



Judging The Safety Of A Repository At Yucca Mountain: How Will NRC Decide?

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Division of High-Level Waste Repository Safety**

September 23, 2008

Purpose

- Provide an overview of the role of the U.S. Nuclear Regulatory Commission (NRC) at Yucca Mountain
- Describe the process NRC will use to decide whether or not to authorize construction of a repository at Yucca Mountain
- Highlight important milestones and events during NRC's decision process
- Answer your questions

NRC's Role At Yucca Mountain

- Independent regulator, whose primary mission is to protect public health and safety and the environment
- Must decide whether or not to allow DOE to build the proposed repository
- If NRC grants authorization, NRC will provide inspection and oversight to assure DOE meets requirements
- If built as authorized, NRC will conduct another thorough safety review and hold more hearings to decide if DOE can safely receive and dispose of waste at the repository

Roles Of Other Agencies At Yucca Mountain

- Department of Energy (DOE)
 - Characterize site; prepare Environmental Impact Statement; prepare license application
 - Subject to NRC authorization: construct and operate the repository; provide long-term oversight
- Environmental Protection Agency (EPA)
 - Establish environmental standards that NRC must use to decide whether to authorize the potential repository

Who Makes The Decisions At NRC?

- Five NRC Commissioners
 - Appointed by the President
 - Confirmed by the Senate
 - At most 3 of any one political party
 - 5-year term of service
 - Chairman designated by the President

What Is The Role Of NRC's Professional Staff?

- Carry out applicable laws, and Commission regulations and policies
- Recommend safety, environmental, and security regulations
- Evaluate license applications and amendments
- Inspect applicants and licensees
- Communicate with the public about NRC's regulatory program

What Special Expertise Does NRC Have To Evaluate Repository Safety?

- Experienced NRC technical staff
- Independent contractor, Center for Nuclear Waste Regulatory Analyses (CNWRA)
- Facilities
 - Laboratories for independent investigations
 - Modeling and computing facilities
- Field studies and inspections
- On-site Representatives

Special NRC Expertise

- NRC and CNWRA Experts
 - Geochemists, Hydrologists, Climatologists
 - Chemical, Mechanical, Nuclear, Mining, Materials and Geological Engineers
 - Structural Geologists, Volcanologists
 - Health Physicists
 - Attorneys
 - Inspectors, Quality Assurance Engineers

On-Site Representatives Office

Location

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Phone

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Mailing Address

**U.S. NRC On-site
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Hours

7:00 am – 3:15 pm M-F



**Staff: Jack D. Parrott
Leonard Willoughby
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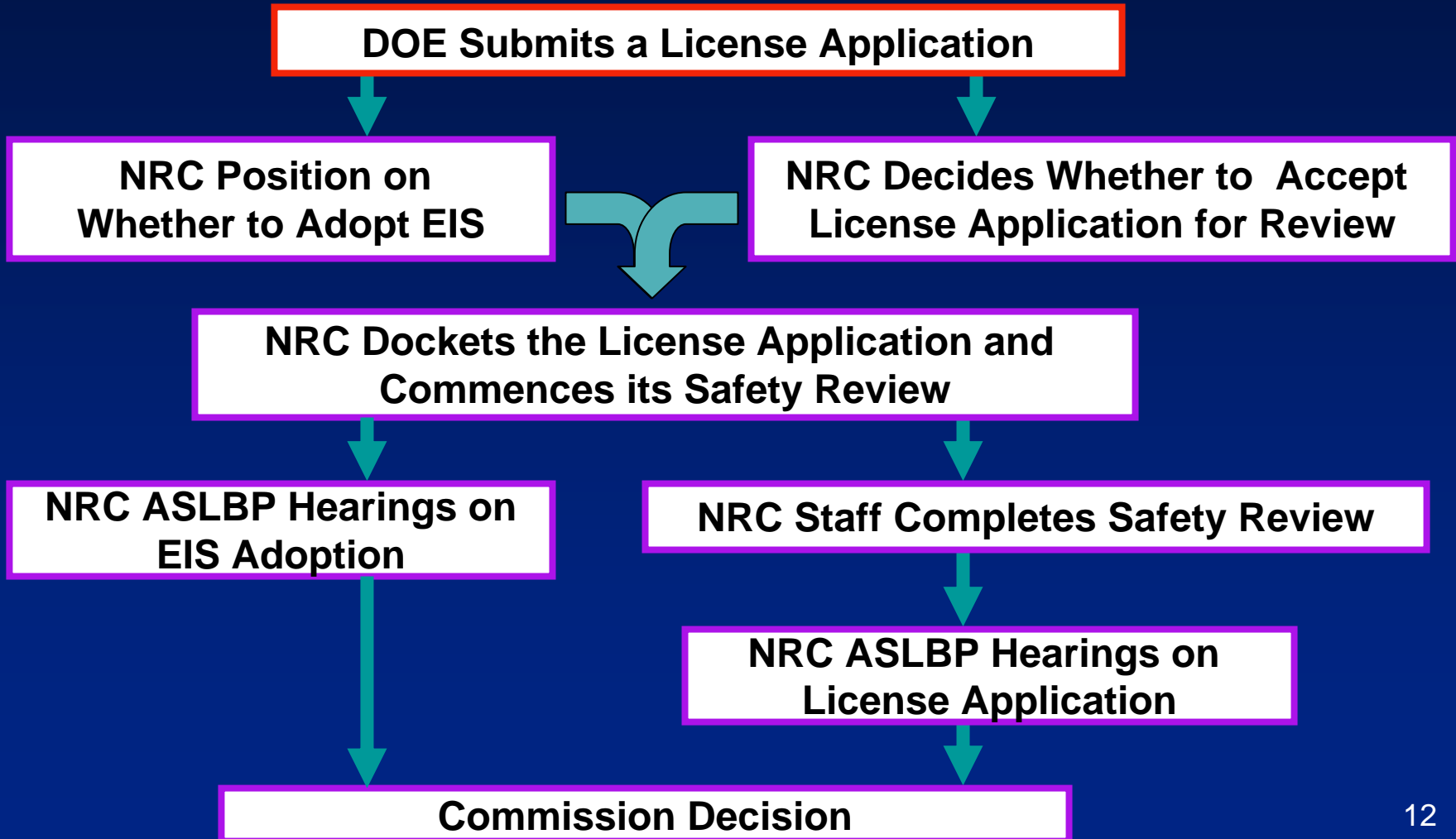
What Is The Atomic Safety And Licensing Board Panel (ASLBP)?

- Independent Adjudicatory Arm of NRC
- Acts as the Commission's "Trial Court"
- Authority Delegated by the Commission
- Hears cases in Licensing Boards of 3 Judges

What Is The Role Of The Hearing Boards?

- Hear and decide disputes regarding proposed NRC licensing actions
- Create a complete, accurate record of the proceeding so it can be fairly and efficiently reviewed by the Commission
- Decisions can be appealed to the Commission

Overview of NRC's Decision Process



NRC Must Decide Whether Or Not To Allow DOE To Construct A Repository At Yucca Mountain

- On June 3, 2008, DOE submitted an application for authorization to build a repository at Yucca Mountain
- On September 8, 2008, NRC staff
 - Accepted DOE's application for review
 - Opened docket 63-01
 - Announced decision to adopt DOE's EIS with further supplement
 - Issued Adoption Decision Report
- On September 15, 2008, NRC staff published a Notice of Docketing
- The Nuclear Waste Policy Act, as amended, provides for NRC to make this decision in three to four years

NRC Will Decide Whether To Deny Or Authorize Construction Of A Repository By...

- Reviewing all information objectively
- Making transparent decisions based on facts
- Maintaining an open, public, and fair adjudicatory process

Possible Outcomes

- NRC may deny the license application, or
- NRC may decide to authorize construction of the repository with or without specific conditions

Summary

- Any NRC decision on a potential license application for a repository will:
 - Be based on NRC staff's comprehensive, independent safety review
 - Include full and impartial public hearings that follow formal, well-established rules to ensure an open, objective decision



Initial Review Of The License Application For A Repository At Yucca Mountain:

NRC Staff Decision To Accept The Application For Review

**N. King Stablein, Branch Chief
Licensing and Inspection Directorate**

September 23, 2008

Purpose

To describe the NRC staff's initial review of the Department of Energy's license application (LA): process, results, and next steps

Outline

- What was the purpose of NRC's Docketing Review?
- How did we conduct our review?
- What criteria did we use?
- What were the results?
- What are the next steps?

Purpose of Docketing Review (Not a detailed technical review)

- Verify that the license application:
 - Contains all required information
 - Documents DOE's safety case
- Verify compliance with document access rules

How Did We Conduct Our Review?

- Team of staff and contractor experts headed by NRC managers
- Areas of expertise included:
 - Earth and Environmental Sciences, Engineering, Performance Assessment Modeling, Nuclear Criticality Safety, others
- Evaluated application against 33 criteria for completeness

What Criteria Did We Use?

- 29 specific technical criteria from NRC's regulations, ["Contents of Application" section] for example:
 - Demonstrates compliance with performance objectives?
 - Contains all required descriptions, schedules and analyses?
- 4 Generic criteria for the LA, for example:
 - Are methodology and supporting information sufficient for reaching a conclusion?
 - Are cited documents appropriate references?

What Were the Results?

- DOE's application is sufficiently complete such that NRC Staff can now begin a detailed technical review
- Application entered as 63-01 on NRC's docket on September 8, 2008
- Notice of Docketing published in the *Federal Register* on September 15, 2008

What Are the Next Steps?

- NRC Staff Completes Comprehensive Technical Review
 - Requests more information, if needed, from DOE
 - Conducts independent confirmatory analyses, as needed
 - Documents results in Safety Evaluation Report

Next Steps (cont.)

- Hearings on License Application
 - Formal trial-type hearings
 - DOE has burden of proof
 - State, Counties, Tribes, and other parties present evidence to support their issues or contentions
 - NRC staff testifies on its independent evaluation of safety

Questions?



Environmental Impact Statement For A Repository At Yucca Mountain: NRC Staff Review And Adoption Determination

**James Rubenstone, Branch Chief
Licensing and Inspection Directorate**

September 23, 2008

Purpose

To describe the NRC staff's review of the Department of Energy's Environmental Impact Statements (EISs): process, results, and next steps.

Outline

- Why does NRC review the EIS?
- What did we review?
- How did we conduct our review?
- What were the results?
- What are the next steps?

Why Does NRC Review the EIS?

- **National Environmental Policy Act (NEPA)**
 - Requires Federal agencies to develop an *Environmental Impact Statement* (EIS) for any major Federal action, to consider the action, the affected environment, and the potential impacts
 - NRC’s major action is, potentially, issuing a construction authorization for the high-level waste repository to DOE, if warranted after detailed NRC review of license application
- **Nuclear Waste Policy Act (NWPA)**
 - Requires DOE to develop the EIS for the proposed repository
 - Requires NRC to adopt DOE’s EIS “to the extent practicable” instead of developing its own EIS

NRC review of DOE’s license application and EIS are *separate* processes. The two documents have different (but complementary) purposes.

Why Does NRC Review the EIS? (Continued)

- **Requirements**

- Congress specified that NRC must adopt DOE's Environmental Impact Statement "to the extent practicable" (NWPA)
- NRC's regulations require NRC to adopt DOE's EIS unless:
 - NRC's licensing action differs from that in the license application in a way that may significantly affect the quality of human environment, **or**
 - significant and substantial new information or considerations make the EIS inadequate.

- **NRC Guidance**

- NUREG-1748, NMSS Environmental Review Guidance
- Adoption Determination Review Guidance

What Did We Review?

- The staff reviewed DOE's Environmental Impact Statements that characterize the affected environment, and assess impacts associated with the proposed repository:
 - 2002 Final Repository EIS
 - 2008 Final Supplemental Repository EIS
 - 2008 Rail Corridor Supplemental EIS
 - 2008 Rail Alignment EIS

What Did We Review? (Continued)

- All Yucca Mountain EISs and supplements were reviewed for potential NRC adoption
- Rail Alignment EIS exception
 - NRC staff reviewed only those parts incorporated by reference into the Supplemental Repository EIS (affected environment, impacts, mitigation measures)

How Did We Conduct Our Review?

- Team of staff experts on areas covered in EISs
- Earth and Environmental Sciences, Engineering, Transportation, Health Physics, Socioeconomics and Environmental Justice, Cultural Resources, Biology, Air Quality, Cumulative Impacts
- Examined the EISs, including responses to public comments and other available information (including License Application and other sources)

What Are the Results?

- NRC Staff Conclusions:
 - It is practicable for NRC to adopt the EISs, with supplementation
 - A supplement is needed, because DOE has not adequately characterized impacts of proposed action on groundwater, and from surface discharges of groundwater
- Review and conclusions are documented in our Adoption Determination Report

What Are the Next Steps?

- Public Hearings on NRC's Adoption of EISs
 - Commission will issue notice of hearing opportunity
 - 60 days for potential parties to file contentions
- Supplement to EISs
 - DOE must state whether it will prepare supplement
 - NRC will review supplement and decide on adoption
 - Hearings on supplement issues after its completion

Questions?

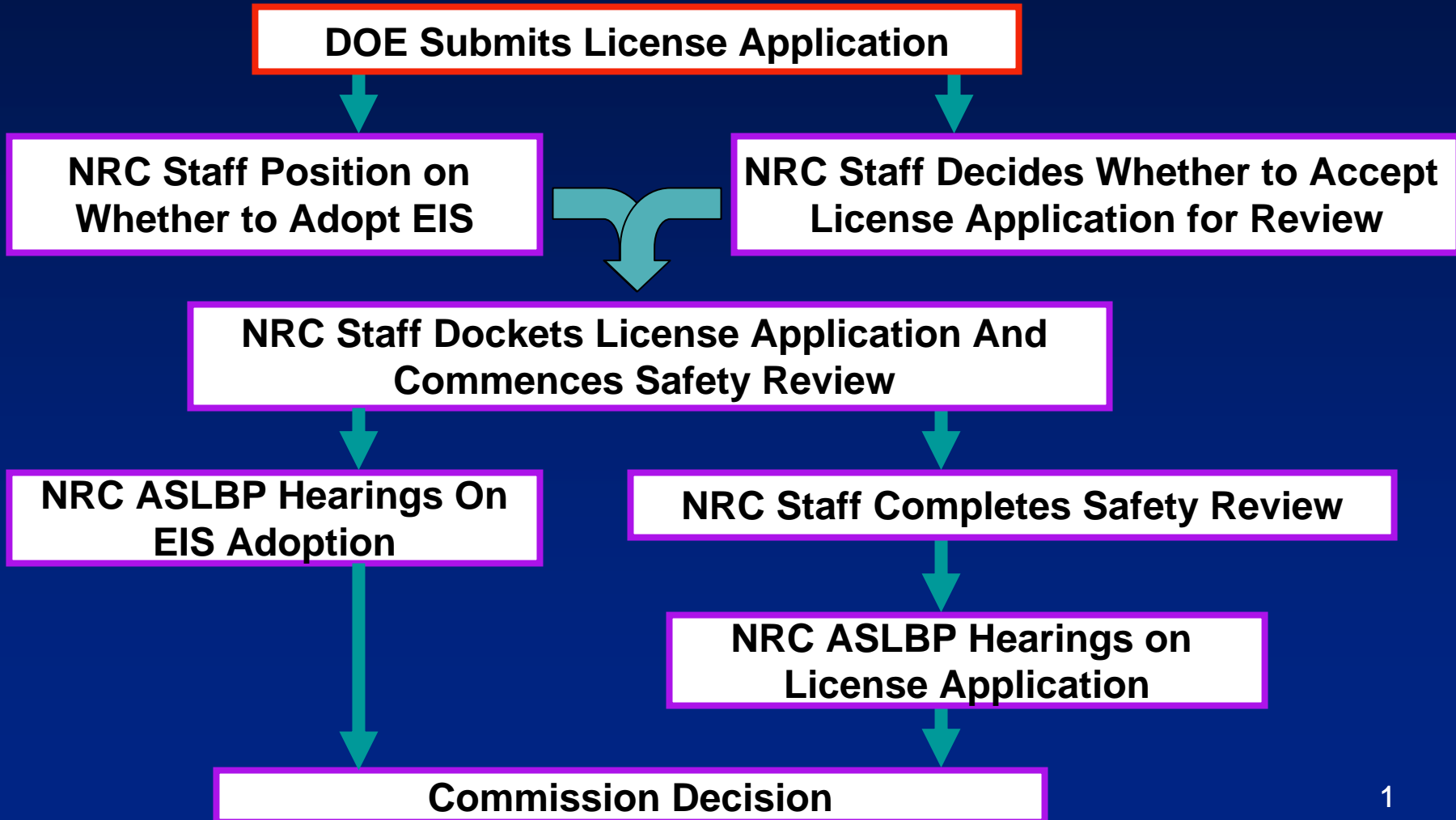


NRC's Decision Process: What are the steps?

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September 23, 2008

Overview of NRC's Decision Process



Who May Participate in the Hearings?

- NRC Staff
- Nye County
- Inyo County
- Churchill County
- Esmeralda County
- Lander County
- Mineral County
- Other Interested State, Tribal and Local Governments, if admitted
- DOE
- Timbisha Shoshone
- State of Nevada
- Clark County
- Eureka County
- Lincoln County
- White Pine County
- Other potential parties, if admitted

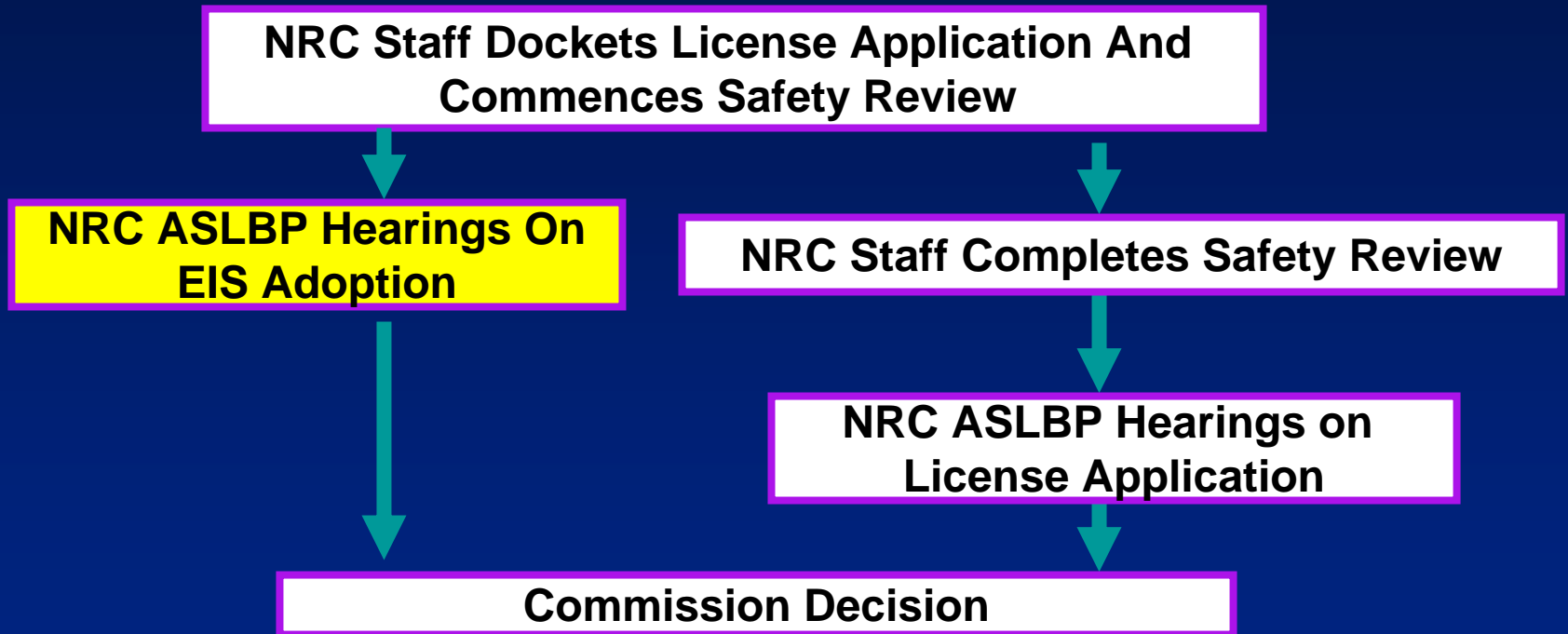
Who May Be A Party?

- Anyone who can demonstrate that they have an interest that may be affected by the outcome of the proceeding (*i.e.* standing)
- Submits one or more admissible contentions
- Parties (also called “intervenors”) are admitted by the hearing board

What Is A Contention?

- Legal or factual issue (e.g., safety or environmental dispute) that petitioner wants decided. It must
 - Be specific
 - Be supported (e.g., by documents or expert opinion)
 - Demonstrate a dispute with DOE on a factual or legal issue
 - Be within the scope of the proceeding
- Usually, a contention alleges applicant failed to satisfy some legal or regulatory requirement
- ASLB rules on admissibility based on established criteria
- Must be filed within 60 days after Notice of Hearing

Hearings On EIS Adoption



Initial Decision Will Be Issued By ASLB

- Written decision on matters in controversy in the proceeding
- Findings of fact and conclusions of law based on record of the proceeding
 - Exhibits
 - Transcript of testimony
 - Rulings on legal issues
- May be appealed to the Commission
- Commission issues final ruling

Summary

Any NRC decision on a potential license application for a repository will be based on the public record developed during full and impartial public hearings that follow formal, well-established rules to ensure an open, objective decision