December 10, 1999

LICENSEE: Duke Energy Corporation (Duke)

FACILITY: Oconee Nuclear Station, Units 1, 2, and 3

SUBJECT: SUMMARY OF NOVEMBER 10, 1999, PHONE CALL BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION (NRC) STAFF AND DUKE REPRESENTATIVES TO DISCUSS THE SECONDARY SHIELD WALL RELATED TO THE OCONEE LICENSE RENEWAL APPLICATION (LRA)

On November 10, 1999, representatives of Duke had a phone call with the NRC staff in Rockville, Maryland, to discuss the Oconee license renewal application. The purpose of the phone call was to discuss questions the staff had regarding the secondary shield wall (SSW) tendons. The phone call was a continuation of the issues that were documented in a phone call summary dated November 2, 1999, on the same issue. The Duke participants were Debbie Ramsey and Robert Gill. The staff participants were Hans Ashar, Kamal Manoly, and Joe Sebrosky.

As documented in the November 2, 1999, summary the staff had requested Duke to supply information regarding the prestressing forces in the SSW tendons. Enclosure 1 contains the staff's questions and Duke's original responses to the questions. During the November 10, 1999, phone call the staff requested that Duke amend its response to question 1. Enclosure 2 contains Duke's amended response. Based on Duke's responses contained in Enclosure 2 the staff considers this issue resolved.

Original Signed By

Joseph M. Sebrosky, Project Manager
License Renewal and Standardization Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

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

Enclosure: As stated (2)

cc w/encls: See next page

DISTRIBUTION: See next page

DFO1

DOCUMENT NAME:G:\RLSB\SEBROSKY\11-10 secondary shield wall sum.WPD

OFFICE	LA	EMEB/DE	RLSB/DRIP:PM	RLSB:D
NAME	EHylton	HAshar	JSebrosky	CIGrimes
DATE	12/6 /99	12/ 8/99	12/ 2/99	12/10/99

OFFICIAL RECORD COPY

PDR ADOCK 05000269

Oconee Nuclear Station (License Renewal)
cc:
Ms. Lisa F. Vaughn
Duke Energy Corporation
422 South Church Street
Mail Stop PB-05E
Charlotte, North Carolina 28201-1006

Anne W. Cottingham, Esquire
Winston and Strawn
1400 L Street, NW.
Washington, DC 20005

Mr. Rick N. Edwards
Framatome Technologies
Suite 525
1700 Rockville Pike
Rockville, Maryland 20852-1631

Manager, LIS
NUS Corporation
2650 McCormick Drive, 3rd Floor
Clearwater, Florida 34619-1035

Senior Resident Inspector
U. S. Nuclear Regulatory Commission
7812B Rochester Highway
Seneca, South Carolina 29672

Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, Georgia 30303

Virgil R. Autry, Director
Division of Radioactive Waste Management
Bureau of Land and Waste Management
Department of Health and
Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

W. R. McCollum, Jr., Vice President
Oconee Site
Duke Energy Corporation
P. O. Box 1439
Seneca, SC 29679

Mr. Larry E. Nicholson
Compliance Manager
Duke Energy Corporation
Oconee Nuclear Site
P. O. Box 1439
Seneca, South Carolina 29679

Ms. Karen E. Long
Assistant Attorney General
North Carolina Department of Justice
P. O. Box 629
Raleigh, North Carolina 27602

L. A. Keller
Manager - Nuclear Regulatory Licensing
Duke Energy Corporation
526 South Church Street
Charlotte, North Carolina 28201-1006

Mr. Richard M. Fry, Director
Division of Radiation Protection
North Carolina Department of
Environment, Health, and
Natural Resources
3825 Barrett Drive
Raleigh, North Carolina 27609-7721

Gregory D. Robison
Duke Energy Corporation
Mail Stop EC-12R
P. O. Box 1006
Charlotte, North Carolina 28201-1006

Robert L. Gill, Jr.
Duke Energy Corporation
Mail Stop EC-12R
P. O. Box 1006
Charlotte, North Carolina 28201-1006
RLGILL@DUKE-ENERGY.COM

Douglas J. Walters
Nuclear Energy Institute
1776 I Street, NW
Suite 400
Washington, DC 20006-3708
DJW@NEI.ORG

Chattooga River Watershed Coalition
P. O. Box 2006
Clayton, GA 30525

Tendon - Secondary Shield Wall – Surveillance Program

Staff Question 1

A review of your response to Open item 3.8.3.2.5-1 indicates that to assess the adequacy of your secondary shield wall (SSW) Surveillance Program, the staff needs information regarding the parameter monitored (in this case the SSW prestressing force). Please provide information regarding the monitoring of prestressing forces in the SSW tendons with the corresponding acceptance criteria for each group of tendons in SSWs.

Duke Response to Staff Question 1

Secondary shield wall tendons are randomly selected on a specified frequency for comparison of the liftoff forces to an acceptance criteria. The acceptance criteria are administrative values that are equal to the minimum required force of a group of tendons plus a margin to preclude dropping below the minimum required force. The minimum required forces for the tendon groups range from 390 kips to 560 kips depending on the location of the group. The administrative values include a margin ranging from 50 to 100 kips. Therefore, the administrative values range from 9% to 25% above the minimum required forces. No deficiencies have been noted during the more recent inspections.

In the event that a tendon lift-off force falls below the acceptance criteria, the tendon would be subject to corrective action. Corrective actions may include retensioning with reinspection during the subsequent inspection or complete replacement.

Staff Question 2

NRC Inspection Report (IR 50-269/270/271/99-12) issued on September 21, 1999, indicates that currently you are performing reduced surveillance (as compared to that described in your LRA). Please provide basis for the reduced inspection and your plans to perform inspections during the extended period of operation

Duke Response to Staff Question 2

During the time that the Application was under review by the NRC, the program was undergoing a review at Duke. From the results of the review, Duke determined that a basis existed to further optimize the program. Resulting changes included reducing the sample size of test tendons from 10 tendons to 3 horizontal tendons.

The basis of the changes to the program were a comparison of the program to the requirements of ASME Code, Section XI, Subsection IWL – a program associated with Containment tendon inspections. Changes were also warranted based on a review of operating experience. The sample size and test frequency that had been in use since 1982 were overly conservative. The sample size and test frequency were more stringent than the requirements for containment tendon testing specified in ASME, Section XI, Subsection IWL that has been endorsed by the NRC. Subsection IWL requires 2% (or a minimum of 3 tendons) of each type to be randomly tested every five years. In contrast, the *Tendon – Secondary Shield Wall – Surveillance Program* prescribed testing 10 tendons (or approximately 14%) every other refueling outage. In addition, operating experience did not justify larger sample sizes or more frequent inspections. No deficiencies have been noted during the more recent inspections.

Unless operating experience suggests otherwise, Duke plans to test 3 horizontal tendons every other refueling outage. Evidence from Oconee operating experience along with the comparison to the ASME Subsection IWL tends to confirm that the revised sample size and the frequency of this program are appropriate.

Tendon - Secondary Shield Wall – Surveillance Program

Staff Question 1

A review of your response to Open item 3.8.3.2.5-1 indicates that to assess the adequacy of your secondary shield wall (SSW) Surveillance Program, the staff needs information regarding the parameter monitored (in this case the SSW prestressing force). Please provide information regarding the monitoring of prestressing forces in the SSW tendons with the corresponding acceptance criteria for each group of tendons in SSWs.

Duke Response to Staff Question 1

Secondary shield wall tendons are randomly selected on a specified frequency for comparison of the liftoff forces to an acceptance criteria. The acceptance criteria are administrative values that are equal to the minimum required force of a group of tendons plus a margin to preclude dropping below the minimum required force. The design analyses for the secondary shield wall include the loads associated with pipe rupture and differential pressure. The minimum required forces for the tendon groups range from 390 kips to 560 kips depending on the location of the group relative to the postulated break locations. The administrative values include a margin ranging from 50 to 100 kips above the minimum required forces. Therefore, the administrative values range from 9% to 25% above the minimum required forces. No deficiencies have been noted during the more recent inspections.

In the event that a tendon lift-off force falls below the acceptance criteria, the tendon would be subject to corrective action. Corrective actions may include retensioning with reinspection during the subsequent inspection or complete replacement.

Staff Question 2

NRC Inspection Report (IR 50-269/270/271/99-12) issued on September 21, 1999, indicates that currently you are performing reduced surveillance (as compared to that described in your LRA). Please provide basis for the reduced inspection and your plans to perform inspections during the extended period of operation

Duke Response to Staff Question 2

During the time that the Application was under review by the NRC, the program was undergoing a review at Duke. From the results of the review, Duke determined that a basis existed to further optimize the program. Resulting changes included reducing the sample size of test tendons from 10 tendons to 3 horizontal tendons.

The basis of the changes to the program were a comparison of the program to the requirements of ASME Code, Section XI, Subsection IWL – a program associated with Containment tendon inspections. Changes were also warranted based on a review of operating experience. The sample size and test frequency that had been in use since 1982 were overly conservative. The sample size and test frequency were more stringent than the requirements for containment tendon testing specified in ASME, Section XI, Subsection IWL that has been endorsed by the NRC. Subsection IWL requires 2% (or a minimum of 3 tendons) of each type to be randomly tested every five years. In contrast, the *Tendon – Secondary Shield Wall – Surveillance Program* prescribed testing 10 tendons (or approximately 14%) every other refueling outage. In addition, operating

experience did not justify larger sample sizes or more frequent inspections. No deficiencies have been noted during the more recent inspections.

Unless operating experience suggests otherwise, Duke plans to test 3 horizontal tendons every other refueling outage. Evidence from Oconee operating experience along with the comparison to the ASME Subsection IWL tends to confirm that the revised sample size and the frequency of this program are appropriate.

T 5c-3

Distribution:
Hard copy
PUBLIC
Docket File
RLSB RF
N. Dudley, ACRS - T2E26

E-mail:
R. Zimmerman
D. Matthews
S. Newberry
C. Grimes
C. Carpenter
B. Zalcman
J. Strosnider
R. Wessman
E. Imbro
W. Bateman
J. Calvo
M. Tschiltz
G. Holahan
T. Collins
C. Gratton
B. Boger
R. Latta
J. Moore
J. Rutberg
R. Weisman
M. Mayfield
S. Bahadur
N. Chokshi
J. Vora
A. Murphy
D. Martin
W. McDowell
S. Droggitis
M. Modes
RLSB Staff

R. Emch
D. LaBarge
L. Plisco
C. Ogle
R. Trojanowski
D. Billings
M. Shannon
C. Julian
J. Peralta
J. Wilson
C. Sochor