

April 15, 1999

MEMORANDUM TO: Christopher I. Grimes, Chief
License Renewal and Standardization Branch
Division of Regulatory Improvement Programs

FROM: Joseph M. Sebrosky, Project Manager **Original Signed By**
License Renewal and Standardization Branch
Division of Regulatory Improvement Program

SUBJECT: MEETING WITH DUKE ENERGY CORPORATION (DUKE) ON
LICENSE RENEWAL FOR OCONEE NUCLEAR STATION, UNITS 1, 2,
AND 3

DATE & TIME: Tuesday, May 11, 1999
9:00 a.m. - 12:00 p.m.

LOCATION: U.S. Nuclear Regulatory Commission
Two White Flint North
11545 Rockville Pike
Room T-10A1/F3
Rockville, Maryland

PURPOSE: To discuss the scoping process used for Duke's license renewal
application for Oconee, Units 1, 2, and 3. See attachment for a list of
issues that will be discussed.

PARTICIPANTS:*	<u>NRC</u>	<u>NRC</u>	<u>Duke</u>
	D. Matthews, NRR	J. Peralta, NRR	M. Tuckman
	B. Boger, NRR	R. Prato, NRR	G. Robison
	L. Chandler, OGC	P. Shemanski, NRR	R. Gill
	C. Grimes, NRR	J. Sebrosky, NRR	et al.
	T. Quay, NRR	et al.	
	R. Latta, NRR		

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

cc w/encl: See next page

CONTACT: Joseph M. Sebrosky, NRR
301-415-1132

*Meetings between NRC technical staff and applicants or licensees are open for interested
members of the public, intervenors, or other parties to attend as observers pursuant to
"Commission Policy Statement on Staff Meetings Open to the Public" 59 Federal
Register 48340, 9/20/94.

Distribution See next page

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OFFICE	LA	RLSB	RLSB:BC
NAME	Robison	JSebrosky	CIGrimes
DATE	4/11/99	4/11/99	4/15/99

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Oconee Nuclear Station (License Renewal)

cc:

Lisa Vaughn, Esquire
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

County Supervisor of Oconee County
Walhalla, South Carolina 29621

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

Mr. J. E. Burchfield
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

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May 11, 1999 Meeting Topics

Description of the Problem

The Oconee Nuclear Station Application for Renewed Operating License, ORLP-1001, Section 2.2.1.1(a), states the following with respect to the identification of systems, structures, and components within the scope of license renewal:

"Because Oconee was licensed before terms such as 'safety-related' were more precisely defined by the NRC, a list of the Oconee safety-related systems, structures, and components, in and of itself, will not meet the intent of §54.4(a)(1). Because the criteria in §54.4(a)(1) are the scoping criteria for many modern-day, regulatory-required programs, Oconee conducted a design study that validated all functions required for the successful mitigation of Oconee design basis events and identified the systems and components relied upon to complete those functions."

In response to this statement, the staff generated RAI 2.2-6 requesting additional information on the Oconee design study identified in ORLP-1001. In addition, the staff met with representatives from Duke Energy Corporation (Duke), on March 11, 1999, to obtain additional insights into the methodology used by Duke to meet the requirements of 10 CFR 54.21(a)(2) for identifying the structures and components requiring an aging management review. Specifically, the staff requested that Duke describe its methodology for identifying the Oconee systems, structures, and components (SSCs) within the scope of Part 54, based on the following requirements:

"Plant systems, structures, and components that are within the scope of this part are-

(1) Safety-related systems, structures, and components which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions-

- (i) The integrity of the reactor coolant pressure boundary;
- (ii) The capability to shut down the reactor and maintain it in a safe shut-down condition; or
- (iii) The capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure comparable to the guidelines in §50.34(a)(1) or §100.11 of this chapter, as applicable.

(2) All nonsafety-related systems, structures, and components whose failure could prevent satisfactory accomplishment of any of the functions identified in paragraphs (a)(1)(i), (ii), or (iii) of this section.

(3) All systems, structures, and components relied upon on in safety analyses or plant evaluations to perform a function that demonstrates compliance with the Commission's regulations for 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), and station blackout (10 CFR 50.63).”

Paragraph (b)(1) of § 50.49, “Environmental qualifications of electric equipment important to safety for nuclear power plants,” states that “Design basis events are defined as conditions of normal operation, including anticipated operational occurrences, design basis accidents, external events, and natural phenomena for which the plant must be designed to ensure functions (b)(1)(i) (A) through (C)¹ of this section.”

Since the design study conducted by Duke only validated those functions required for the successful mitigation of Oconee design basis events identified in Chapter 15 of the Oconee Updated Final Safety Analysis Report (UFSAR), it is unclear whether all functions required for the successful mitigation of the design basis events set forth in Oconee’s current licensing basis have been identified as required by the rule. Furthermore, since the Duke methodology may not have identified all the systems, structures, and components required under 10 CFR 54.4(a)(1), the potential exists for this deficiency to also affect the scoping requirement of 10 CFR 54.4(a)(2) for nonsafety-related SSCs.

Accordingly, Duke must either amend its application to specify a process for identifying all events in the Oconee current licensing basis meeting the definition of “design basis events” in 10 CFR 50.49(b)(1) or provide justification for its position that the set of design basis events for Oconee meeting that definition is identified in Chapter 15 of the Oconee Updated Final Safety Analysis Report. In order to assist the staff in evaluating Duke’s response to this issue, Duke should specifically list the design basis events relied on for scoping under 10 CFR 54.4(a)(1).

Design Basis Events Outside of Chapter 15 of the UFSAR

The staff contends that DBEs are not limited to Chapter 15 of the UFSAR. The staff believes that events such as fire, floods, storms, or earthquakes represent DBEs. These events are not explicitly considered in the review of anticipated operational occurrences and postulated accidents in Chapter 15 of the UFSAR, but could result in potential offsite exposures comparable to the applicable guideline exposures set forth in 10 CFR 50.34(a)(1) or 10 CFR 100.11. The staff notes that Duke explicitly considers DBEs beyond Chapter 15 events in Nuclear Directive 209 “10 CFR 50.59 Evaluations.” For example, Duke considers the following events as accident/events not included in Oconee’s UFSAR Chapter 15: spent fuel pool accidents, loss of main feedwater, main feedwater line break, loss of control room event, loss of instrument air, missiles, pipe rupture, fire event, internal building floods, natural phenomena, loss of lake keowee, loss of intake structure, and loss of decay heat removal. Duke needs to reconcile the list of DBEs contained in Nuclear Directive 209 with the list of DBEs that were considered in the license renewal scoping review in accordance with 10 CFR 54.4 or provide justification for not doing so.

¹ The functions identified in § 50.49(b)(1)(i) (A) through (C) are identical to those identified in § 54.4(a)(1) (i) through (iii).