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SUBJECT: Expresses appreciation for 970508 meeting to discuss various license renewal topics.List of Owners Group Topical Repts & example description of new insp program to be included in renewal license application encl.

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May 19, 1997

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U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
TAC Nos. M96277, M96278, M96279

Duke Power appreciates meeting with NRC staff on May 8, 1997. We believe that the meeting was very positive and forms the basis to continue our technical meetings over the next several months on various license renewal topics. To this end and in follow-up to the discussions at this meeting, two attachments are provided.

The first attachment provides a list of Owners Group Topical Reports which either have been or will soon be submitted to NRC for approval. Duke Power intends to incorporate these reports by reference into Sections 2.4 and 3.4 of the Oconee License Renewal Technical Information Topical Report, OLRP - 1001, which cover the integrated plant assessment and time-limited aging analyses of the Oconee Reactor Coolant System. Please note that because the license renewal evaluation boundary for the Oconee Reactor Coolant System includes component supports, WCAP-14222 is included in the attached listing. Completion of the review of these Owners Group Topical Reports will facilitate staff review of these two sections of OLRP-1001 following their submittal in the next few months.

The second attachment provides an example of the description of a new inspection program that is intended to be included in a renewal license application. The example provides a description of the elements of the new inspection and contains a commitment to provide more information to NRC prior performing the inspection. Duke requests NRC review and comment on this concept of describing a new inspection. We plan on using this example as a model for creating descriptions of other new inspections that are required to be included in a renewal license application. This feedback will assist Duke in identifying any additional activities that may be necessary to be performed prior to the submittal of an application. The use of the Alloy 82/182 Clad Flow Meter Section as an example new inspection is for illustration purposes only and should not be interpreted to be a commitment at this time.

A001

Duke appreciates the opportunity to continue technical discussions on these and other license renewal topics. If there are any questions, please contact Bob Gill at 704-382-3339.

Very Truly Yours,

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Attachment 1

Priority List of Owners Group Reports
Required to Support the Oconee License Renewal Project

BAW-2244, *Demonstration of the Management of Aging Effects of the Pressurizer,* submitted August 1995.

BAW-2251, *Demonstration of the Management of Aging Effects of the Reactor Vessel,* submitted June 1996. The following additional reports are either included within or incorporated by reference in BAW-2251 and are required in order to complete the review of this report:

- BAW-1543, Revision 4, Supplement 2, *Master Integrated Reactor Vessel Surveillance Program,* submitted August 1996;
- BAW-2241P, *Fluence and Uncertainty Methodologies,* April 1997, submitted May 14, 1997;
- BAW-2245, Revision 1, *Initial RT_{NDT} of Linde 80 Welds Based on Fracture Toughness in the Transition Range,* October 1995;
- BAW-2274P, *Fracture Mechanics of Postulated Underclad Cracks in B&W Design Reactor Vessels for the Period of Extended Operation,* December 1996;
- BAW-2275, *Low Upper-Shelf Toughness Fracture Mechanics Analysis of B&W Designed Reactor Vessel for 48 EFPY,* August 1996;

BAW-2248, *Demonstration of the Management of Aging Effects of Reactor Vessel Internals,* to be submitted shortly.

WCAP-14222, *License Renewal Evaluation: Aging Management for Reactor Coolant System Supports,* Revision 2, February 1997.

Attachment 2

Topic Paper
Level of Detail in an
Application for a Renewal Operating License
for a
New Inspection Program

Introduction
NEI 95-10, §4.3 provides guidance on the elements of an inspection program including the use of sampling and timing of such inspections. A new inspection program may be appropriate in order to provide reasonable assurance that identified aging effects can be managed for the period of extended operation. The purpose of this topic paper is to provide an example of a new inspection program in the level of detail that would be included in a renewal license application. Prior to providing the example, background information is provided.

Background
In March 1995, the B&W Owners Group submitted BAW-2243, "Demonstration of the Management of Aging Effects for the Reactor Coolant System Piping," for NRC staff review and approval. The NRC staff reviewed this report and documented the results of the review in a Safety Evaluation attached to a letter dated March 21, 1996, entitled "Acceptance for Referencing of Topical Report BAW-2243, Demonstration of the Management of Aging Effects for the Reactor Coolant System Piping."

One of the applicant action items that has been identified in the NRC Safety Evaluation concerns the reactor coolant system flow meter section located in each hot leg of the reactor coolant system. Each flow meter section is a carbon steel piping section which contains a cladded flow meter element. The cladding material attached to the carbon steel section is Alloy 82. Alloy 182 was used to connect Alloy 600 flow rings to the Alloy 82 cladding. This cladding is referred to as 'Alloy82/182' hereafter. (Refer to Figure 2-4 of BAW-2243A.)

Alloy 82/182 cladding may have some susceptibility to primary water stress corrosion cracking, although Alloy 82 may have a lower susceptibility to primary water stress corrosion cracking than Alloy 182.

To determine the condition of the Alloy 82/182 clad flow meter section, the B&W Owners Group proposed, and the NRC agreed, that a one-time volumetric inspection of the Alloy 82/182 clad flow meter section of the hot leg[1] would be performed at one B&W plant at or near the end of the current license term. The schedule for the performance of this inspection at or near the end of the current license term is acceptable because there is no

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[1] The NRC safety evaluation refers to this item as the 'Alloy 82/182 clad hot leg segment'. Either terminology is acceptable as they refer to the same item.

indication that the potential cracking is a safety concern during the current 40 year operating license.

The performance of the inspection at or near the end of the current license term will provide information on the condition of the Alloy 82/182 clad flow meter section. The B&W Owners Group deferred developing details of the inspection program until an applicant submits its renewal application.

The NRC staff safety evaluation requires that the details of the inspection plan for the Alloy 82/182 clad flow meter section of the hot leg be provided in the renewal application for staff review and approval. The following example is provided to illustrate the level of detail necessary in a renewal application to meet this requirement.

Example
(to be provided in an Application for a Renewal Operating License)

Description of the
Augmented Inspection for License Renewal
of the
Alloy 82/182 Clad Flow Meter Section of the Hot Leg

Purpose
The purpose of the augmented inspection for license renewal is to assess the condition of the Alloy 82/182 clad flow meter section in the hot leg. The Alloy 82/182 clad flow meter section of the hot leg will be inspected to provide reasonable assurance that the reactor coolant system piping pressure boundary integrity will be maintained consistent with the CLB for the period of extended operation. (Refer to Figure 2-4 of BAW-2243A.)

Methodology
This proposed augmented inspection is being developed using the guidance contained in NEI 95-10, §4.3 and is required to be submitted for NRC staff review and approval as part of the renewal application. Implementation of this proposed augmented inspection is contingent upon NRC issuance of a renewed operating license for Oconee Nuclear Station.

The augmented inspection will comply with the version of the ASME Code that has been approved by the NRC and incorporated into §50.55a prior to the start of the fourth inservice inspection interval. The fourth inservice inspection interval covers the last 10 years of operation in the initial operating license term. By using this edition of the ASME Code, the inspection requirements associated with this augmented inspection will be consistent with inspection requirements for the other ASME Code Section XI inspections being conducted during the fourth interval.

The Alloy 82/182 clad flow meter section of one hot leg of one Oconee unit will be inspected. An evaluation of the results of this inspection will determine whether additional inspections are warranted.

Scheduling of the specific inspection date will be specified in the Oconee Inservice Inspection Plan for the fourth interval. Performing this augmented inspection in the first or second period of the fourth inservice inspection interval meets the timing requirement contained in the NRC's Safety Evaluation dated March 21, 1996 that the inspection be performed at or near the end of the current license. Performing the augmented inspection at this time also permits subsequent inspections to be performed, if necessary, prior to the end of the current operating license. The performance of this inspection at or near the end of the current license term is acceptable because there is no indication that the potential cracking is a concern during the current 40 year operating license.

Oconee will perform the augmented inspection using volumetric examination techniques. Previous experience has shown that ultrasonic inspection techniques are an effective volumetric examination technique in identifying indications in reactor coolant system piping. Any ASME Code Section XI required inspection calibration block will be manufactured in accordance with the edition of ASME Code Section XI specified for the fourth interval Oconee Inservice Inspection Plan.

Appropriate acceptance criteria will be developed using the edition of ASME Code Section XI specified for the fourth interval Oconee Inservice Inspection Plan. The results of the augmented inspection will be evaluated against the established acceptance criteria using methods considered acceptable to comply with the requirements of the specified edition of the ASME Code Section XI. All augmented inspection results will be reported to the NRC within 90 days after the completion of the outage in which the inspection was conducted, as currently required by ASME Code Section XI, IWA-6230.

Corrective actions will be taken in accordance with the edition of the ASME Code Section XI applicable to the Oconee Inservice Inspection Plan for the fourth interval. Indications may be determined to be acceptable for the remaining life of the plant or may need to be repaired. If fracture mechanics analysis is performed to determine acceptance, then the analysis will be submitted to the NRC for review and approval prior to unit startup. The need for any further actions, including the need for any additional inspections, will be considered following the review of the results of the initial inspections by Oconee.

Submittal of Augmented Inspection Plan for License Renewal
Within 12 months after the issuance of a renewed operating license for Oconee, or as included in the Oconee Inservice Inspection Plan for the Fourth Interval, whichever is later, a complete description of the proposed augmented inspection for license renewal of the Alloy 82/182 clad flow meter section of the hot leg, including the additional information to be specified later as noted above, will be submitted to NRC for review and approval.