



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

**Lawrence E. Kokajko, Director  
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

**1551 Hillshire Drive Suite A  
Las Vegas, NV 89134**

### Phone

**(702) 794-5053**

### Mailing Address

**U.S. NRC On-site  
Representatives Office  
P.O. Box 371048  
Las Vegas, NV 89137-1048**

### Hours

**7:00 am – 3:15 pm M-F**



**Staff: Jack D. Parrott  
Leonard Willoughby  
Vivian Mehrhoff**

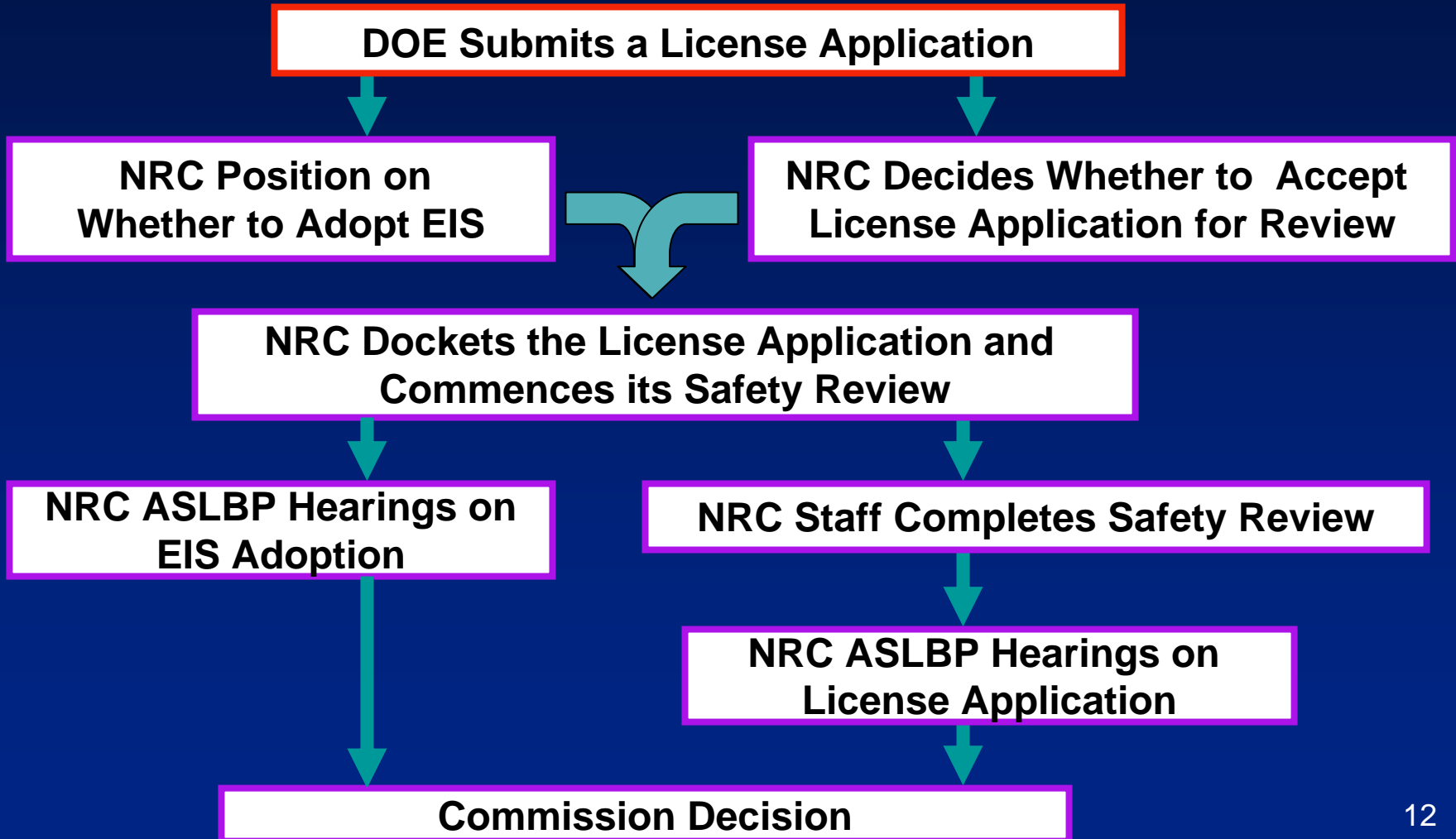
## **What Is The Atomic Safety And Licensing Board Panel (ASLBP)?**

- 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?

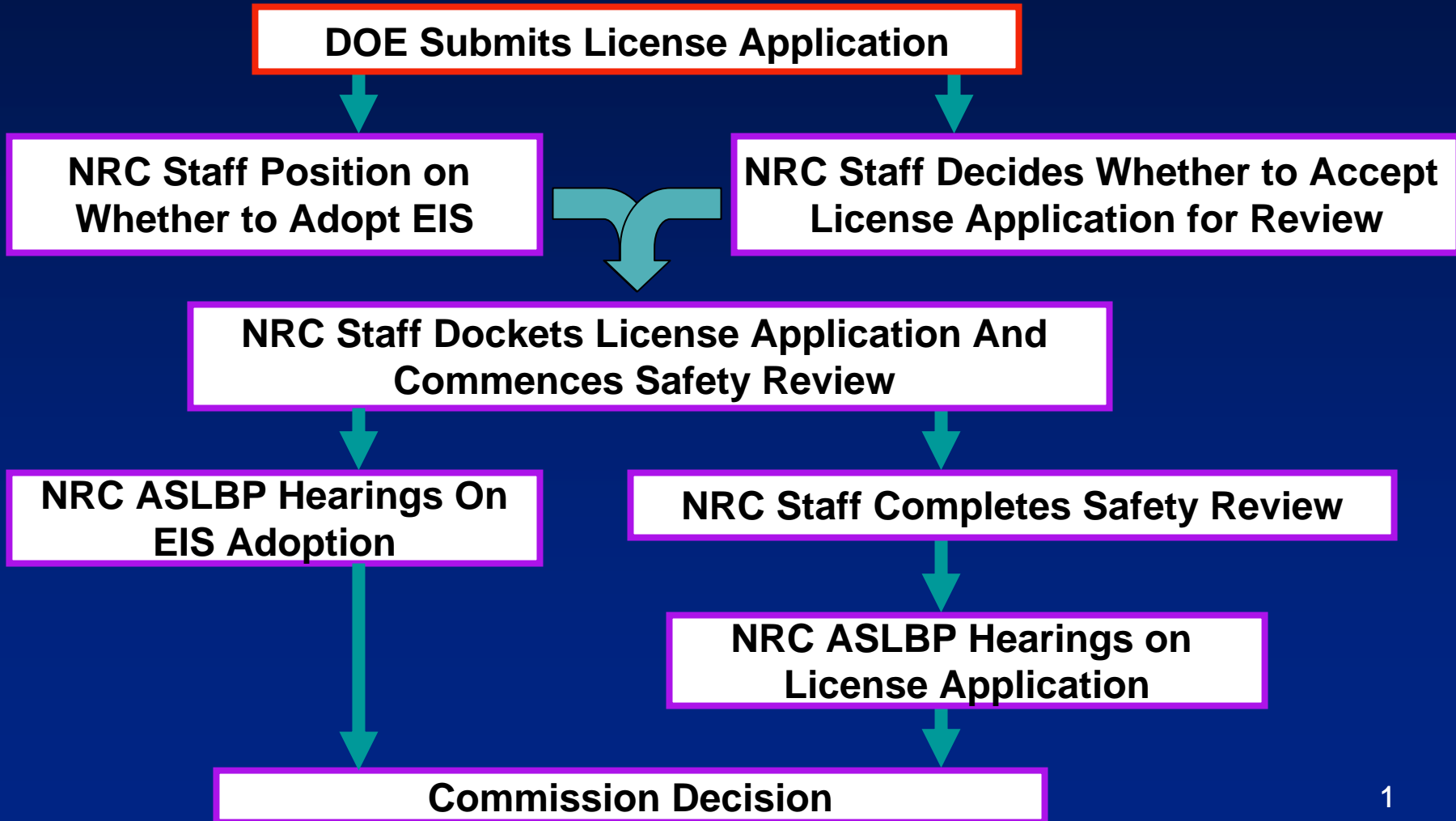


# **NRC's Decision Process:** What are the steps?

**Janet P. Kotra, Senior Project Manager**  
**Division of High-Level Waste Repository Safety**

**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



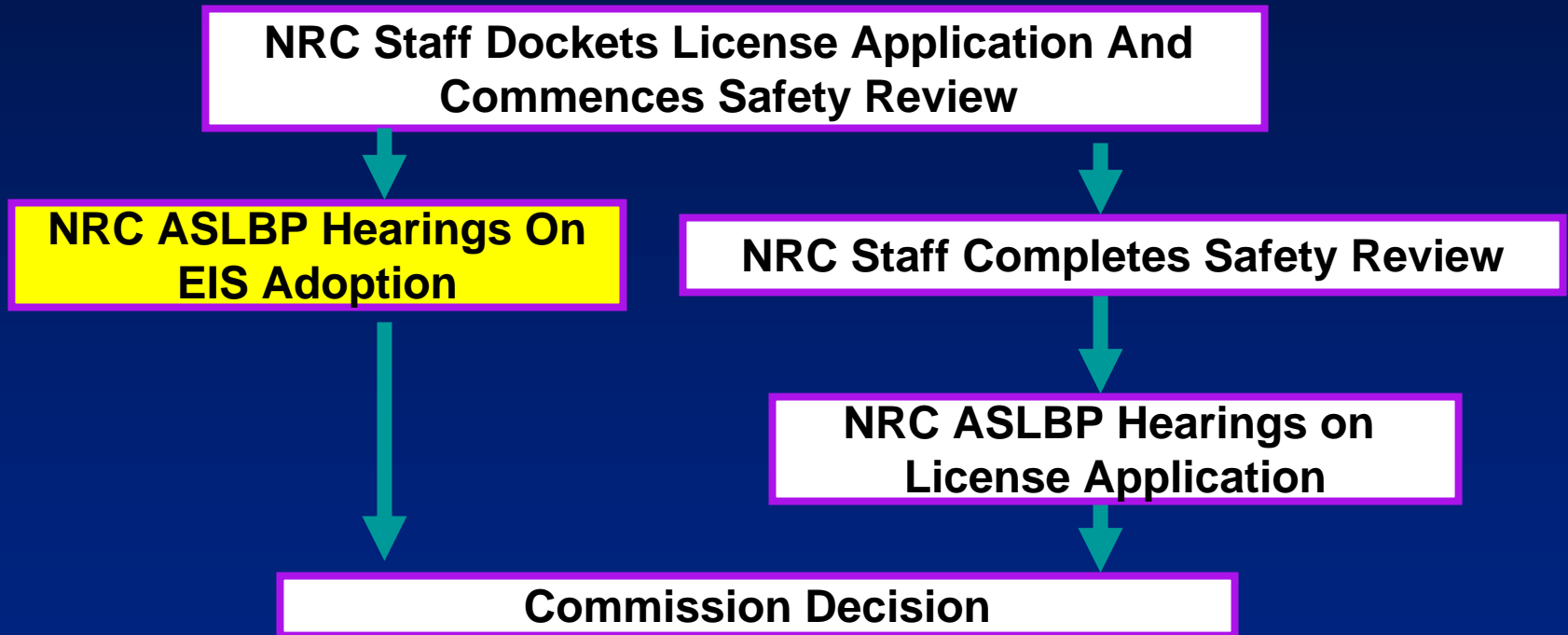
## Who May Be A Party?

- 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