



NRCR00120

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# **Eagle Rock Enrichment Facility Mandatory Hearing**

January 25, 2011

NRC Staff Presentation for Topic # 4  
Commitment Follow-up and Tracking

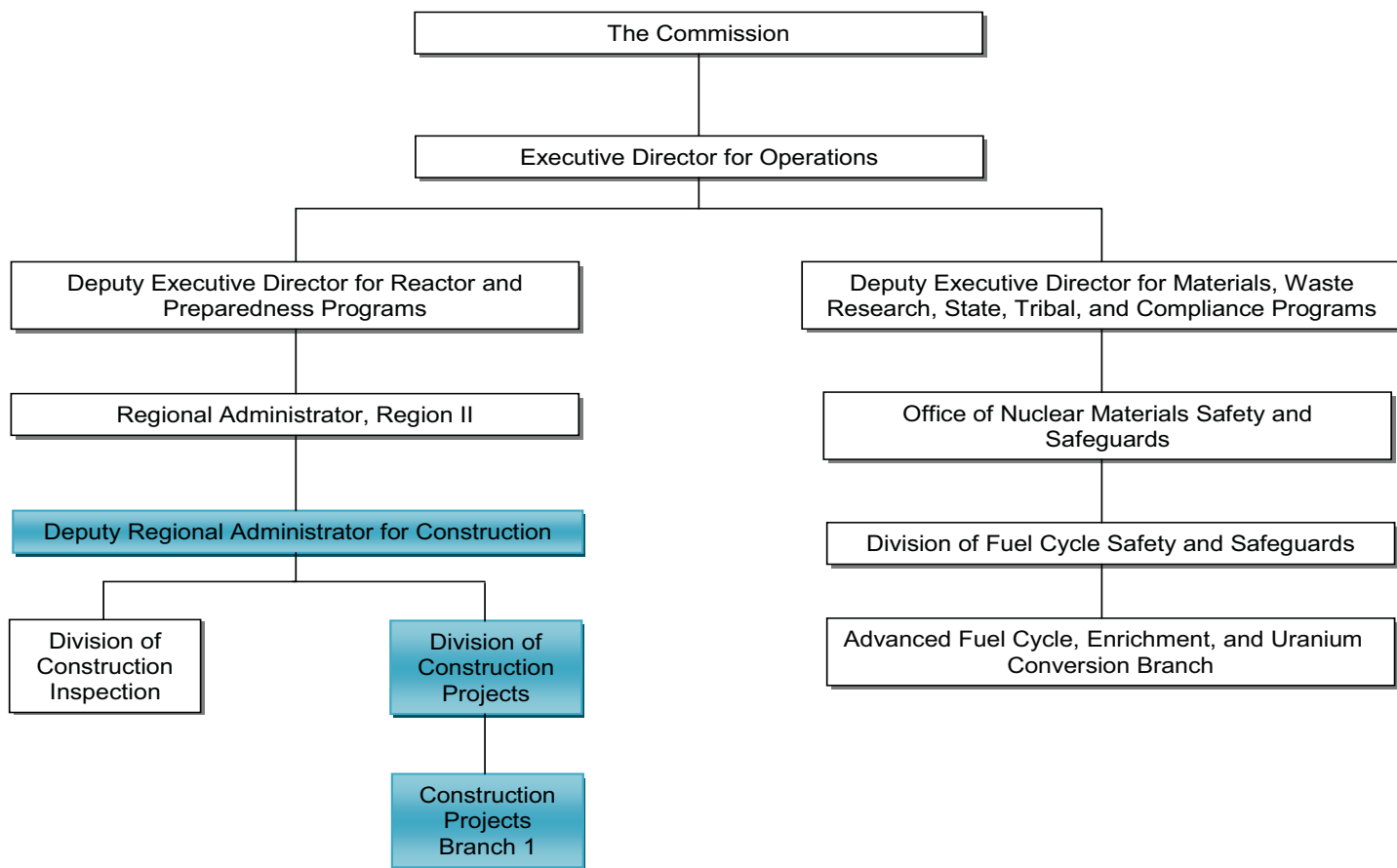


Presenter:

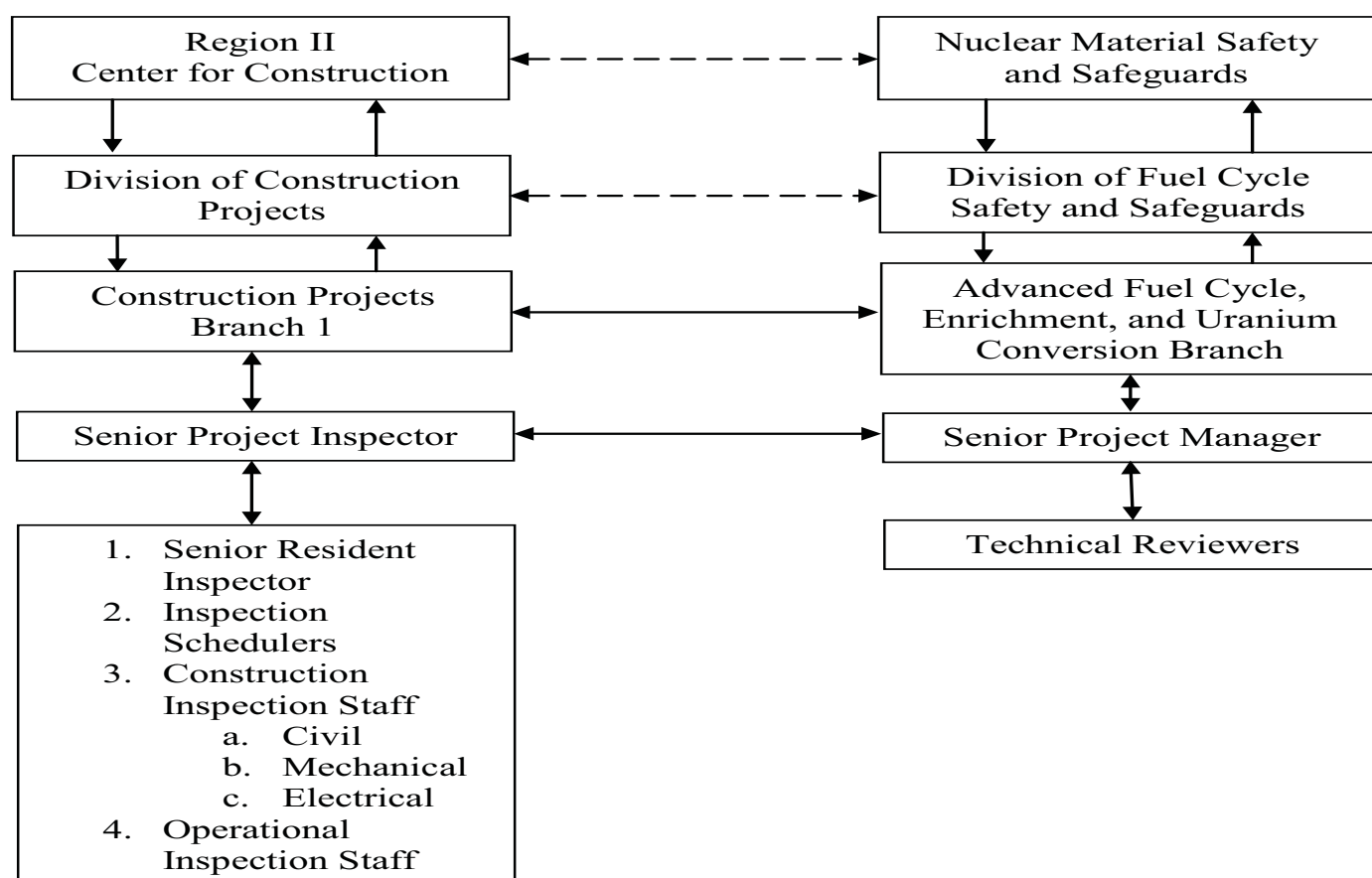
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# NRC Management Structure



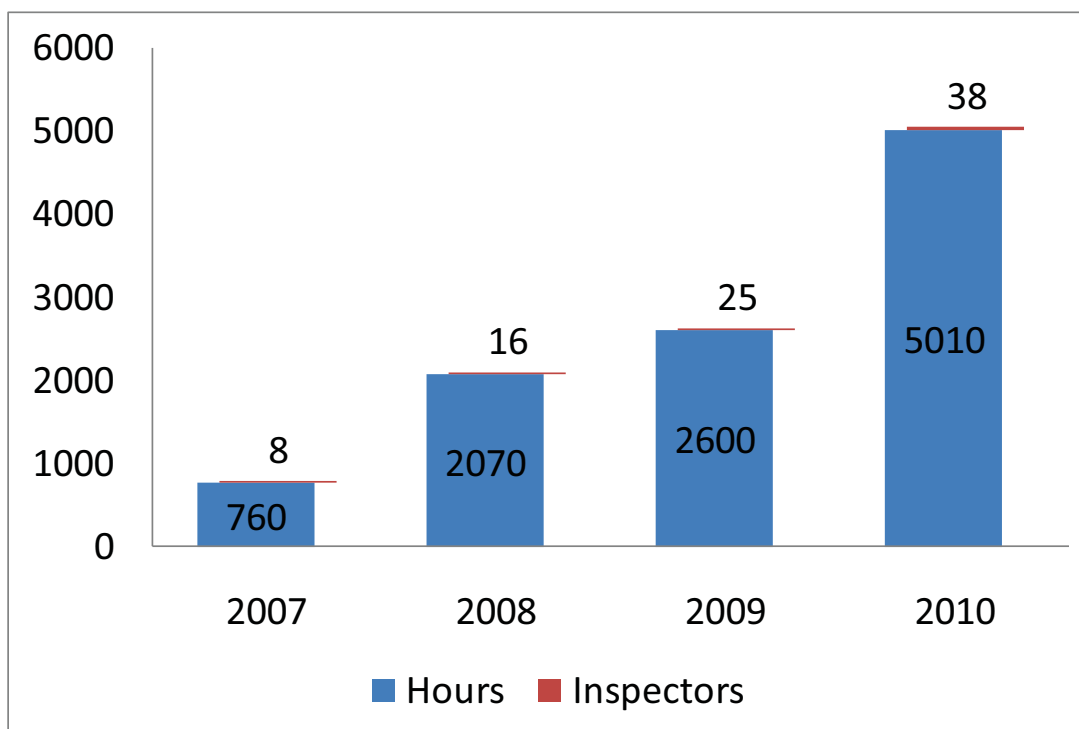
## NRC Management Structure





- Program Management Responsibilities
  - Inspection Manual Chapter addressing fuel facility construction
    - e.g, LES NEF – IMC 2696 (NRC000123), MOX – IMC 2630 (NRC000124)
  - RII is responsible for the planning, performance, documentation, and enforcement associated with the fuel facility construction inspection program.

## Inspection Resources for LES NEF



**2007- 2010 LES NEF Total Inspection Hours: 10,448 hrs**  
**Project Management and NMSS Resources Not Included**



# Construction Schedule Planning Process for EREF

- Verify EREF Construction Schedule Includes:
  - Items Relied on for Safety (IROFS)
  - Quality assurance construction activities (vendor oversight activities, testing activities, commercial grade dedication activities)
- Develop and Implement NRC Construction Inspection Schedule
  - Internal scheduling and planning meetings
  - Inspector resource loading



# Construction Schedule Planning Process for EREF (continued)

- Inspection Planning Process
  - Identify program requirements
  - Review AES construction schedule and identify important items for inspection sample
  - Develop NRC construction inspection schedule
  - Develop the inspection plans
  - Conduct and document inspections





## Requirements and Training for Inspectors

- Construction Inspection Staff Qualification Program
  - Specified in Inspection Manual Chapter 1252 (NRC000122)
- Inspection Staff Training
  - Inspector counterpart meetings
  - Lessons Learned
    - Internal
      - Comanche Peak
      - Crystal River containment
    - External
      - Department of Energy lessons learned from design and construction projects
      - International reactor construction projects (China, Finland, France)
  - Technical Training
    - Quality Assurance
    - Discipline-specific codes courses
    - Discipline-specific technical training courses



## Time Schedule for Construction and Operational Readiness Review (ORR) Inspections

- The inspection process is detailed in an IMC.
- The construction inspections will start after the license is issued when the licensee commences safety-related construction activities.
- The completion of the construction inspections and the ORR inspections will be determined by the construction schedule.
- Staff expects that the time schedule for completing the EREF process will be less than the NEF process based on lessons learned



## Coordination (Communication) with AES

- Periodic Schedule Updates
  - Status meetings (track changes to schedule)
    - Frequent internal NRC communications (Region II, NMSS)
    - Frequent external communications with AES
  - Periodic management meetings with AES
  - Performance reviews



## Methodology for Compiling and Updating Commitments

- Inspection of Items Relied on for Safety (IROFS)
  - Approximately 100 IROFS identified for EREF
  - IROFS prioritized by NMSS technical staff
  - Inspections based on sampling
  - Sample size is expanded if problems are identified
- Operational Readiness Reviews (ORRs)
  - Required by license condition
  - Performed before the authorization to commence operations
  - Inspections performed in phases
    - Safety program readiness
    - System, facility, component, and equipment readiness as associated with requirements and IROFS
- Inspection findings are documented in inspection reports for tracking and follow-up



## Methodology for Compiling and Updating Commitments (continued)

### Passive Engineered IROFS

IROFS #	TYPE	DESCRIPTION	INSP TYPE
27e	Pass	SBMs capable of withstanding external affects of seismic, tornado, high wind, snow load, roof ponding, and site flooding to ensure chemical release within the requirements of 10 CFR 70.61	CONST
41	Pass	SBM leak integrity during seismic event in conjunction with HVAC trip.	CONST

## Methodology for Compiling and Updating Commitments (continued)

### INSPECTION STATUS

CONSTRUCTION		OPERATIONAL READINESS	
AREA	OPEN ITEMS/ISSUES	AREA	OPEN ITEMS/ISSUES
Civil Inspections (IROFS 27e)	None	Emergency Preparedness Transportation Waste Management Maintenance and Surveillance Environmental Protection Radiation Protection	None.
Electrical&C Inspections (IROFS 1, 2, 4, & 5)	CCI/DFEI will review licensee's commissioning testing package in-office once complete. Review completed 5/7/10	Facility Changes and Change Processes	Complete review of §0.72 FACILITY CHANGES AND CHANGE PROCESS CCI/DFEI will conduct in-office reviews of 10 CFR 70.72 changes in each area
Mechanical Inspections (IROFS 41)	Once licensee implements corrective actions, CCI will conduct in-office review. <ul style="list-style-type: none"><li>Completion of corrective actions on upper steelwork</li><li>Commercial grade dedication</li><li>Pipe hanger installation issue corrective actions</li><li>Corrective actions associated with inadequate QL-1 installation of lower steel (shim issue)</li><li>Closure of NOV's</li></ul>	Training and Qualifications Organization and Controls Physical Security Classified Networks	None
		Material Control and Accounting	None
		Fire Safety	Inspection follow-up needed, scheduled week of 5/10
		Operations and Chemical Safety	<ul style="list-style-type: none"><li>Enrichment limits</li><li>Enrichment limits</li><li>Cylinder overfill</li></ul>
		Criticality Safety	Once licensee implements corrective actions, NMSS will conduct in-office review. <ul style="list-style-type: none"><li>Review design assumption used safe-by-design analyses</li></ul>

Key: **RED** – Area requires one week or more inspection to complete.  
**ORANGE** – Area requires some follow-up inspection. Expect less than one week effort.  
**GREEN** – Area requires no follow-up inspection or review for FCOL.



## The Process for Resolving Disputes

- Operations are not authorized by the NRC until the Commission verifies through inspection that the facility has been constructed in accordance with the requirements of the license (10 CFR 70.32(K))
- When a safety requirement is potentially not met by the licensee:
  - Discussions with the licensee during the inspection process
  - Discussions with RII technical specialists and management
  - Discussions with the Program Office
- These discussions include evaluating the findings for enforcement
- Findings are documented in NRC inspection reports



## Lessons Learned from Previous Fuel Facility Construction Activities (LES NEF and the MOX FFF)

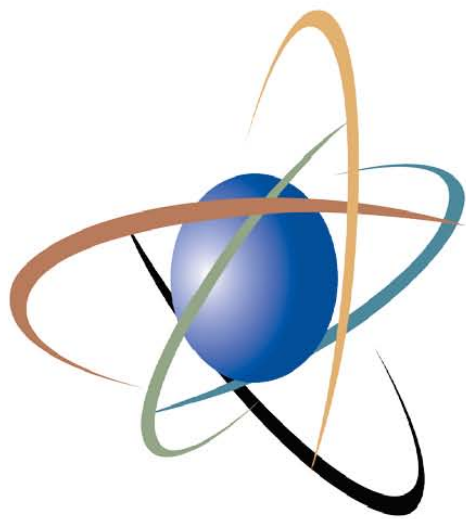
- Robust Communication
- Value of a Construction Resident Inspector
- Advantage of Finalized Design
- Adequate Resource Planning
- Early Program Reviews





## Conclusions

- Operations will not be authorized by the NRC until the Commission verifies through inspection that the facility has been constructed in accordance with the requirements of the license, as required by 10 CFR 70.32(k).
- The RII Center for Construction Inspection has the management structure, processes, tools, training, and resources needed to verify that the EREF is constructed in accordance with their license requirements.
- All needed inspections will be scheduled and conducted.



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