50-269

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

January 22, 1997

ORGANIZATION: Duke Power Company

SUBJECT: SUMMARY OF SITE VISIT AND MEETING BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND DUKE POWER REPRESENTATIVES TO DISCUSS THE STAFF'S COMMENTS ON THE REVISED OCONEE LICENSE RENEWAL TECHNICAL INFORMATION REPORT, OLRP-1001, DATED NOVEMBER 4, 1996 (REACTOR BUILDING EXAMPLE) (TAC NOS. M96277, M96278, AND M96279)

On January 6, 1997, the NRC staff conducted a site visit at the Duke Power offices in Charlotte, North Carolina in order to complete its review of Duke's revised Oconee License Renewal Technical Information Report, OLRP-1001 (Reactor Building Example) dated November 4, 1996. Duke Power undertook a rewrite of the original report dated July 31, 1996, after the NRC staff informed Duke in September 1996 that the July 31 report did not contain sufficient information for the staff to conduct a technical review. On December 5, 1996, the staff agreed to perform a "format and content" review of the Duke revised report and provide feedback on the acceptability of the report by January 7, 1997.

The staff reviewed the Duke revised report using information contained in draft Nuclear Energy Institute License Renewal Implementation Guideline (NEI-95-10) and the lessons learned from the 1996 Industry License Renewal Demonstration Project. The staff's comments on the Duke revised report are contained in a staff comment matrix (Attachment 1). The comment matrix provides references to the applicable section of NEI 95-10 for the specific information item described. The staff's comments are contained in notes to the matrix.

After drafting the comments contained in Attachment 1, the staff conducted a site visit to Duke Power's offices in Charlotte to review onsite documentation supporting the revised report. Onsite documentation reviewed by the staff included Oconee reactor building drawings, civil inspection reports, inspection procedures, and aging management review results. Additionally, the staff had discussions with plant engineers and site license renewal project managers regarding the onsite documentation. As a result of the onsite reviews and discussions the staff determined that Duke had adequately listed the structures and components subject to an aging management review in the report and that onsite documentation provided traceability to individual structures and components when the larger component groupings were identified in the report, consistent with the staff's previous position on the requirements for listing structures and components in a license renewal application. The staff's position is included in Attachment 1. Additionally, the staff's onsite review also determined that Duke had provided a basis for their component groupings as required by NEI 95-10. As a result of the on-site review, the staff determined that no additional actions on format and content for the reactor building report are necessary by Duke for comments 1 and 2 on the comment matrix.

The staff reviewed Duke's on-site Aging Management Review documentation to determine if consideration of plant specific operating experience was considered in identifying applicable aging effects. Duke representatives explained that plant operating history was considered, both up front in the identification of applicable aging effects as well as in their demonstration of effectiveness of their proposed aging management programs. The staff, however, did not identify evidence of Duke's consideration of plant operating experience in the identification of aging effects, either in the onsite documentation or in the revised report. The staff identified the issue of consideration of plant operating experience as an area that requires additional information in their reactor building report. (Comment 3).

The staff interviewed plant engineers and others concerning their Civil Inspection Program that is credited as an aging management program for reactor building steel components. The staff determined that the information contained in the reactor building report did not sufficiently describe the elements of the program for the staff to review. For example, it is not clear from the report exactly what parameter is monitored and what the inspection criteria are for taking corrective action. Additionally, the Duke report did not provide a basis for the appropriateness of the inspection frequency and the inspection acceptance criteria such that there is reasonable assurance that the aging effects will be detected and corrective actions will be taken in a timely manner. When asked, Duke representatives were able to explain the parameters monitored and were able to articulate an argument to provide the bases for the appropriateness of the frequency and the acceptance criteria such that timely corrective action is assured. The staff identified the lack of specificity in identifying parameter(s) monitored and the bases for monitoring frequency and alert values such that timely corrective action can be taken, as areas that need improvement in the reactor building report (Comments 4,5, & 6).

On January 7, 1997, the staff held a public meeting at the Duke Power offices to discuss the staff's comments resulting from its review of the revised Duke reactor building report and its previous days site visit. The meeting handouts are contained in Attachment 1. The meeting attendees are contained in Attachment 2.

The staff discussed its comment matrix detailing its findings from the review of the Duke revised reactor building report. The staff stated that comments 1 and 2 require no action by Duke since the staff's comments were made mute as a result of the additional information gained during the site visit. However, the staff did make Duke aware of the staff's current position on what constitutes a "list" in a license renewal application. This position is contained in Attachment 1.

The staff informed Duke that their report was, in general, much improved over the July 31, 1996 version but that several additional areas did require additional detail to be provided. These areas include 1) consideration of plant specific operating experience in identifying aging effects, 2) providing a clearer description of what the aging management program does, and

3) providing a basis for the appropriateness of the program's monitoring frequency and the program's acceptance criteria so that corrective actions are taken in a timely manner such that the structures and components' design bases is maintained.

The staff explained that it was not evident from their report and their on-site information that site specific operating experience was considered in identifying applicable aging effects contrary to guidance contained in NEI 95-10. Duke stated that their review process did in fact consider maintenance history and inspection results in identifying aging effects. Duke agreed to document how plant specific operating experience was considered. Additionally, the staff stated that it was not clear in their report how the identified aging effects were linked to potential loss of intended function. The staff reasoned that since the ultimate goal is to demonstrate that the intended function is maintained through management of aging effects, there should be a tie between the aging effects and loss of intended function. Duke suggested that such a connection is often inherent in the identification of aging effects but agreed to consider making the tie between aging effects and loss of intended function clearer.

The staff also used the Duke Civil Inspection Program example in their report to show why additional program description and bases needs to be provided in their report. The staff stated that in the revised report, it was not clear exactly what the civil inspection was looking for. The staff stated that the specific parameter(s) monitored must be identified so that a direct link to detection of aging effects and intended function can be made. Duke stated that a more specific identification of parameter(s) monitored would be provided. Additionally, the staff stated that a central part of the demonstration of an effective program is the frequency of monitoring and acceptance criteria (or alert values) which trigger corrective actions. The staff stated that the report did not provide a bases for the appropriateness of the frequency and acceptance criteria such that corrective actions will be taken to ensure the design basis of the structure or component is maintained. Duke expressed a concern that not all their programs have quantitative acceptance criteria but rather, in many cases, the decision to perform corrective action is made on a case by case basis by the responsible engineers after reviewing the results of the inspections or monitoring. The staff stated that whatever acceptance criteria that Duke utilizes, it should be described in the application and that it should necessarily be based on ensuring the design basis of the structure and component. Duke stated that its acceptance criteria and alert values are linked to ensuring the design basis and agreed to better articulate the bases for both the frequency of monitoring and acceptance criteria. The staff noted that bases may be referenced as appropriate.

The staff stated that Duke provided operating experience that was aimed at showing the effectiveness of its programs. However, the staff reiterated to Duke the importance of providing a discussion of past corrective actions that may have relevance in the aging management demonstrations. Duke stated that they understood this importance and would address past experience where it is

relevant to do so. The staff stated that a "threshold" for determining what operating experience must be contained in the application would be difficult to develop and that "common sense" would likely dictate the relevance of operating experience. The staff stated that it would likely ask additional questions in this area if an application did not appear to contain sufficient discussion of relevant operating experience.

Lastly, the staff expressed a concern about Duke Power's comments on the NEI Guideline dated November 27, 1996. The staff explained that in light of Duke's position in the November 27 comment letter that existing programs subject to regulatory oversight today should be considered effective for the renewal period, the staff is unsure what Duke intends for its series of license renewal reports. Duke clarified that its comment letter was only intended to convey that the "level of detail" provided for existing programs with regulatory oversight should not be as great as that for a new program. The staff stated that a demonstration must still be provided for existing programs and the information to be provided is still the same; however, much of the demonstration information for existing programs may be referenced and therefore less "original" information may need to be provided. Duke stated that they would consider clarifying their NEI guideline comments in light of their Oconee specific reports.

The staff concluded the meeting by stating that based on Duke's agreement with the staff's comments as presented in the meeting, it was prepared to begin a technical review of the Duke reactor building report. Duke stated that it would contact the staff in the near future with its schedule for submitting the reactor building report for the staff's technical review. Also, since the reactor building report currently addressed the containment shell with place holders for internal reactor building components, Duke stated that it would want to consider sending in separate reports in the interest of making "progress" on what has been done so far. The staff stated that they would be willing to work with Duke in this regard.

Docket Nos. 50-269, 50-270, and 50-287

John P. Moulton, Project Manager
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Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Attachments: 1. Meeting Handouts
2. Attendence List

cc w/attachments: See next page

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FMiraglia, NRR (FJM)
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DMatthews, NRR (DBM)
SNewberry, NRR (SFN)
JMoulton, NRR (JPM1)
DLaBarge, NRR (DEL)
EJordan (JKR)
WLiu (WCL2)
HBWang (HXW1)
SLee (SSL1)
GTracy, EDO (GMT)
RCorreria, NRR (RPC)
RWessman, NRR (RHW)
JStrosnider, NRR (JRS2)
SDoggitis, OSP (SCD)
SPeterson, NRR (SRP)
GLainas, NRR (GCL)
TSpeis, RES (TPS
JMoore/EHoller (JE/EJH)
GMizuno, OGC (GSM)
GHolahan, NRR (GMH)
BSheron, NRR (BWS)
GBagchi, NRR (GXB1)
HBrammer, NRR (HLB)

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STAFF COMMENTS ON DUKE REACTOR BUILDING EXAMPLE
January 7, 1997

Ref.	Description	S/C Ident. (Rx Bldg)	AMR (Rx. Bldg)
	General description of SSC to include high level design loading conditions	ok	n/a
4.1.1	Evaluation Boundaries	ok	n/a
6.2.2 B1 Attached Handout on Lists	Identify and list SCs or commodity groupings subject to AMR. Sufficient detail such that there is assurance that all SCs identified. Grouping convention must be described.	1	n/a
4.1.2	Basis for Commodity grouping	2	n/a
6.2.2 B2	Describe and justify method	ok	n/a
	Provide references used	ok	n/a
6.2.3 B1	Description of SCs being evaluated	ok	ok
6.2.3 B2	Identify intended functions	ok	n/a
6.2.3 B3 4.2.1.1	Identify and assess aging effects; establish tie to function; consider operating experience; design and material properties	n/a	3
6.2.3 B4	Identify and describe aging management programs	n/a	4
	Program name	n/a	ok
4.2.1.3	Program scope	n/a	ok
	Procedural steps	n/a	4a
4.4.2	References	n/a	ok

4.2.1.2	Parameters monitored to detect aging effects -tie to function of SC	n/a	4b
4.2.1.2	Frequency or criteria for establishing frequency of monitoring and basis for appropriateness	n/a	5
4.3	Sample size and location (for any inspections)	n/a	n/a
4.2.1.2	Alert values or acceptance criteria and their bases (no bases necessary if program to manage aging does not allow degradation)	n/a	6
4.2.1.2 4.2.1.3	Corrective action in timely manner	n/a	4c
4.2.1.2	Operating experience	n/a	ok (7)
4.2.1.3	Administratively controlled	n/a	ok
6.2.3 B5	Demonstration	n/a	ok (8)
5.1.4	Timing of TLAAs	ok	ok
5.3 B1	List of TLAAs and exemptions	ok	ok
5.3 B2	Description of evaluation performed	ok	ok
5.3 B3	How determinations made	ok	ok
5.3 B4	References and source documents	ok	ok

NOTES ON MATRIX

1. See attachment on List issue.

2. Specific basis for grouping should be provided.

3. No review of site operating experience such a grease leakage and concrete cracks. No tie made to function of SC.

4. Need more description of Civil Inspection Program. For example:

   4a. Provide more on what the program is doing and what are the procedures?
   4b. What is the exact parameter that is monitored (paint degradation, etc..) tie this back to the function?
   4c. What action is taken and will it be timely?

5. No assessment concerning appropriateness of frequency of monitoring for timely detection of aging effects.

6. Unclear what the "acceptance criteria" for the Civil Inspection Program and Tendon Surveillance Program are that will trigger corrective actions. If the program allows degradation, the basis for the acceptability of these acceptance criteria are to be provided or referenced.

   Also, if cracking of concrete is an applicable aging effect, the bases for the alert values/acceptance criteria for the concrete aging management program must be provided (i.e. tie back to design loading conditions of concrete.

7. Discuss past corrective actions resulting in aging management program enhancements, as appropriate.

8. Subject to above comments.

Elements of "the list" required by 10 CFR 54.21(a)(1)

1. In the application, the list should be of sufficient detail so that there is assurance that all the structures and components subject to an aging management review have been identified.

2. An applicant may apply some convention to group structures or components to gain efficiency. If this is done, the convention must be described in the application. The grouping should be traceable to documentation maintained on-site.

3. On-site, the applicant must control and maintain documentation to identify each structure or component that was determined to be subject to an aging management review. This documentation must be sufficient to allow the staff to independently identify each structure and component determined to be subject to an aging management review. This documentation should identify each structure or component within the groupings included in the application.

Oconee Nuclear Station Reactor Building
License Renewal Review

Licensing Documents

Format & Content Guidance Specification
License Renewal Technical Information Example Chapter 2
License Renewal Technical Information Example Chapter 3

Building Scoping

UFSAR, Section 3.2
Oconee Site General Arrangement Drawings, O-3-XX Series
CFD-8000-Z-0001
Regulated Events Notebook

Intended Functions

UFSAR, Section 3.8
RB DBD
NEI 95-10, Section 4.1
Regulated Events Documentation

Structural Components

Containment Industry Report
NEI 95-10, Table 2
RB DBD

Concrete Components O-59 thru 61 series
Liner Plate 62A, B, D & F; O-465
Anchors/Embedments/Attachments
Attachments O-54C, 54E, 58E, 62A & B (Det. 4), 62D, 65B, 65E, 65W, 465, 466, O-462
  Grating - O-65A - 65F
  Cable Tray - O-884C - 887
Embedments O-59A, 60A, 60M, 61A,62A, 62B (det. 4), 62C, 75A
Personnel Hatch O-461, 62A
Equipment Hatch O-53A, B, C, 54E, 60A, 62A
Mechanical Penetrations FSAR, O-59M, 62A, 62C
Electrical Penetrations FSAR, O-62A, 62C
Fuel Transfer Tube OM 1271-0099
Post-Tensioning System O-77
Tendon Gallery O-59A, 460

Concrete AMR

Codes & Standards in UFSAR, Section 3.8.1
ACI 318-63
ACI 201.1
ACI 301
Containment IR
Temperature Monitoring
Groundwater Monitoring
NUREG/CR-6424
NUREG/CR-4652
NUREG CP-100
NUREG-1522
NUREG-1557
IWL

Steel AMR

Codes and Standards in UFSAR, Section 3.8.1
ASME Section III-1965
AISC, sixth edition
UFSAR
Temperature monitoring
NUREG/CR-6424
ORNL/NRC/LTR-95/29
IEB 80-08
IN 86-99
IN 89-79
NUREG-1540
NUREG-1557
Appendix J to 10 CFR 50
Civil Inspection for Integrated Leak Rate Test
RB ILRT
Type B Local Leak Rate Test
IWE

Post-Tensioning System AMR

Codes and standards in UFSAR section 3.8.1
Containment IR
NURG/CR-4652
NUREG/CR-6424
IN 85-10
IN 91-80
NUREG-1557
Reactor Building Tendon Surveillance Program
RG 1.35
IWL

TLAA

Liner Plate and Penetration Fatigue
Tendon Loss of Prestress

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Aging Management Programs

Initiator	*Preclusionary*	*Condition Monitoring*	*Performance Testing*
Rule, Operating License Condition, Technical Specification, Industry Code	RCS Chemistry; Secondary Chemistry; Oil/Fuel Oil Testing; Fatigue Monitoring Program; Environmental Qualification;	ASME B&PV Code, Section XI, including IWE/IWL; Tendon Surveillance Testing; Reactor Vessel Integrity; Steam Generator Tube Inspections; Earthen Dam Inspections (FERC);	Ventilation System Testing; Leakage Monitoring (RCS and others); Fire Protection Plan; Maintenance Rule; Recombiner Testing;
NRC generic communication - bulletin or generic letter	Bolting Degradation - (GL 91-17), resolution of GSI 29;	Erosion - Corrosion (GL89-08); Boric Acid Wastage (GL88-05); SQUG Walkdowns (GL 87-02)	Service Water Heat Exchanger Performance Monitoring (GL89-13); Spent Fuel Boraflex Monitoring (GL96-04);
Licensee developed	Bolting maintenance practices; Coating maintenance; Ambient temp/radiation Monitoring; Fuse Replacement Programs;	Service Water Liner Inspections; Alloy 600 Inspections; RV Internals Bolting; Tank Inspections; Cable Monitoring & Testing; Structural Inspections; Inspections required for License Renewal;	Heater Element Testing; Heat Tracing Testing; Performance Testing required for License Renewal;

LICENSE RENEWAL PROJECT DIRECTORATE

MEETING WITH DUKE POWER

STAFF COMMENTS ON REACTOR BUILDING EXAMPLE

JANUARY 7, 1997

ATTENDANCE LIST

	NAME	AFFILIATION
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11.	Mike Tuckman	Duke Power Company

Attachment 2

relevant to do so. The staff stated that a "threshold" for determining what operating experience must be contained in the application would be difficult to develop and that "common sense" would likely dictate the relevance of operating experience. The staff stated that it would likely ask additional questions in this area if an application did not appear to contain sufficient discussion of relevant operating experience.

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Original signed by:
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