



Overview of the Licensing Process and Compliance with the National Environmental Policy Act (NEPA) for the H-403 Course

Presented by

Lane Howard

Center for Nuclear Waste Regulatory Analyses (CNWRA)



Outline

- Regulatory Framework
- Safety Evaluation Report
- Yucca Mountain Environmental Impact Statement
- NEPA and Environmental Impact Statement (EIS)
- Other Safety Reviews and Consultations
- Summary



Regulatory Framework and Decision-Making Process

- Staff review of a potential repository License Application uses
 - 10 CFR Part 63
 - Yucca Mountain Review Plan (YMRP)
- Regulatory framework provides stepwise, informed decision making on whether to
 - Accept and docket License Application (LA)
 - Adopt DOE's Final Environmental Impact Statement (EIS)
 - Issue Safety Evaluation Report (SER)
 - Issue Construction Authorization



Safety Review

- Staff evaluates the performance of the potential repository both during disposal operations and after repository closure
 - Pre-closure Performance Objectives (10 CFR 63.111) require a comprehensive pre-closure safety analysis (10 CFR 63.112)
 - Post-closure Performance Objectives (10 CFR 63.113) require a comprehensive performance assessment (10 CFR 63.114) and multiple barrier demonstration (10 CFR 63.115)
- Staff will document review results in a Safety Evaluation Report (SER)

The Yucca Mountain EIS

- In Section 114(f) of the Nuclear Waste Policy Act (NWPA) and 10 CFR 63.21(a), DOE is required to submit an EIS with its license application. The YM EIS is not required to consider
 - Need for the repository
 - Time of initial availability of a repository
 - Alternate sites
 - Non-geologic alternatives (considered in 1980 DOE EIS)

The Yucca Mountain EIS

- The DOE has developed the YM EIS over the last 12 years
 - August 1995 – Notice of Intent (NOI) for YM Draft EIS
 - May 1997 – Scoping report for DEIS (15 public meetings, 5 in NV)
 - July 1999 – Notice of availability for DEIS
 - May 2001 – Supplement to the DEIS
 - February 2002 – Final EIS (submitted with site recommendation)
 - April 2004 – Record of Decision announcing mostly rail and Caliente corridor as preferred Nevada transportation alternative
 - May 2004 – Begin scoping process for DOE rail EIS
 - July 2004 – U.S. Court of Appeals rules that Nevada will have opportunity to raise contentions on the EIS during the NRC hearing process



Reviewing the Yucca Mountain EIS

- NRC and CNWRA prepared comments on both draft EIS and supplement to draft EIS
 - An integrated description of the proposed action is needed
 - Cumulative impacts are not fully addressed
 - Transportation routes not identified and impacts not clearly bounded
 - Discussions of mitigation measures/long-term monitoring incomplete
 - Additional impact analyses are needed for flexible design features
- DOE Specifically Addressed NRC Comments in the Final EIS
 - NRC Comments on Final EIS Forwarded with Site Recommendation on February 15, 2002

Recent Developments

- The current DOE approach was announced in October 2006
 - October 2006 – DOE publishes NOI to prepare a supplement to the 2002 YM FEIS and an EIS for the Rail Corridor Alignment (Rail EIS)
 - Nevada transportation impact analyses to be updated in Rail EIS
 - New Mina corridor to be evaluated
 - Surface Transportation Board and BLM are cooperating agencies on Rail EIS
 - October-December 2006 – Scoping meetings on supplemental EISs
 - April 2007 – Walker Lake Paiutes retract Mina corridor from further consideration
 - October 2007 – Supplemental DEIS and Rail DEIS out for public comment (60 days)
 - May-June 2008 – Supplemental FEIS and Rail FEIS to be published



Adopting the Yucca Mountain EIS

- NRC required to adopt the DOE Final EIS “to the extent practicable.”
 - Regulations for adopting are contained in 10 CFR 51.109
 - Interim staff guidance to address adoption of Yucca Mountain EIS
- NRC must adopt the EIS unless:
 - Licensing action to be taken by Commission differs from the action proposed in the application in a way that may *significantly affect* the environment

Or

- *Significant* and substantial new information or considerations make the EIS inadequate



EIS Adoption Decision

- NRC to determine whether adoption is practicable
- Adoption Decision to be published in Federal Register, simultaneous with Notice of Docketing
 - Adoption determination process report (ADPR) to be provided as basis
- Three options:
 - It is not practicable to adopt
 - It is practicable to adopt
 - It is practicable to adopt “in part”
- If adopt in part, assume that FEIS will be further supplemented
 - Either NRC or DOE may supplement



EIS Adoption Decision

- July 2004 Court of Appeals Decisions
 - Nevada can file petition for contentions on environmental issues
 - Must be filed within 30 days of Federal Register Notice
- Hearings on EIS adoption may begin during technical review of Safety Analysis Report

What is NEPA?

- The National Environmental Policy Act (NEPA) (1970) – Established three basic goals
 - Required federal agencies to consider environmental impacts (both beneficial and adverse) for major Federal actions significantly affecting the quality of the human environment
 - Established the Council on Environmental Quality (CEQ)
 - Introduced the concept of an environmental impact statement
- As written, NEPA has no enforcement provisions



NEPA Process (cont'd)

- NEPA Section 101 provides broad, general policy statements to protect future generations
- NEPA Section 102 contains procedural aspects and forms the basis for subsequent case law
 - Five topics in EISs: Establish general outline
 - Proposed action
 - Adverse environmental consequences
 - Alternatives to the proposed action
 - Short-term uses versus long-term productivity
 - Irreversible and irretrievable commitment of resources



NEPA Process (cont'd)

- Council on Environmental Quality (CEQ) Regulations (1979) –
 - Required agencies to develop implementing regulations
 - Three levels of analysis
 - Definitions/content
 - Significance determination
 - Scoping
 - Mitigation
 - Supplemental EAs/EISs
- CEQ regulations based on underlying need to identify, predict, and mitigate the adverse impacts of proposed actions
- NRC regulations and guidance for NEPA environmental reviews
 - NRC NEPA implementing regulations in 10 CFR Part 51
 - Guidance for NMSS published in NUREG-1748 (August 2003)

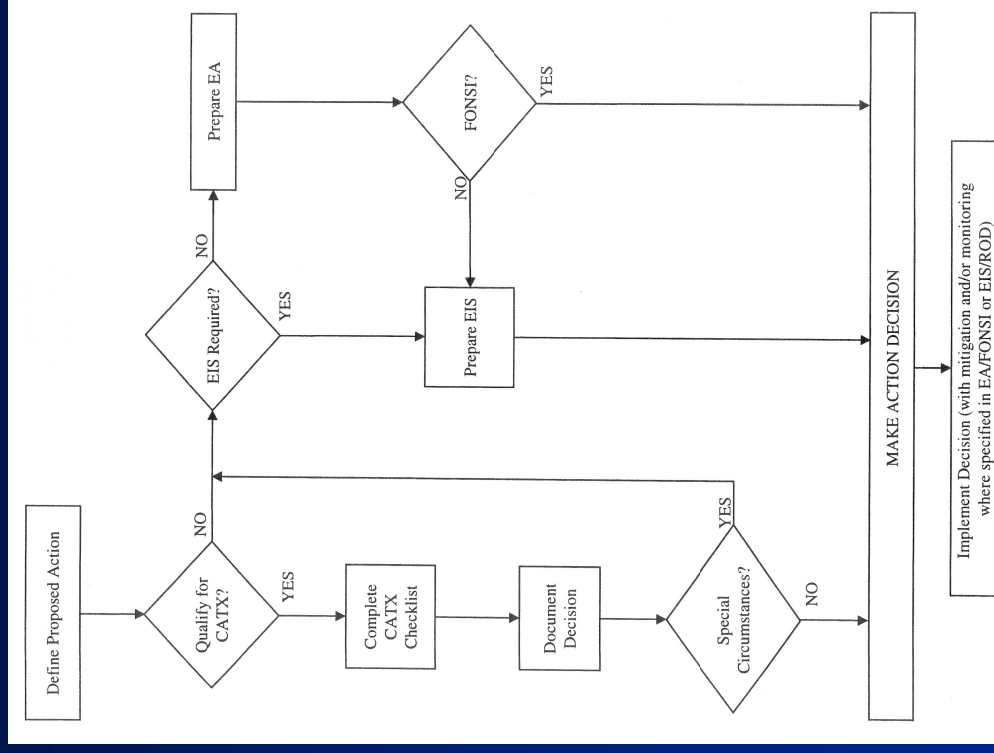


Three Levels of Analysis (and Relevant Acronyms)

- Categorical Exclusion (CX or CatEX)
- Environmental Assessment (EA)
 - Findings of No Significant Impact (FONSI)
 - Mitigated FONSI
 - Significant Impacts: Go to EIS
- Environmental Impact Statement (EIS): May be required by statute (like Yucca Mountain EIS), regulation (10 CFR 51.20) or identified during preparation of EA
 - Draft EIS (DEIS) and Final EIS (FEIS)
 - Project-level and strategic-level
 - Supplements to reflect new information
 - Record of Decision (ROD)

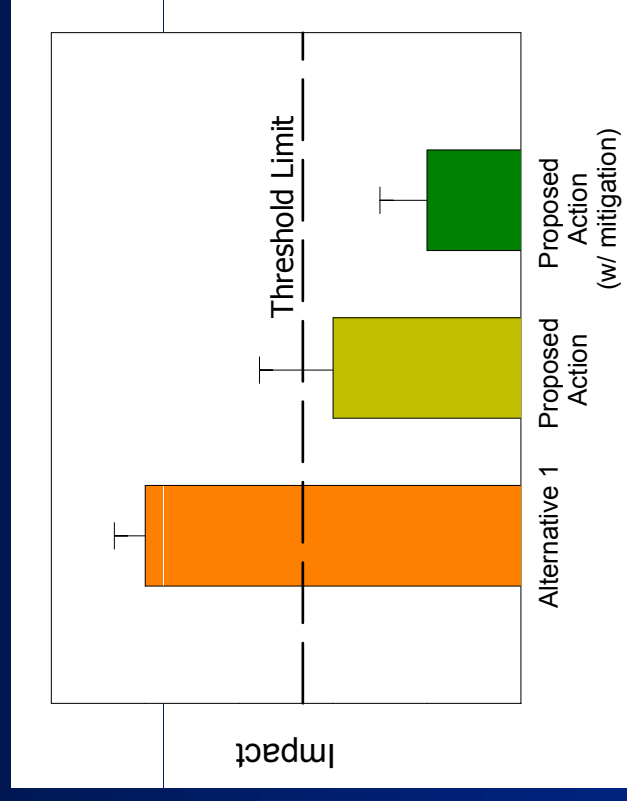
Pattern in USA: Draft EA/EIS → review → final EA/EIS

The NRC NEPA Process (NUREG-1748)



Impact Significance (40 CFR 1508.27)

- Methods to determine significance
 - Threshold analysis
 - Regulatory Limit
 - Evaluate Methodologies
 - Do they make sense?
 - Standard methodology?
 - Comparison to similar actions
 - Consult with technical experts
 - Is uncertainty taken into consideration and propagated through analyses?





Other Safety Reviews and Consultations

- Ronald Reagan National Defense Authorization Act for fiscal year 2005 (NDAA) Section 3116(a) allows process similar to U.S. Department of Energy (DOE) Order 435.1 waste-incidental-to-reprocessing (WIR) to determine if waste is non-high-level waste (non-HLW)
- Limited to DOE facilities in South Carolina and Idaho; does not apply to waste shipped out of those states
- NDAA established a formal role for NRC
 - Consult with DOE on non-HLW determination/waste management plans – review of performance assessment
 - Monitor disposal actions taken by DOE for compliance with 10 CFR Part 61, Subpart C performance objectives – these include 25 mrem/yr whole body dose standard to future exposed individuals
 - Inform DOE, the affected state, and congress if any disposal actions taken by DOE are not in compliance



Other Safety Reviews and Consultations (con't)

- West Valley Demonstration Project in western New York State
 - Participation in core team process for Decommissioning EIS
 - West Valley Policy Statement
- Independent Spent Fuel Storage Installation (ISFSI) safety reviews and SER preparation
 - 10 CFR Part 72



Summary

- Overview presentation meant to provide context for health physics topics presented in this training course
- Separate presentation to follow to discuss 10 CFR Part 63 HLW regulations in detail
- H-415 course provides in-depth training on Licensing and Evaluation of a HLW Geologic Repository