

50-454



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

May 5, 1997

Ms. Irene Johnson, Acting Manager
Nuclear Regulatory Services
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - DETERMINATION OF DYNAMIC
COMPONENT SETPOINT UNCERTAINTIES AT BYRON, UNIT 1 AND BRAIDWOOD,
UNIT 1 (TAC NOS. M95340 AND M95341)

Dear Ms. Johnson:

By letter dated May 22, 1996, the NRC requested information related to dynamic testing of instrument channels using the MESAC system at Commonwealth Edison Company (ComEd). This letter was in response to issues raised by a concerned member of the NRC staff. The NRC staff has reviewed the concerns, the instrument setpoint analyses and the use of the MESAC system at Braidwood Station. As a result of this review, the NRC staff concluded that the health and safety of the public was not effected by the use of the MESAC system and that ComEd is in compliance with its licensing bases and technical specifications (TS). Nevertheless, the concerned NRC staff member requested that ComEd review the NRC staff analysis and conclusions and confirm that Byron and Braidwood stations are being operated within their licensing bases and TS requirements.

By letter dated November 12, 1996, ComEd responded to the request. ComEd stated that the Overtemperature Delta-T (OTΔT) calibration setpoint at Byron and Braidwood includes an additional delay function to account for unknowns such as uncertainty in other lead/lag modules. Therefore, even though the Updated Final Safety Analysis Report (UFSAR), Chapter 15, accident analyses do not explicitly include a ±3% (Braidwood) or a ±10% (Byron) time constant deviation for the OTΔT trip function, the additional 6 second delay function (lag function to measured T_{avg}) in the analyses bounds this deviation. Thus, the actual performance of the Reactor Protection System in the field results in a trip of the reactor earlier than the Final Safety Analysis Report (FSAR) accident analyses. ComEd stated this methodology is consistent with Westinghouse accident analysis methodology. ComEd believes that Byron and Braidwood are being operated within their licensing bases and TSs.

The NRC staff requests the following additional information concerning the effect of dynamic component uncertainties on the Byron and Braidwood UFSAR accident analyses, TSs, and setpoint methodology. Dynamic components consist of lead/lag, lead, and signal filtering components. Specifically:

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1. For both Byron and Braidwood, list all safety related protection channels that use dynamic components (e.g., Overtemperature Delta-T (ΔT), Overpower Delta-T (ΔT) and low pressurizer pressure). For each channel credited in the UFSAR, Chapter 15, or other accident analyses, if a trip function associated with dynamic components is credited as the primary trip, discuss whether another channel trip function without dynamic components could provide the same protection (e.g., low pressurizer pressure is credited; however, low pressurizer level would also be expected to actuate).
2. Describe the process used to account for dynamic component setpoint uncertainties in the Braidwood UFSAR accident analyses. Include in this discussion, dynamic components in channels other than the ΔT . This information should be sufficient for the staff to verify that the use of dynamic testing and the acceptance criteria are bounded by the FSAR accident analyses.
3. Describe the process used to combine dynamic component setpoint uncertainties with static component setpoint uncertainties to establish TS acceptance criteria. If the dynamic component setpoint uncertainties are not included in the TS acceptance criteria, describe the process by which these uncertainties are included in the Braidwood trip setpoints.
4. For both Byron and Braidwood, describe the process used to account for the effect of dynamic component uncertainties on channel total uncertainty determinations during periodic surveillances.

This information is needed promptly in order to resolve the differing professional view of the concerned NRC staff member.

Sincerely,

/s/

George F. Dick, Senior Project Manager
 Project Directorate III-2
 Division of Reactor Projects - III/IV
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Docket Nos. STN 50-454, STN 50-455,
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