



January 31, 1996

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

Subject: Response to Request for Additional Information regarding Response  
Time Testing

Byron Nuclear Power Station, Units 1 and 2  
Facility Operating Licenses NPF-37 and NPF-66  
NRC Docket Nos. 50-454 and 50-455

Braidwood Nuclear Power Station, Units 1 and 2  
Facility Operating Licenses NPF-72 and NPF-77  
NRC Docket Nos. 50-456 and 50-457

- References:
1. Denise M. Saccomando (ComEd) letter to NRC Document Control Desk, "Application for Amendment to Facility Operating Licenses NPF-37, 66, 72, and 77 regarding Response Time Testing," dated September 16, 1994
  2. George F. Dick, Jr. (NRC) letter to D. L. Farrar (ComEd), "Request for Additional Information regarding Response Time Testing - Byron and Braidwood Stations (TAC Nos. M90529, M90530, M90531 and M90532)," dated December 6, 1995

Ladies and Gentlemen:

In Reference 1, Commonwealth Edison Company (ComEd) proposed to amend Byron Nuclear Power Station, Units 1 and 2, (Byron) and Braidwood Nuclear Power Station, Units 1 and 2, (Braidwood) Technical Specification Surveillance Requirements (TSSRs) 4.3.1.2 and 4.3.2.2 to eliminate the periodic response time testing (RTT) of certain pressure and differential pressure transmitters and switches. This basis for this request was a report prepared by the Westinghouse Electric Corporation

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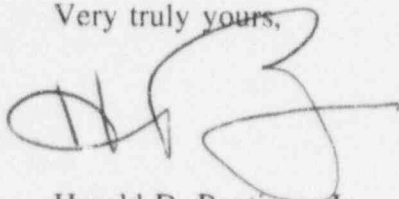
(Westinghouse) entitled WCAP-13632, "Elimination of Pressure Sensor Response Time Testing Requirements," Revision 1, dated December 1993. Subsequently, the United States Nuclear Regulatory Commission (NRC) Staff reviewed and approved WCAP-13632, Revision 2. In Reference 2, the NRC Staff requested that ComEd provide additional information in support of its proposed amendment to modify Byron and Braidwood TSSRs 4.3.1.2 and 4.3.2.2 to address the differences between WCAP-13632, Revision 1, and WCAP-13632, Revision 2. ComEd's response to this request for additional information (RAI) is provided in Attachment 1.

Attachment 2 provides a revised Insert A for the proposed changes to the Bases of Technical Specifications 3/4.3.1 and 3/4.3.2 to reflect a reference to the NRC Staff approved version of WCAP-13632.

To the best of my knowledge and belief, the statements contained in this document are true and correct. In all respects these statements are not based on my personal knowledge, but on information furnished by other ComEd employees, contractor employees, and/or consultants. Such information has been reviewed in accordance with company practice, and I believe it to be reliable.

Please address any comments or questions regarding this matter to this office.

Very truly yours,



Harold D. Pontious, Jr.  
Nuclear Licensing Administrator

Signed before me

on this 31<sup>st</sup> day of January, 1996

by Mary Jo Yack  
Notary Public

Attachment 1: RAI Response  
Attachment 2: Revised Insert A

cc: H. J. Miller, Regional Administrator - RIII  
G. F. Dick Jr., Byron Project Manager - NRR  
R. R. Assa, Braidwood Project Manager - NRR  
H. Peterson, Senior Resident Inspector - Byron  
C. J. Phillips, Senior Resident Inspector - Braidwood  
Office of Nuclear Facility Safety - IDNS



# **ATTACHMENT 1**

## **RESPONSE TO**

### **REQUEST FOR ADDITIONAL INFORMATION**

#### **REGARDING REQUIREMENTS FOR RESPONSE TIME TESTING**

##### **COMMONWEALTH EDISON COMPANY**

##### **BYRON STATION, UNITS 1 AND 2**

##### **BRAIDWOOD STATION, UNITS 1 AND 2**

#### **DOCKETS NOS. STN 50-454, STN 50-455, STN 50-456, AND 50-457**

1. In August 1995, Westinghouse Electric Corporation issued WCAP-13632, Revision 2, "Elimination of Pressure Sensor Response Time Testing Requirements," which superseded WCAP-13632, Revision 1 referenced in your submittal. Subsequently, by Safety Evaluation Report (SER) dated September 5, 1995, the staff approved WCAP-13632, Revision 2, as a basis for eliminating response time testing (RTT) requirements for selected pressure and differential pressure sensors. In order to maintain your submittal concurrent please revise your September 16, 1994 submittal to reference WCAP-13632, Revision 2.

Subsequent to the staff's approval of WCAP-13632, Revision 2, "Elimination of Pressure Sensor Response Time Testing Requirements," by SER dated September 5, 1995, the Westinghouse Electric Corporation has issued an approved version of WCAP-13632, Revision 2. It has been designated WCAP-13632-P-A, Revision 2, "Elimination of Pressure Sensor Response Time Testing Requirements." Commonwealth Edison Company (ComEd) will modify its September 14, 1994, submittal to refer to the staff approved version of WCAP-13632. Attachment 2 provides a revised Insert A for the proposed changes to the Bases of Technical Specifications 3/4.3.1 and 3/4.3.2 to reflect a reference to the staff approved version of WCAP-13632.

## ATTACHMENT 1 (Continued)

2. The Staff's SER approving WCAP-13632, Revision 2, stated that licensees must take the following actions when eliminating pressure and differential pressure sensor RTT requirements. Please address each of these actions and state how these actions will be accomplished.

- (a) **Perform a hydraulic RTT prior to installation of a new transmitter/switch or following refurbishment of the transmitter/switch (e.g., sensor cell or variable damping components) to determine an initial sensor-specific response time value.**

Byron and Braidwood Stations will ensure performance of a hydraulic RTT for a new, or refurbished, individual transmitter/switch which would fall under the current scope of RTT prior to installation. Appropriate station and corporate procedures and instructions will be revised or developed to ensure this RTT is performed, as required. Also, a verification that the associated channel's total response time utilizing the newly installed transmitter's/switch's response time along with the most recent response times of remaining channel components will be performed and will be verified to be less than the values specified in the Updated Final Safety Analysis Report (UFSAR).

- (b) **For transmitters and switches that use capillary tubes, perform a RTT after initial installation and after any maintenance or modification that could damage the capillary tubes.**

Byron and Braidwood Stations will perform a RTT for an individual transmitter/switch that utilizes a capillary tube system currently under the scope of RTT following initial installation and after any maintenance or modification that could damage the capillary tubes is performed. Appropriate station and corporate procedures and instructions will be revised or developed to ensure this RTT is performed, as required. It should be noted that this test would not be done after any routine calibrations or unscheduled calibrations that do not adversely affect the capillary tubes. Also, a verification that the associated channel's total response time utilizing the affected transmitter's/switch's newly obtained response time along with the most recent response times of remaining channel components will be performed and will be verified to be less than the values specified in the UFSAR.

## ATTACHMENT 1 (Continued)

- (c) **If variable damping is used, implement a method to assure that the potentiometer is at the required setting and cannot be inadvertently changed or perform hydraulic RTT of the sensor following each calibration.**

Currently, there are no transmitters currently under the scope of RTT installed at either Byron or Braidwood Station that use the variable damping feature. Appropriate station and corporate procedures and instructions will be revised or developed to ensure this requirement is satisfied if a sensor employing variable damping is installed at either Byron or Braidwood Station in the future.

## ATTACHMENT 2

### REVISED INSERT A

The verification of response time at the specified frequencies provides assurance that the reactor trip and the engineered safety features actuation associated with each channel is completed within the time limit assumed in the safety analyses. No credit was taken in the analyses for those channels with response times indicated as not applicable. Response time may be verified by actual tests in any series of sequential, overlapping or total channel measurements, or by summation of allocated sensor response times with actual tests on the remainder of the channel in any series of sequential or overlapping measurements. Allocations for sensor response times may be obtained from: (1) historical records based on acceptable response time tests (hydraulic, noise, or power interrupt tests), (2) in-place, onsite, or offsite (e.g. vendor) test measurements, or (3) utilizing vendor engineering specifications. WCAP-13632-P-A, Revision 2, "Elimination of Pressure Sensor Response Time Testing Requirements," provides the basis and methodology for using allocated sensor response times in the overall verification of the Technical Specifications channel response time. The allocations for sensor response times must be verified prior to placing the sensor in operational service and re-verified following maintenance that may adversely affect response time. In general, electrical repair work does not impact response time provided the parts used for repair are of the same type and value. One example where time response could be affected is replacing the sensing assembly of a transmitter.