Docket File

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 7, 1994

LICENSEE: Commonwealth Edison Company (ComEd)

FACILITIES: Byron Station, Units 1 and 2
Braidwood Station, Units 1 and 2

SUBJECT: SUMMARY OF SEPTEMBER 15, 1994 MEETING

On September 15, 1994, a public meeting was held between the NRC and ComEd (the licensee) to discuss the licensee's request for approval to use a positive moderator temperature coefficient (PMTC). A list of attendees is enclosed (Enclosure 1). Enclosure 2 is a copy of the licensee's handout.

In a submittal dated March 23, 1994, the licensee submitted a request for a license amendment for approval of several changes to the plants' technical specifications, including the use of a PMTC of +7 pcm. On July 26, 1994, the staff sent a request for additional information (RAI) which was answered by the licensee on August 16, 1994. Upon review of the response the licensee was informed that the NRC staff needed to understand of how application of a PMTC would affect the plants' response to an anticipated transient without scram (ATWS). The licensee requested a meeting to discuss how it might best address that issue.

At the meeting, the license was informed that approvals for PMTCs always include an evaluation of how they would affect the design basis accidents. It also considers the total effect of the PMTC on plant performance. However, because of the trend to higher PMTCs by the industry, it has become apparent that the aspects of the plant specific response to an ATWS should be addressed. The licensee and Westinghouse representatives, using a Westinghouse risk analysis, discussed how they believe that the plants would still meet the ATWS rule with a PMTC. The risk analyses is contained in WCAP 11992, "Joint Westinghouse Owners Group/Westinghouse Program: ATWS Rule Administration Process" and WCAP 11993, "Joint Westinghouse Owners Group/Westinghouse Program: Assessment of Compliance with ATWS Rule Bases for Westinghouse PWRs". While the staff was aware of the methodology, the reports had not been submitted for review.

The staff noted the licensee could use a deterministic analysis with a primary pressure of 3200 psig as the determining criterion to show that, with a given PMTC, the basis for the ATWS rule was maintained. This was believed to be a straightforward analysis that could be reviewed by the staff in a reasonable amount of time. An alternative would be to submit a risk methodology and analysis (e.g., the Westinghouse method) for detailed review, along with a discussion on how equipment availability consistent with the risk assessment would be ensured. A review of this approach would take considerably longer.

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The licensee indicated that it would consider its alternatives and inform the staff at a later date of what approach it would take.

Original signed by
George F. Dick, Jr., Project Manager
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Docket Nos. STN 50-454, STN 50-455,
STN 50-456, STN 50-457

Enclosures: 1. List of Meeting Attendees
2. Licensee's Handout

cc w/encls.: See next page

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Enclosure 1

LIST OF MEETING ATTENDEES
September 15, 1994

NRC

Robert Jones
Robert Capra
Larry Phillips
Howard Richings
Adel El-Bassioni
Ramin Assa
Rich Laufer
George Dick

ComEd

Kenneth Graesser
Irene Johnson
Joseph Bauer
Penny Reister
Xavier Polanski
Denise Saccomando
Laurel Zech
Harry Pontious

Westinghouse

Baard Johansen
Gary Ament

STS, Inc.

Lynn Connor

Brief History

- ATWS Rule (10CFR50.62) issued in 1984 based on SECY-83-293
- Required AMSAC installation in Westinghouse PWRs
- NRC later expressed concern about increasing trend in MTC across industry

Enclosure 2

Brief History (Cont'd)

- WOG program to develop plant-specific methodology to assess reactivity feedback effects on ATWS completed in 1988 with issue of WCAP-11992 and WCAP-11993
- ComEd has been using WCAP method since 1992 (Zion 1 Cycle 13)

Unfavorable Exposure Time (UET)

The time during cycle life that the combination of reactivity feedback and RCS pressure relieving conditions will not be sufficient to prevent peak RCS pressure exceeding the stress criterion (3200 PSIG)

Risk Calculation Procedure

- UET calculation using critical trajectory methodology and cycle-specific core design
- UETs adjusted to account for frequency of transients throughout cycle
- Calculate PR nodes based on adjusted UETs and PORV/SRV reliability

Projected ATWS Risk Values

Unit/Cycle	MTC	CDF with WCAP-11993 Inputs	CDF with Byron IPE inputs
Braidwood 2 Cycle 5	<0.0	7.0E-07	6.8E-08
Byron 1 Cycle 7	<0.0	7.1E-07	6.8E-08
Byron 2 Cycle 6	+1.5	7.7E-07	6.9E-08

Conclusions

- WCAP methodology demonstrates acceptable ATWS risk on a plant and cycle specific basis
- Generic values from WCAP provide a conservative evaluation of ATWS risk when compared to Byron specific IPE values