June 25, 1992

Docket Nos. 50-369 and 50-370
50-413 and 50-414
60-269, 50-270, and 50-287

LICENSEE: Duke Power Company

FACILITY: McGuire, Catawba, and Oconee Nuclear Stations

SUBJECT: SUMMARY OF MEETING WITH DUKE POWER COMPANY ON TOPICAL REPORT REVIEW SCHEDULES

On June 9, 1992, the NRC staff met with representatives of Duke Power Company (DPC) to discuss the schedule for NRC review of DPC topical reports that are planned to be submitted in the next several years. Meeting attendees are listed in Enclosure 1. The handouts distributed during the meeting are provided as Enclosure 2.

Each of the topical reports listed in DPC's April 10, 1992, letter were discussed for relative priority. The staff will incorporate this input into the planned scheduling of these activities. DPC-NE-3004 is the topical with the most immediate priority since it is required to support the McGuire Unit 1 steam generator changeout in September 1995 (early 1994 submittal date). The staff is exploring an alternative audit/review process to review the use of TACO-3 rather than the traditional topical report review. DPC committed to update their April 10, 1992, letter to incorporate dates as to when the subject topicals will be needed to support DPC licensing activities. DPC also discussed the current status and preliminary data taken from their ongoing reconstituted fuel geometry critical heat flux tests.

/s/

Timothy A. Reed, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. List of Attendees
2. DPC Handouts

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OFC	PDII-3:LA	PDII-3:PM	D:PDII-3			
NAME	L. Berry	T. Reed:cw	D. Matthews			
DATE	6/23/92	6/23/92	6/25/92			

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Memo

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

June 25, 1992

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Division of Reactor Projects - I/II
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cc w/enclosures:
See next page

Duke Power Company

Catawba Nuclear Station
McGuire Nuclear Station
Oconee Nuclear Station

cc:

Mr. R. C. Futrell
Regulatory Compliance Manager
Duke Power Company
4800 Concord Road
York, South Carolina 29745

Mr. A.V. Carr, Esq.
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242-0001

J. Michael McGarry, III, Esq.
Winston and Strawn
1400 L Street, N.W.
Washington, D. C. 20005

North Carolina MPA-1
Suite 600
P.O. Box 29513
Raleigh, North Carolina 27626-0513

Mr. Frank Modrak
Project Manager, Mid-South Area
ESSD Projects
Westinghouse Electric Corp.
MNC West Tower - Bay 241
P.O. Box 355
Pittsburgh, Pennsylvania 15230

County Manager of York County
York County Courthouse
York, South Carolina 29745

Richard P. Wilson, Esq.
Assistant Attorney General
S.C. Attorney General's Office
P.O. Box 11549
Columbia, South Carolina 29211

Piedmont Municipal Power Agency
121 Village Drive
Greer, South Carolina 29651

Mr. Alan R. Herdt, Chief
Project Branch #3
U.S. Nuclear Regulatory Commission
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

North Carolina Electric Membership
Corp.
P.O. Box 27306
Raleigh, North Carolina 27611

Saluda River Electric Cooperative,
Inc.
P.O. Box 929
Laurens, South Carolina 29360

Senior Resident Inspector
Route 2, Box 179N
York, South Carolina 29745

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. Heyward G. Shealy, Chief
Bureau of Radiological Health
South Carolina Dept. of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

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

Mr. R. L. Gill, Jr.
Licensing
Duke Power Company
P.O. Box 1007
Charlotte, North Carolina 28201-1007

cc:
Dr. John M. Barry
Mecklenburg County
Dept. of Environmental Protection
700 N. Tryon Street
Charlotte, North Carolina 28202

County Manager of Mecklenburg County
720 East Fourth Street
Charlotte, North Carolina 28202

Mr. R. O. Sharpe
Compliance
Duke Power Company
McGuire Nuclear Site
12700 Hagers Ferry Road
Huntersville, North Carolina 28078-8985
Washington, DC 20005

Senior Resident Inspector
c/o U.S. Nuclear Regulatory Commission
12700 Hagers Ferry Road
Huntersville, North Carolina 28078

Mr. Dayne H. Brown, Director
Department of Environmental,
Health and Natural Resources
Division of Radiation Protection
P.O. Box 27687
Raleigh, North Carolina 27611-7687

Office of Intergovernmental Relations
116 West Jones Street
Raleigh, North Carolina 27603

County Supervisor of Oconee County
Walhalla, South Carolina 29621

Mr. J. W. Hampton
Vice President, Oconee Site
Duke Power Company
P. O. Box 1439
Seneca, South Carolina 29679

Mr. M. E. Patrick
Compliance
Duke Power Company
Oconee Nuclear Site
P.O. Box 1439
Seneca, South Carolina 29679

Mr. Robert B. Borsum
Babcock & Wilcox
Nuclear Power Division
Suite 525
1700 Rockville Pike
Rockville, Maryland 20852

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

Senior Resident Inspector
U. S. Nuclear Regulatory Commission
Route 2, Box 610
Seneca, South Carolina 29678

Mr. M. S. Tuckman
Vice President, Catawba Site
Duke Power Company
4800 Concord Road
York, South Carolina 29745

Mr. T. C. McMeekin
Vice President, McGuire Site
Duke Power Company
12700 Hagers Ferry Road
Huntersville, North Carolina 28078-8985

June 25, 1992

MEETING SUMMARY DATED:

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RJones
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LPhillips
ACRS (10)
JWechselberger, EDO
LReyes, RII

ENCLOSURE 1

LIST OF ATTENDEES

NAME	ORGANIZATION
B. JONES	NRC/REACTOR SYSTEMS
T. REED	NRC/McGUIRE PROJECT MANAGER
L. WIENS	NRC/OCONEE PROJECT MANAGER
R. MARTIN	NRC/CATAWBA PROJECT MANAGER
S. L. WU	NRC/REACTOR SYSTEMS
L. PHILLIPS	NRC/REACTOR SYSTEMS
R. CRIBBLE	DPC
S. GEWEHR	DPC
K. CANADY	DPC
J. ABBOT	DPC

ENCLOSURE 2.

AGENDA
DUKE/NRC MEETING

DUKE TOPICAL REPORTS

1. Topical Report Submittal Schedules (Canady)

2. Oconee, McGuire, Catawba TACO3 Fuel Mechanical Methodology Report (Abbott)

3. Duke Power Co. T/H SCD Methodology Topical Report (Abbott)

4. Status of Reconstituted Geometry CHF Tests (Gribble)

5. NRC's Review Schedule (Canady)

DUKE POWER TOPICAL REPORTS

Number	Title	Submittal Date	Comments
DPC-NE-3003	Oconee Nuclear Station - Mass and Energy Release and Containment Response Methodology	1/1/93	
DPC-NE-3004	McGuire/Catawba Nuclear Stations - Mass and Energy Release and Containment Response Methodology	12/1/93	
DPC-NE-3005	Oconee Nuclear Station - FSAR Chapter 15 System Transient Analysis Methodology	12/1/93	
DPC-NE-2005	Duke Power Company Thermal/Hydraulic Statistical Core Design Methodology	10/1/92	Oconee/McGuire/ Catawba & other PWR plants using mixing vane fuel
DPC-NE-2006	DCHF-3 Correlation for Predicting Critical Heat Flux in Mixing Vane Grid Fuel Assemblies	10/1/93	
DPC-NE-2008	Oconee, McGuire, and Catawba Nuclear stations (TACO3) Fuel Rod Mechanical Methodology	12/1/92	
DPC-NE-2007	Oconee, McGuire, and Catawba Nuclear Stations Fuel Reconstitution Analysis Methodology	8/1/92	Justification of fuel rod vacancies

RELOAD MECHANICAL ANALYSES BACKGROUND

- Currently use TACO2 with CROV 6.3.

- Mechanical Analyses evaluated are:
  - Pin Pressure
  - Linear Heat Rate to Melt
  - Creep-Collapse
  - Cladding Strain
  - ECCS Analysis Interface Criteria

- Current Burnup Limits for Oconee using TACO2 are 48000 to 52500 MWD/MTU depending on fuel type.
  - Duke is beginning to bump those limits.

- B&W does not support TACO2 for their new fuel (MK-B9).
  - Especially important for ECCS Analysis Interface.

- As a consequence of the last two bullets, Duke Power will transition to TACO3.

FUEL MECHANICAL RELOAD ANALYSIS METHODOLOGY FOR MARK-BW FUEL

DPC-NE-2001-A

SEPTEMBER 1987

REVISION 1
JANUARY 1990

APPROVED
OCTOBER 1990

DUKE POWER COMPANY
DESIGN ENGINEERING DEPARTMENT
MECHANICAL/NUCLEAR DIVISION
NUCLEAR ENGINEERING
MECHANICAL AND THERMAL HYDRAULICS ANALYSIS

initial conditions. We thus consider that the licensee's use of TACO2 to determine ECCS initial conditions is acceptable for Mark-BW fuel in McGuire and Catawba reload applications.

3.0 CONCLUSIONS

We have reviewed the licensee's submittal concerning the use of methodology described in DPC-NE-2001, Rev. 1, for Mark-BW fuel reloads in McGuire and Catawba. Based on the use of previously approved analytical methods and the approved TACO2 and CROV codes, and the similarity between Mark-BW and Mark B and Mark C fuel, we conclude that the DPC-NE-2001, Rev. 1, report is acceptable for Mark-BW fuel licensing applications in McGuire and Catawba. We also determine that there are no unreviewed safety questions and no need of Technical Specification changes for McGuire and Catawba. This approval is limited to the use of the TACO2 code. If, in the future, the licensee decides to use the newer approved code, TACO3, the staff requires the licensee to demonstrate its proficiency in using the TACO3 code.

Principal Contributors: Shih-Liang Wu,SRXB:DST
S. S. Kirslis, PDII-3:DRPI/II
K. N. Jabbour, PDII-3:DRPI/II
T. A. Reed, PDII-3:NRR:DRPI/II

Dated: October 15, 1990

OCONEE, McGUIRE, AND CATAWBA NUCLEAR STATIONS (TACO3) FUEL ROD MECHANICAL METHODOLOGY (DPC-NE-2008)

DUKE PLAN:

- Per McGuire/Catawba Reload Analysis Methodology for MARK-BW Fuel SER (DPC-NE-2001-A), Duke Power proposes a report demonstrating proficiency in the use of TACO3 in lieu of submitting a topical report.

- Report will include all fuel mechanical analyses requiring the use of TACO3 and is not intended for formal review.

- Duke Power will use the approved B&W TACO3 Methodology.

- When LASP gets NRC approval in April 93, Duke Power will use the approved methodology for pin pressure analyses.

- When CROV 8.0 gets NRC approval in May 93, Duke Power will use the approved code for creep-collapse analyses.
  - Duke Power does not intend to make and additional submittal for the use of CROV 8.0.

- Submittal Date: 12/1/92

QUESTIONS:

- What does the NRC consider sufficient for demonstrating proficiency?

TACO3 REPORT OUTLINE

- Report will be written like a topical report but is not intended for review as a topical report.

- Report will be broken into 5 major sections with each section covering a TACO3 Analysis.
  - Pin Pressure
  - Linear Heat Rate to Melt
  - Creep-Collapse
  - Cladding Strain
  - ECCS Analysis Interface Criteria

- Duke Power will use the report internally as the basis for our generic analyses.

- Each section will discuss nominal inputs and sensitivities.

- For those analyses requiring the input of uncertainties (e.g. pin pressure analysis), the uncertainties will be discussed as will the sensitivity of the final result to those uncertainties.

- Each section will discuss the differences in input between TACO2 and TACO3.

- Finally, each section will essentially outline a methodology for performing the corresponding analysis.

- An example of what typical results might look like for the pin pressure and LHRTM analyses are included on the next pages.