

June 16, 1999

LICENSEE: Commonwealth Edison Company
FACILITIES: Dresden, LaSalle, Quad Cities
SUBJECT: APRIL 27, 1999, MEETING WITH COMMONWEALTH EDISON
COMPANY TO DISCUSS TOPICAL REPORT SUBMITTAL RELATED
TO BWR THERMAL LIMITS AND RELOAD APPLICATIONS

On April 27, 1999, Commonwealth Edison Company (ComEd) met with the staff to inform them of its intent to submit a topical report related to thermal limits and reload application. The report will provide the methodology that ComEd proposes to use for reload analyses for its boiling water reactor stations. The licensee stated that it intends to submit the topical report and related license amendments by March 2000. The staff provided an overview of its process and schedule for reviewing topical reports. The licensee and staff agreed to meet in fall 1999 after a more complete draft is prepared to discuss the specific information that should be included in the submittal.

A list of the meeting attendees and the meeting handouts are enclosed.

Original signed by

Donna M. Skay, Project Manager
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-237, 50-249, 50-373,
50-374, 50-254, 50-265

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Enclosures: 1. List of Attendees
2. Meeting Handouts

cc w/encs: See next page

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Email w/encl 1

J. Zwolinski/S. Black	L. Rossbach
R. Caruso	A. Ulses
R. Pulsifer	T. Hiltz
D. Hills, RIII	M. Ring

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OFFICE	PM:LPD3	LA:LPD3	SC:LPD3
NAME	DSKAY	CMOORE	AMENDIOLA
DATE	06/15/99	06/15/99	06/15/99

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PDR ADOCK 05000237
P PDR

O. Kingsley
Commonwealth Edison Company

cc:

Commonwealth Edison Company
Site Vice President - Dresden
6500 N. Dresden Road
Morris, Illinois 60450-9765

Commonwealth Edison Company
Dresden Station Manager
6500 N. Dresden Road
Morris, Illinois 60450-9765

U.S. Nuclear Regulatory Commission
Dresden Resident Inspectors Office
6500 N. Dresden Road
Morris, Illinois 60450-9766

William D. Leach
Manager - Nuclear
MidAmerican Energy Company
907 Walnut Street
P.O. Box 657
Des Moines, Iowa 50303

Vice President - Law and
Regulatory Affairs
MidAmerican Energy Company
One River Center Place
106 E. Second Street
P.O. Box 4350
Davenport, Iowa 52808

Chairman
Rock Island County Board
of Supervisors
1504 3rd Avenue
Rock Island County Office Bldg.
Rock Island, Illinois 61201

Regional Administrator
U.S. NRC, Region III
801 Warrenville Road
Lisle, Illinois 60532-4351

Dresden Nuclear Power Station
Units 2 and 3
Quad Cities Nuclear Power Station
Units 1 and 2

Illinois Department of Nuclear Safety
Office of Nuclear Facility Safety
1035 Outer Park Drive
Springfield, Illinois 62704

Chairman
Grundy County Board
Administration Building
1320 Union Street
Morris, Illinois 60450

Commonwealth Edison Company
Site Vice President - Quad Cities
22710 206th Avenue N.
Cordova, Illinois 61242-9740

Commonwealth Edison Company
Quad Cities Station Manager
22710 206th Avenue N.
Cordova, Illinois 61242-9740

U.S. Nuclear Regulatory Commission
Quad Cities Resident Inspectors Office
22712 206th Avenue N.
Cordova, Illinois 61242

Document Control Desk-Licensing
Commonwealth Edison Company
1400 Opus Place, Suite 400
Downers Grove, Illinois 60515

Mr. David Helwig
Senior Vice President
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 900
Downers Grove, Illinois 60515

O. Kingsley
Commonwealth Edison Company

- 2 -

Dresden Nuclear Power Station
Units 2 and 3
Quad Cities Nuclear Power Station
Units 1 and 2

Mr. Gene H. Stanley
PWR Vice President
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 900
Downers Grove, Illinois 60515

Mr. Christopher Crane
BWR Vice President
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 900
Downers Grove, Illinois 60515

Mr. R. M. Krich
Vice President - Regulatory Services
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, Illinois 60515

Commonwealth Edison Company
Reg. Assurance Manager - Dresden
6500 N. Dresden Road
Morris, Illinois 60450-9765

Commonwealth Edison Company
Reg. Assurance Supervisor - Quad Cities
22710 206th Avenue N.
Cordova, Illinois 61242-9740

Ms. Pamela B. Stroebel
Senior Vice President and General Counsel
Commonwealth Edison Company
P.O. Box 767
Chicago, Illinois 60690-0767

O. Kingsley
Commonwealth Edison Company

cc:

Phillip P. Steptoe, Esquire
Sidley and Austin
One First National Plaza
Chicago, Illinois 60603

Assistant Attorney General
100 W. Randolph St. Suite 12
Chicago, Illinois 60601

U.S. NRC-LaSalle Resident Inspectors Office
2605 N. 21st Road
Marseilles, Illinois 61341-9756

Chairman
LaSalle County Board of Supervisors
LaSalle County Courthouse
Ottawa, Illinois 61350

Attorney General
500 S. Second Street
Springfield, Illinois 62701

Chairman
Illinois Commerce Commission
527 E. Capitol Avenue, Leland Building
Springfield, Illinois 62706

Illinois Department of Nuclear Safety
Office of Nuclear Facility Safety
1035 Outer Park Drive
Springfield, Illinois 62704

Regional Administrator
U.S. NRC, Region III
801 Warrenville Road
Lisle, Illinois 60532-4351

Commonwealth Edison Company
LaSalle Station Manager
2601 N. 21st Road
Marseilles, Illinois 61341-9757

LaSalle County Station
Units 1 and 2

Robert Cushing, Chief, Public Utilities Division
Illinois Attorney General's Office
100 W. Randolph Street
Chicago, Illinois 60601

Document Control Desk-Licensing
Commonwealth Edison Company
1400 Opus Place, Suite 400
Downers Grove, Illinois 60515

Commonwealth Edison Company
Site Vice President - LaSalle
2601 N. 21st Road
Marseilles, Illinois 61341-9757

Mr. David Helwig
Senior Vice President
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 900
Downers Grove, Illinois 60515

Mr. Gene H. Stanley
PWR Vice President
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 900
Downers Grove, Illinois 60515

Mr. Christopher Crane
BWR Vice President
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 900
Downers Grove, Illinois 60515

O. Kingsley
Commonwealth Edison Company

- 2 -

LaSalle County Station
Units 1 and 2

Mr. R. M. Krich
Vice President - Regulatory Services
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, Illinois 60515

Commonwealth Edison Company
Reg. Assurance Supervisor - LaSalle
2601 N. 21st Road
Marseilles, Illinois 61341-9757

Ms. Pamela B. Stroebel
Senior Vice President and General Counsel
Commonwealth Edison Company
P.O. Box 767
Chicago, Illinois 60690-0767

MEETING WITH COMMONWEALTH EDISON COMPANY

LIST OF MEETING ATTENDEES

APRIL 27, 1999

NRC

Tony Mendiola
Donna Skay
Ralph Caruso
Tony Ulises
Robert Pulsifer

Commonwealth Edison Company

Robert Brady
Eric Beaumont

ENCLOSURE 1

Commonwealth Edison Company BWR Thermal Limits and Reload Application Topical

Introduction

- Purpose of Meeting
- Overview of Commonwealth Edison Methods
- Review of BWR Transient Analysis Methods Topical
- Overview of BWR Thermal Limits and Reload Application Topical
- Summary

Commonwealth Edison Methods

- BWR Nuclear Design
 - GE/SPC based methodology
 - NRC approved 1992/1993
 - 16 ComEd reload design analyses
- BWR Safety Analysis
 - NRC Approved 1999 for BWR Transient Analysis Methods
- PWR Nuclear Design
 - Westinghouse based methodology
 - NRC approved 1983/1991
 - 30 ComEd reload designs
- PWR Safety Analysis
 - Byron/Braidwood SGTR approved 1992
 - Zion thermal limit approved 1993
 - Zion transient analysis approved 1993

Meeting Purpose

- To inform the NRC of Commonwealth Edison's intent to submit a Thermal Limits and Reload Application Topical
- To provide an overview of Commonwealth Edison's Safety Analysis Methods to date
- To provide a scope and schedule for the on going work related to Thermal Limits and Reload Application Topical
- To obtain feedback on the material presented and concurrence with the proposed review schedule

Review of BWR Transient Analysis Methods Topical

- Original submittal made in June of 1995
- Revision 1 of the submittal made in August of 1998 (Doppler correction)
- SER received April of 1999
- This topical provided the following:
 - Benchmarks to the Peach Bottom Turbine Trip Tests
 - Benchmarks to Plant Start-up Tests for LaSalle, Quad Cities and Dresden
 - Overview of 1-D Kinetics, Steady-State Thermal-Hydraulics and Gap Conductance Methodologies

Overview of BWR Thermal Limits and Reload Applications Topical

- Initial Considerations
- Scope of Topical
- Schedule for Submittal

Issues to be Addressed in the Thermal Limits and Reload Applications Topical

- Code uncertainty
- Analytical assumptions beyond those necessary to perform the benchmark calculations
- Hot channel methods
- Nodalization (if changes are made)
- Modeling options (if changes are made)

Scope of BWR Thermal Limits and Reload Applications Topical

- Codes Used
- System Transients
- Transient Critical Power Ratio Calculations
- Reference Cycle Results for BWR/3 and BWR/5
- Statistical Uncertainty Assessment
- Outline for Reload Analysis Report

Codes Used

- Using the same codes and models used in approved BWR Transient Analysis Methods Topical
- Description of FIBWR2:
 - FIBWR2 has been qualified for transient use
 - YAEC received SER for transient applications of FIBWR2
 - GEXL Plus Critical Power correlation included and benchmarked in the code
 - ANFB Critical Power correlation included and benchmarked in the code

Representative Results

- Results for BWR/3 and BWR/5 reload licensing transients
 - Load Reject without Bypass (LRNB)
 - Turbine Trip without Bypass (TTNB)
 - Feed water Controller Failure (FWCF)
 - ASME Overpressure (MSIV Closure no direct scram on MSIV position)
 - Slow Recirculation Flow Runup (MCPRf)

Statistical Methods

- Determination of model uncertainties
- Translation of uncertainties into a change in critical power ratio
- Will use a 95/95 confidence interval
- Statistical method will be similar to those previously reviewed by NRC

Schedule for Submittal

- | | |
|------------------------------|--------------|
| - Topical Submittal to NRC | 12/99 - 3/00 |
| - ComEd NRC Meeting | 04/00 - 7/00 |
| - SER Requested | 12/00 - 3/01 |
| - Proposed First Use - L1C10 | |
| • Start Transient Analysis | 04/01 |
| • L1C10 Startup | 02/02 |

Implementation Issues

- Automation for One-Dimensional Kinetics Generation
- Reload Safety Evaluation Procedures for FSAR Transients
 - Will include all routine transient analyses
 - ComEd plans to perform in-house
- Training and Qualification of personnel

Summary

- ComEd Intends to submit a BWR Thermal Limits and Reload Applications Topical
- ComEd requests a 1 year review to facilitate ability to perform L1C10 reload licensing analyses in-house