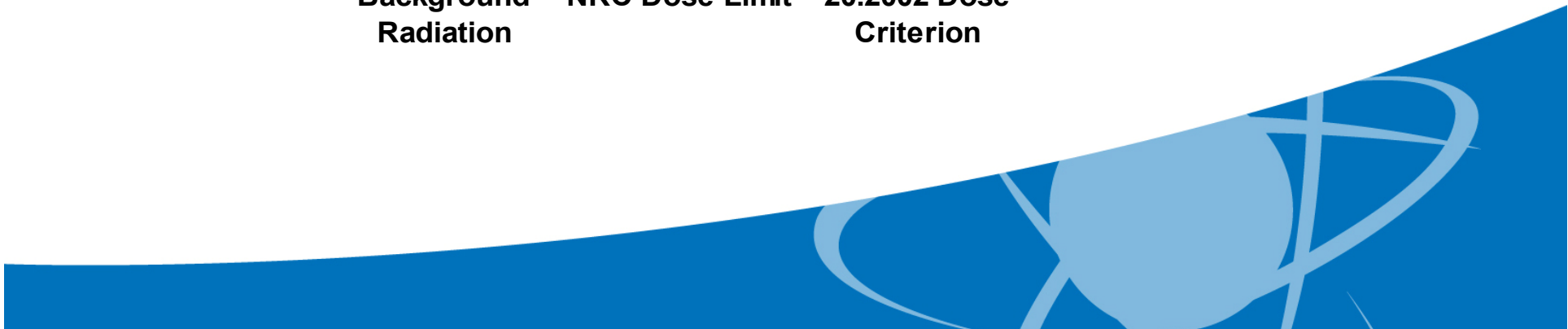
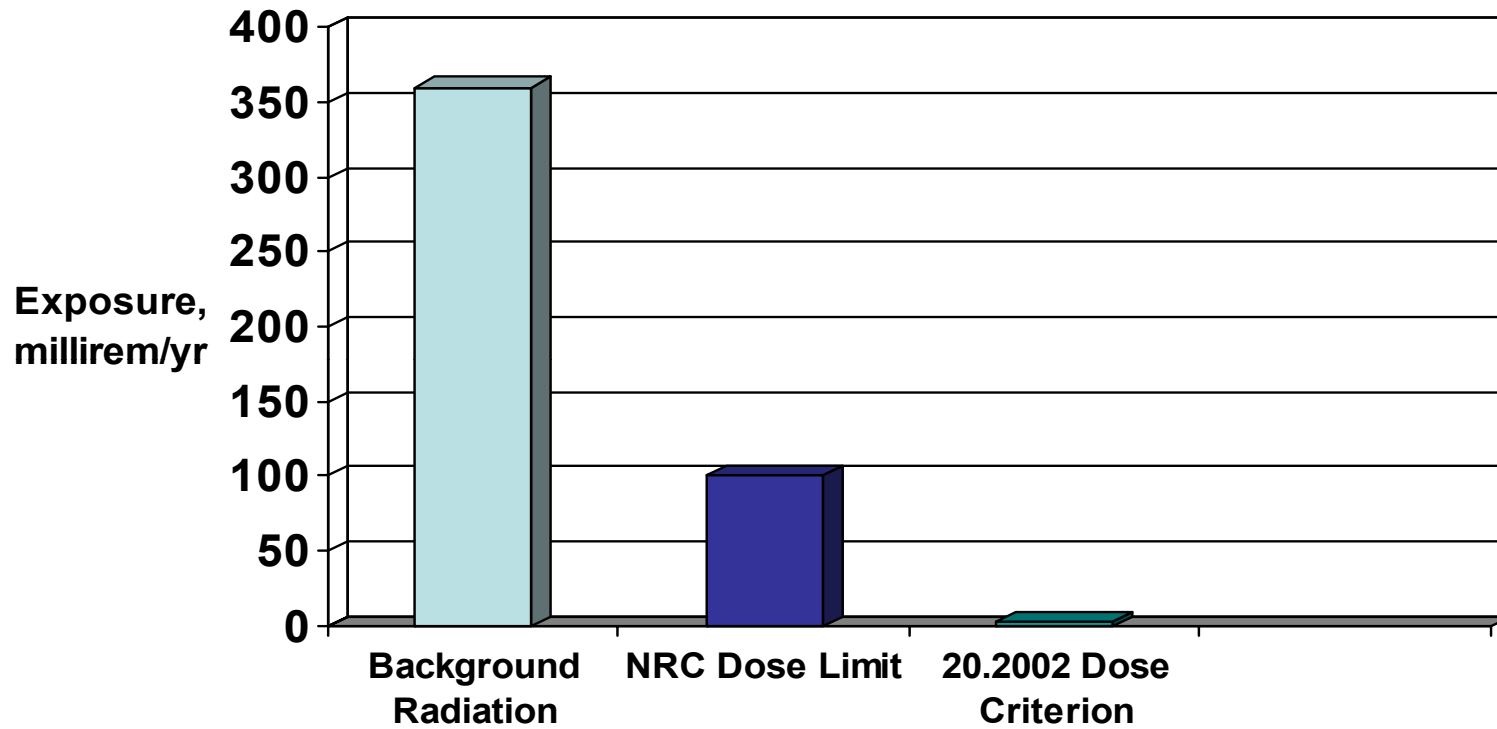


Criteria

- Radiation exposure of “a few millirem/yr”
- Security of special nuclear material
- Criticality
- Environmental impacts



Radiation Exposures, millirem/yr



NRC Review Team



- Project manager
- Performance assessment analyst
- Criticality analyst
- Physical security analyst
- Environmental impacts analyst
- Waste disposal analyst
- Attorney



Summary



- NRC will independently determine if Westinghouse request will be safe and secure
- 10 CFR 20.2002 provision has a long history of use
- Radiation dose criterion is protective and conservative
- SNM disposal at Grand View is new



Environmental Review

David Brown
U.S. Nuclear Regulatory Commission

Law, Regulations, and Guidance

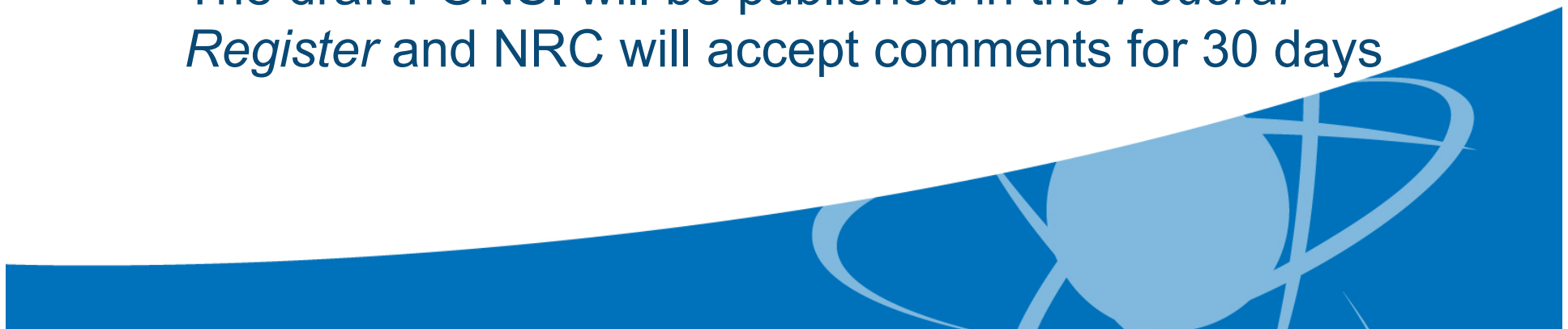


- The National Environmental Policy Act of 1969, as amended (NEPA), requires Federal agencies to consider the environmental impacts of certain actions
- NRC implements NEPA with Title 10, *Code of Federal Regulations* Part 51 (10 CFR 51)
- Staff procedures for implementing 10 CFR 51 are described in environmental review guidance (NUREG-1748)



What will NRC do?

- NRC will prepare an Environmental Assessment
- If NRC finds that environmental impacts are significant, it will then prepare an Environmental Impact Statement
- If impacts are not significant, NRC will prepare a draft Finding of No Significant Impact (FONSI)
- The draft FONSI will be published in the *Federal Register* and NRC will accept comments for 30 days



Environmental Assessment Considerations . . .

- Alternatives to the proposed action
- Human health effects of transportation and disposal, including potential accidents
- Effects of waste disposal on air, water, soil, plants, and animals
- Effects of waste disposal on economic, cultural and social services
- Direct, indirect, and cumulative impacts



Schedule



Activity

- Comments & request for hearing due
- Environmental Assessment & Draft Finding of No Significant Impact
- Public comments on EA
- NRC decision

Dates

September 6, 2009

February 2010

Feb. - March 2010

April 2010



Public participation in the environmental review



Before an EA and draft FONSI is published. . .

Send letters, fax or e-mail

John Hayes

U.S. Nuclear Regulatory Commission

Two White Flint North, Mail Stop T8F5

11545 Rockville Pike

Rockville, MD 20852–2738

Fax: (301) 415–5369;

e-mail: john.hayes@nrc.gov.

If a draft FONSI is published. . .

Send comments as instructed in the *Federal Register* notice that announces the availability of the EA and draft FONSI for public comment.



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- Radioactive Waste
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Public Comments