



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-4005

December 20, 2004

Jeffrey S. Forbes  
Vice President Operations  
Arkansas Nuclear One  
Entergy Operations, Inc.  
1448 S.R. 333  
Russellville, AR 72801-0967

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 2 - NRC LICENSE RENEWAL SCOPING  
AND SCREENING INSPECTION AND AGING MANAGEMENT REVIEW  
INSPECTION EXIT MEETING

Dear Mr. Forbes:

This refers to the meeting conducted in the Region IV office on 14 December, 2004. This meeting related to the Arkansas Nuclear One, Unit 2, License Renewal Application Scoping and Screening Inspection and Aging Management Review Inspection.

During this meeting, the NRC presented the overall conclusions of the team inspection to G. Young and members of your staff. Enclosed is a copy of the NRC slides used during the presentation. After the conclusion of the exit meeting, the NRC representatives answered questions from the public related to the presentation.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/readingrm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this matter, we will be pleased to discuss them with you.

Sincerely,

/RA/

Linda J. Smith, Chief  
Plant Engineering Branch  
Division of Reactor Safety

Enclosure:

1. Attendance List
2. NRC Presentation

Entergy Operations, Inc.

-2-

cc:

Dockets: 50-368

Licenses: NPF-6

cc w/enclosures:

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 DRP Director **(ATH)**  
 DRS Director **(DDC)**  
 DRS Deputy Director **(GLS)**  
 Senior Resident Inspector **(RWD)**  
 Branch Chief, DRP/D **(TWP)**  
 Senior Project Engineer, DRP/D **(CJP)**  
 Team Leader, DRP/TSS **(RVA)**  
 RITS Coordinator **(KEG)**

☐ No      Initials: \_\_\_\_\_

ADAMS: ☒ Yes

☒ Publicly Available   ☐ Non-Publicly Available   ☐ Sensitive   ☒ Non-Sensitive

OE:OB	SRI:PEB	C:PEB		
JDrake/lmb	RLNease	LJSmith		
/RA/	/RA/	/RA/		
12/17/04	12/20/04	12/20/04		

OFFICIAL RECORD COPY

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## ENCLOSURE 1

MANAGEMENT MEETING ATTENDANCE		
<b>LICENSEE/FACILITY</b>	Entergy Operations, Inc. Arkansas Nuclear One Unit 2	
<b>DATE/TIME</b>	December 14, 2004 6 - 6:35 p.m.	
<b>CONFERENCE LOCATION</b>	Arkansas Nuclear One Reeves E. Ritchie Training Center Auditorium Junction of Hwy. 64W and Hwy 333 South Russellville, AR 72801	
<b>NAME (PLEASE PRINT)</b>	<b>ORGANIZATION</b>	<b>TITLE</b>
G. Young	Entergy Operations, Inc.	Manager
P. Fisher	Entergy Operations Inc.	Sr. Comms. Specialist
L. Young	Entergy Operations, Inc.	Consulting Engineer
M. Stroud	Entergy Operations, Inc.	ANO-2 Project Manager
N. Mosher	Entergy Operations, Inc.	Licensing Engineer
R. Ahrable	Entergy Operations, Inc.	Civil/Structural Lead
R. Rucker	Entergy Operations, Inc.	License Renewal
A. Taylor	Entergy Operations, Inc	License Renewal
J. Penix	The Courier	Reporter
L. Smith	NRC	Branch Chief
R. Nease	NRC	Senior Reactor Inspector
E. Crowe	NRC	Resident Inspector
G. Suber	NRC	Project Manager
J. Drake	NRC	Operations Engineer

ENCLOSURE 2

NRC SLIDE PRESENTATION

# License Renewal For ARKANSAS NUCLEAR ONE Unit 2



# License Renewal For ARKANSAS NUCLEAR ONE Unit 2

**Linda Smith**

**Rebecca Nease**

**Jim Drake**

**Branch Chief**

**Co Team Leader**

**Co Team Leader**



# License Renewal Inspection Program Implementation

- License Renewal Manual Chapter—MC2516
- Inspection Procedure—IP 71002
- Site-specific Inspection Plan







# License Renewal Inspections

## In Support of the Pilot Review Program

- Scoping and Screening Inspection
  - One week Team Inspection
  - 1 – 5 March 2004
- Aging Management Review Inspection
  - Two week Team Inspection
  - 1- 5 November and 15 – 19 November 2004
- Third Inspection –
  - Date to be determined
  - Open items from Aging Management Review Inspection





# License Renewal Regulations

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- 10 CFR Part 54 License Renewal Application
  - 10 CFR 54.4 Defines the Scope
  - 10 CFR 54.21 Describes the Structures, Systems, and Components whose aging effects must be managed
    - Requires the aging effect to be identified
    - Requires a program that manages the effects of aging



# License Renewal Scope

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- 10 CFR 54.4 Scope
  - (a) (1) Safety-related structures, systems, and components needed during certain postulated events
  - (a)(2) Non-Safety-related structures, systems, and components whose failure could prevent the safety-related structures, systems, and components from performing their functions



# License Renewal Scope

- (a)(3) Structures, Systems, and Components that are necessary to mitigate the following regulated events
  - Fire Protection (10 CFR 50.48)
  - Environmental Qualification (10 CFR 50.49)
  - Pressurized Thermal Shock (10 CFR 50.61)
  - Anticipated Transients without SCRAM (10 CFR 50.62)
  - Station Blackout (10 CFR 50.63)



# Scoping and Screening Inspection

**Inspection Leader: Rebecca Nease**

## **Inspection Team Members**

Tom McKernon

Eddy Crowe

Jim Drake

Greg Suber



# License Renewal Inspections

## Scoping and Screening Inspection

- Objective: to confirm that the applicant has included Structures, Systems, and Components in the scope of license renewal as required by the rule
- Resources: 3 regional inspectors  
1 resident inspector  
1 headquarters inspector
- One week in length: March 1 – 5, 2004

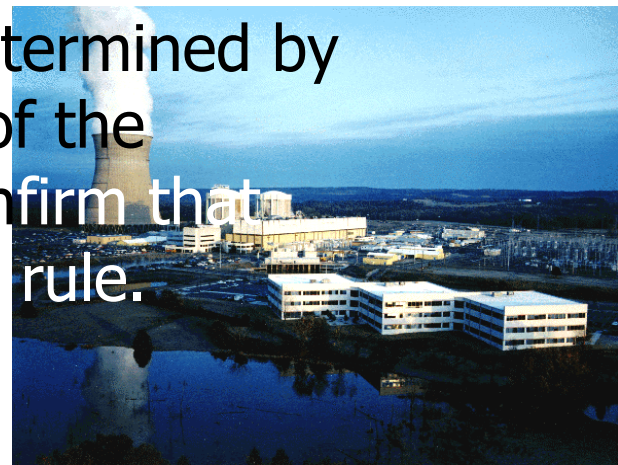






# Scoping and Screening Inspection Results

- 20% of the systems and structures that were determined by the Applicant to be in scope
  - Selection was risk based
    - 30 mechanical systems
    - 16 electrical systems
    - 12 structures and commodities
  - 9 Systems and structures that were determined by the Applicant to be outside the scope of the License Renewal were inspected to confirm that the methodology for exclusion met the rule.





# Scoping and Screening Inspection Results

Conclusion: Scoping and screening process was successful in identifying those Structures, Systems, and Components requiring an aging management review.

- Two items brought into scope:  
Spent Fuel Pool Cooling Pumps  
Switchyard Control House

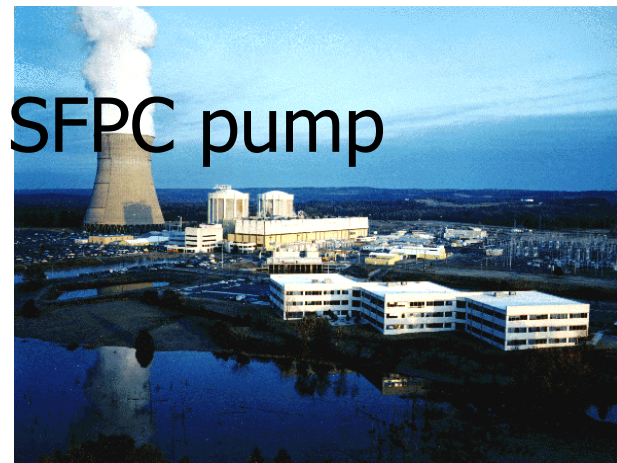






# Scoping and Screening Inspection Results

- Spent Fuel Pool Cooling Pumps
  - SFPC Pump casing could fail and spray water on the EFW Pump inlet isolation and bypass valves. This could cause valves to fail and interrupt steam flow to the TD EFW Pump.
  - Applicant agreed to include the SFPC pump casing.





# Scoping and Screening Inspection Results

## ■ Switchyard Control House

- The applicant included the SUT breaker cables, however did not include the cables' supporting structure.
- Applicant agreed to include the entire structure.





# Scoping and Screening Inspection Results

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- Results of this inspection were documented in Inspection Report 2004-06





# Scoping and Screening Inspection Summary

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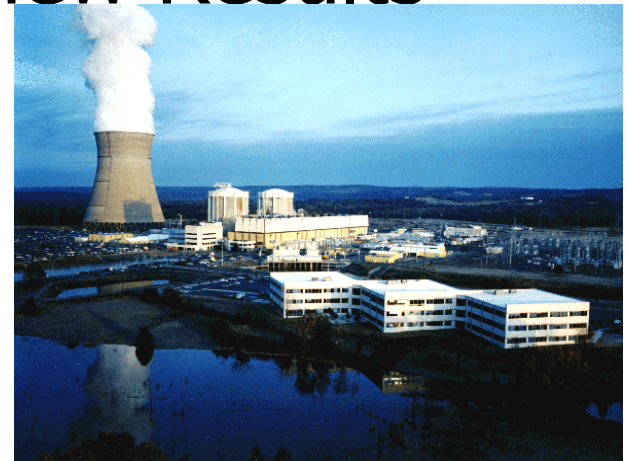
- Scoping and screening methodology is adequately described and justified in the LRA and satisfies the requirements of 10 CFR 54.4 and 10 CFR 54.21(a)(1).
- Scoping and screening review results found that the SSCs within the scope of license renewal, as required by 10 CFR 54.4(a) and those subject to an AMR, as required by 10 CFR 54.21(a)(1), have been identified.



# License Renewal Inspections

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- **Aging Management**
- Aging Management Review Results







# Aging Management Review Inspection

## Inspection Leaders:

**Rebecca Nease**

**Jim Drake**

## Inspection Team Members

Tom McKernon

Caudle Julian

Eddy Crowe

Tom Nazario

Greg Suber



# License Renewal Inspections

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## Aging Management Review Inspection

- Objective: to confirm that applicant has implemented or plans to implement AMPs to manage aging effects for in-scope SSCs
- Two weeks: November 1–5 and 15–19, 2004
- Results will be summarized in Inspection Report 2004-07



# Aging Management Review Inspection Scope



- A sample of the Aging Management Programs were selected for review
  - Based on risk significance
  - NRC staff review
  
- Closure of Open Items from the Scoping and Screening inspection (2)







# Aging Management Review Inspection Results

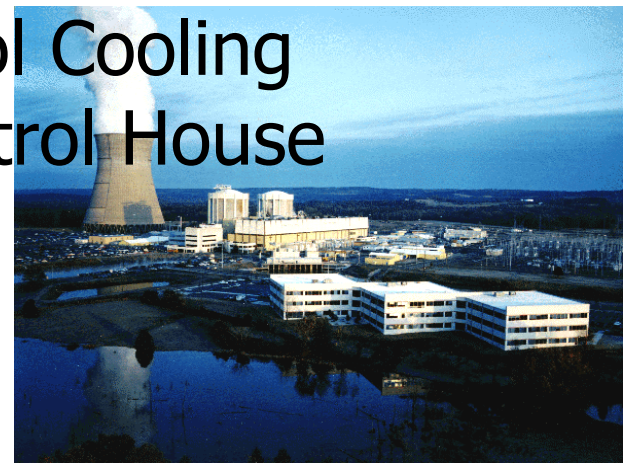
- 19 Aging Management Programs were selected for review
  - Selection included:
    - 13 Mechanical Aging Management Programs
    - 2 Electrical Aging Management Programs
    - 4 Structures and Commodities Aging Management Programs





# Aging Management Review Inspection Results

- Open Items from the Scoping and Screening Inspection
  - Verified that the Scoping and Screening was done in accordance with the Safety Evaluation Report
  - Verified that the Spent Fuel Pool Cooling Pumps and the Switchyard Control House were brought in scope





# Aging Management Review Inspection Results

- Aging Management Programs needing enhancements
  - Water Chemistry-
  - Systems Walk down-
  - Alternate AC Diesel Air Start Aging Management Inspection-





# Aging Management Review Inspection Results

- Open Items from the Aging Management Review Inspection
  - 10 CFR 54.49 EQ program to control aging effects of cables not in a harsh environment
    - Referred to NRR
  - Spare parts stored in warehouse for Fire Protection use
    - Referred to NRR





# Aging Management Review Inspection Results

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- Open Items from the Aging Management Review Inspection
  - Non-EQ medium voltage cables Aging Management Program.
    - Referred to NRR
  - DIPM review resulted in methodology.
  - Inspectors concluded that proper SSC's were included in scope.
    - Follow up inspection needed to verify SSC's and corresponding AMR's.





# Aging Management Review Summary

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## **In General:**

- The applicant identified the appropriate aging mechanisms and aging effects
- The applicant's aging management programs, existing and proposed, will properly manage aging effects so that intended functions are maintained throughout the period of extended operation.



# Open Item Inspection

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- Short Inspection to close open items from Aging Management Review Inspection
- Date to be determined – anticipated January 2005



# License Renewal For ARKANSAS NUCLEAR ONE Unit 2

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- Application Dated October 14, 2003
- Draft SER issued November 5, 2004
- Final SER to be completed May 5, 2005
- If approved, Renewed License will be issued by August 18, 2005





# License Renewal Inspection

## Are there any

# Questions?

