



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

NOV 10 1999

C. Randy Hutchinson, Vice President
Operations
Arkansas Nuclear One
Entergy Operations, Inc.
1448 S.R. 333
Russellville, Arkansas 72801-0967

SUBJECT: LICENSE RENEWAL PROJECT SUMMARY MEETING

Dear Mr. Hutchinson:

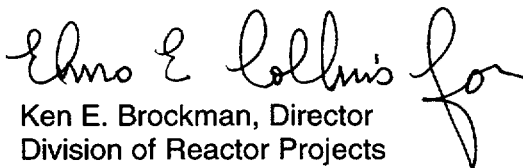
This letter documents the meeting conducted in the Region IV office on November 4, 1999, to discuss the Arkansas Nuclear One (ANO), Unit 1, forthcoming license renewal request. This meeting was open for public observation. A list of meeting attendees is included as Enclosure 1.

During this meeting, your staff provided an overview of ANO's license renewal project to continue operating ANO Unit 1 for an additional 20 years (to 2034) beyond the end of the current operating license. The discussion of the proposed request by ANO personnel was very useful. A copy of the ANO's presentation is included as Enclosure 2.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter will be placed in the NRC's Public Document Room.

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

Sincerely,


Ken E. Brockman, Director
Division of Reactor Projects

Docket Nos.: 50-313
50-368
License Nos.: DPR-51
NPF-6

Enclosures:

1. Attendance List
2. ANO Presentation

PDR ADOCK

Entergy Operations, Inc.

-2-

cc w/enclosures:

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& Chief Operating Officer
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bcc to DCD (IE45)

bcc distrib. by RIV:

Regional Administrator

DRP Director

DRS Director

Branch Chief (DRP/D)

Project Engineer (DRP/D)

Branch Chief (DRP/TSS)

Resident Inspector

RIV File

RITS Coordinator

DOCUMENT NAME: R:_ANOVAN11-4MS.DRP

To receive copy of document, indicate in box: "C" = Copy without enclosures "E" = Copy with enclosures "N" = No copy

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PHHaire	KEBrockman						
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ENCLOSURE 1

MEETING: LICENSE RENEWAL PROJECT SUMMARY MEETING

DATE: November 4, 1999

**ATTENDANCE LIST
(PLEASE PRINT CLEARLY)**

NAME	ORGANIZATION	POSITION TITLE
C. Turk	Entergy	Manager, Design Engineering
D. James	Entergy	Manager, Nuclear Safety
G. Young	Entergy	Design Engineer
C. Anderson	Entergy	General Manager - Plant Operations
R. Hutchinson	Entergy	Vice President - Operations
C. Johnson	NRC	Senior Reactor Inspector
E. Collins	NRC	Deputy Director, Division of Reactor Projects
P. Harrell	NRC	Branch Chief, Branch D
E. Merschoff	NRC	Regional Administrator

ENCLOSURE 2

ANO-1
License Renewal Project
Summary

November 4, 1999

Entergy Operations, Inc.



Entergy

Presentation Overview

- ***Background***
- ***Entergy's Purpose/Objectives***
- ***ANO-1 License Renewal Project Overview***
- ***Current Status of Project***
- ***Future Plans***



Entergy

Background

- *ANO-1's current license expires in May 2014*
- *10CFR54 allows the renewal of an operating license for an additional 20 years*
- *ANO-1 plans to request such a renewal by filing a license renewal request in December 1999*
- *When approved, the renewed license would allow continued operation until May 2034*



Entergy

Entergy's Purpose

The purpose of Entergy's license renewal project is to provide the option to continue operating Arkansas Nuclear One, Unit 1, for an additional 20 years beyond the end of the current operating license.



Entergy

Entergy's Objectives

- ***Follow and implement relevant lessons learned from the BG&E and Duke application review process***
- ***Coordinate with NRC to help ensure the ANO-1 application preparation and subsequent application review process are effective, efficient, timely, and predictable***
- ***Achieve a more efficient and timely license renewal based on improved guidance resulting from the BG&E and Duke experience***



Entergy

Project Overview

- ***Industry Participation***

- ***ANO has participated in B&W Owners Group (BWOOG) Generic License Renewal Program (GLRP) since 1992***

NRC review of RCS Piping, Pressurizer, Reactor Vessel and RV Internals Aging Management Reports were done generically

- ***Participating in the NEI and EPRI License Renewal efforts on generic issues***

Current efforts include resolving generic license renewal issues, work on revising NEI 95-10 (industry guidance for license renewal), input to update of the Standard Review Plan, etc.



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Project Overview

- **Continue to Monitor Previous Applications**
 - **BG&E License Renewal Application - Calvert Cliffs**
 - *Renewal application submitted to NRC - 4/98*
 - *NRC completed technical & environmental RAIs - 9/98 & 10/98*
 - *NRC issued Initial SER and Draft SEIS - 3/99*
 - *NRC expected to issue Final SER and SEIS - 11/99*
 - *Issuance of renewed license expected - 1st Qtr. 2000*
 - **Duke License Renewal Application - Oconee**
 - *Renewal application submitted to NRC - 7/98*
 - *NRC completed technical & environmental RAIs - 12/98 & 1/99*
 - *NRC issued initial SER and Draft SEIS - 6/99*
 - *NRC expected to issue Final SER and SEIS - 2/2000*
 - *Issuance of renewed license expected - mid-2000*



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Project Overview

- **Technical Requirements of 10CFR54**

- **Perform Integrated Plant Assessment**

- Includes identification of systems, structures, and components that are in scope; performing an aging management review (AMR) to demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained for the period of extended operation*

- **Identify Time Limited Aging Analyses (TLAA) and Evaluate**

- Includes identifying calculations and analyses that meet the criteria for TLAA (e.g., have time-limited assumptions such as 40-years) and demonstrating that the longer term (60-years) will be addressed*



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Project Overview

- ***Technical Requirements of 10CFR54 (cont.)***
 - ***Identify Exemptions and Evaluate***

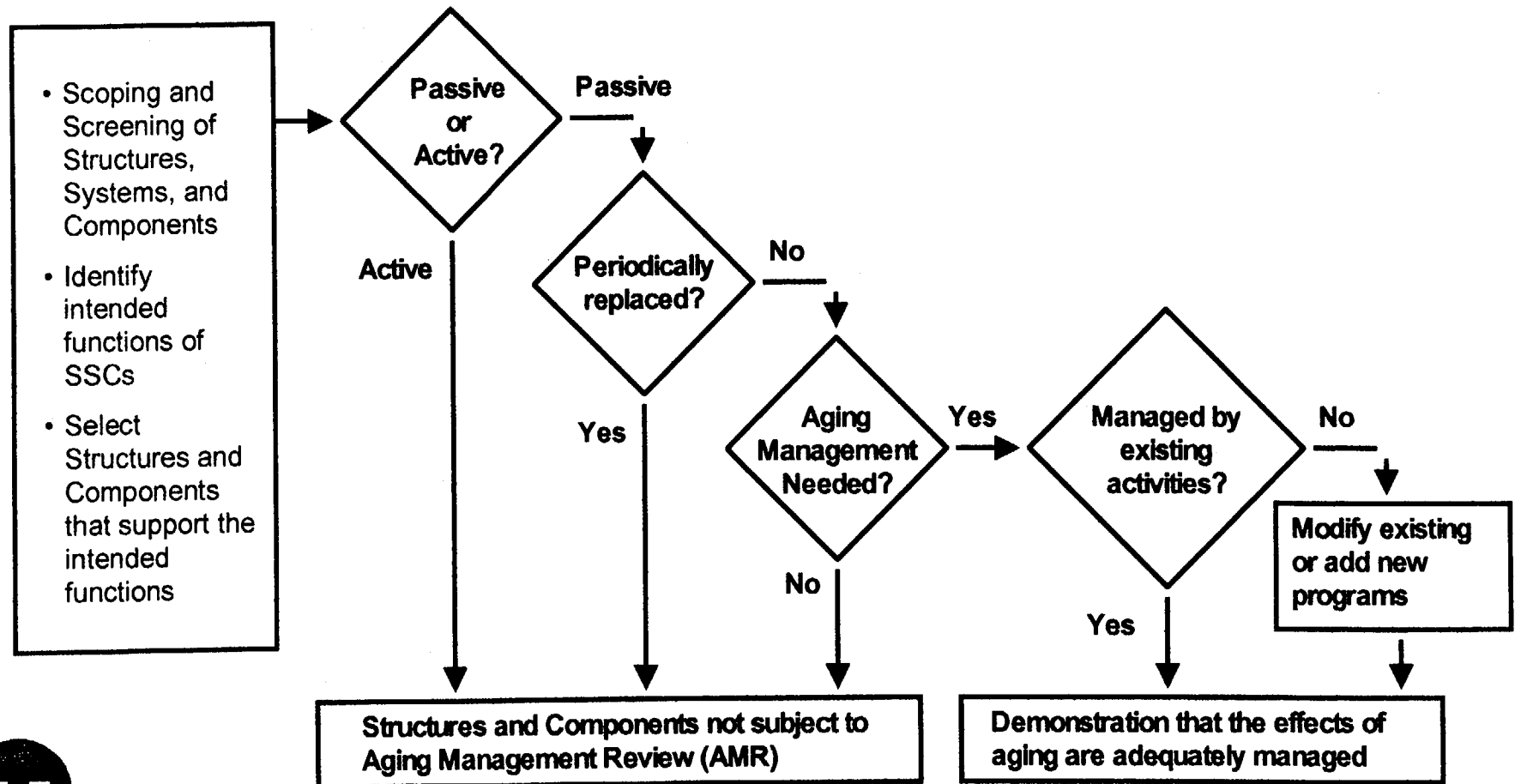
Includes identification of plant-specific exemptions granted by NRC and in effect that are based on TLAA and evaluates and justifies the continuation of these exemptions for the period of extended operation
- ***Perform Review for Requirements of 10CFR51, Applicant's Environmental Report - Operating License Renewal Stage***



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Project Overview

Integrated Plant Assessment (IPA)



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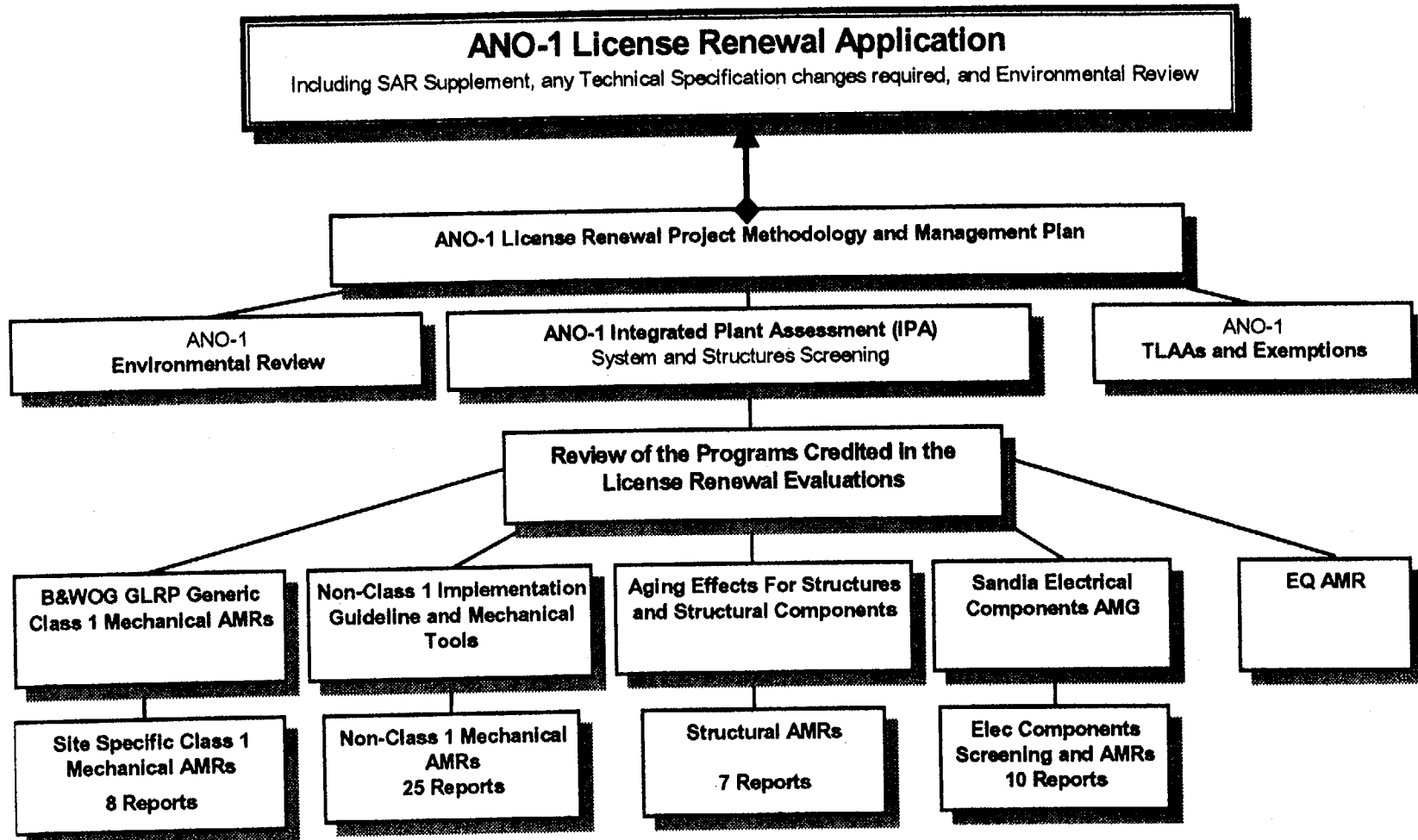
Project Overview

- ***License Renewal Application (LRA) Contents***
 - ***Technical Requirements***
 - *Identification of Structures and Components Subject to Aging Management Review*
 - *Identification of Applicable Aging Effects*
 - *Aging Management Programs and Activities*
 - *TLAAs and Exemptions*
 - ***Safety Analysis Report Supplement***
 - ***Technical Specification Changes (if any)***
 - ***Supplemental Environmental Report (10CFR51)***



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ANO Documentation Hierarchy



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8 Class 1 Mechanical AMRs

1. **RCS Piping AMR** *GLRP Topical Report SER issued*
2. **Pressurizer AMR** *GLRP Topical Report SER issued*
3. **Reactor Vessel AMR** *GLRP Topical Report SER issued*
4. **Reactor Vessel Internals AMR** *GLRP Topical Report awaiting SER*
5. **Once Through Steam Generator AMR**
6. **Reactor Coolant Pumps AMR**
7. **CRDM AMR**
8. **Fatigue AMR**



25 Non-Class 1 Mech. AMRs

1. Core Flood AMR
2. Reactor Building Spray AMR
3. Main Feedwater AMR
4. Spent Fuel AMR
5. Fire Protection AMR
6. Service Water AMR
7. Emergency Diesel Generator AMR
8. MU/High Pressure Injection AMR
9. RB Cooling & Purge AMR
10. DH/Low Pressure Injection AMR
11. Emergency Feedwater AMR
12. Sodium Hydroxide AMR
13. Hydrogen Control AMR
14. Main Steam AMR
15. Penetration Room Ventilation AMR
16. Auxiliary Building and Reactor Building Drains AMR
17. Auxiliary Building Ventilation AMR
18. Alternate AC Generator AMR
19. Condensate Storage AMR
20. Control Room Ventilation AMR
21. Halon System AMR
22. Fuel Oil System AMR
23. Containment Isolation AMR
24. Chilled Water AMR
25. Instrument Air AMR



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7 Structural AMRs

- 1. *Reactor Building AMR***
- 2. *Reactor Building Internals AMR***
- 3. *Auxiliary Building AMR***
- 4. *Intake Structure AMR***
- 5. *Emergency Cooling Pond AMR***
- 6. *Aboveground/Underground Yard Structures AMR***
- 7. *Bulk Commodities AMR***



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10 Electrical AMRs

1. *Aging Management Review of Passive Electrical Components*
2. *Screening of Ohmic Heating in Power Cables*
3. *Screening of Power Cables Potentially Subjected to Wetting*
4. *Screening of Frequently Manipulated Cables and Cable Terminations*
5. *Screening of Cables and Terminations Exposed to Potentially Hazardous Chemicals*
6. *Screening of Impedance Sensitive Circuits*
7. *Screening of Cables Exposed to High Radiation Dose Rates*
8. *Screening of Cables Outside Containment Exposed to Elevated Temperatures or Hot Spots*
9. *Screening of Cables Inside Containment Exposed to Elevated Temperatures*
10. *Screening of Splices and Terminal Blocks*



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Current Status

- ***Submittal Approach***

- ***Provide license renewal application similar to Oconee***
- ***Continue to participate in NEI/EPRI issue resolution and incorporate relevant results***
- ***Continue to monitor BG&E and Duke interactions with the NRC and incorporate relevant information***
- ***Use NRC's new standard format for the preparation of the ANO-1 License Renewal Application***



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Future Plans

Near Term Plans

- ***Complete LRA and Submit to NRC in December 1999***
- ***Entergy/NRR Meeting on ANO-1 LRA Format and Content - December 15, 1999***



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Future Plans

- *Submit ANO-1 LRA* 12/1999
- *Notice Application Tendered* 01/2000
- *Complete Acceptance and Docketing* 01/2000
- *Public Meeting and EIS Scoping* 03/2000
- *Staff Complete Technical RAIs* 05/2000
- *Staff Complete Environmental RAIs* 06/2000
- *Applicant Complete Technical RAI Responses* 07/2000
- *Applicant Complete Responses to Environmental RAIs* 08/2000
- *Issue Draft SEIS for Comment* 11/2000
- *Staff Complete Initial SER and Identify Open Items* 11/2000
- *Public Meeting* 12/2000
- *Complete Draft SEIS Comments* 01/2001
- *Applicant Complete Responses to Open Items* 03/2001
- *Staff Issue Final SER and Final SEIS* 07/2001
- *ACRS Meeting* 10/2001
- *Commission Decision on Application* 01/2002



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Future Plans

- ***NRC Region IV Inspections***

- ***License Renewal Inspection Program***

- *(On-Site Inspections at ANO-1)*

- ***a. Scope of SSC Requiring an Aging Management Review (~1 year after LRA)***

- ***b. Integrated Plant Assessment (~ 18 months after LRA)***

- *Screening*
 - *Identifying Aging Effects*
 - *Aging Management Review*
 - *Demonstration*
 - *CLB Changes*



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