

February 27, 1997

T5C2

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: SECOND REQUEST FOR ADDITIONAL INFORMATION RELATED TO THE PROPOSED
EXTENSION OF THE 3.0 VOLT LOWER REPAIR LIMIT FOR ANOTHER OPERATING
CYCLE FOR BYRON 1 AND BRAIDWOOD 1 (TAC NOS. M96498, M96499, M96500
AND M96501)

Dear Ms. Johnson:

The staff has reviewed your responses in your letter dated February 5, 1997, to the first eleven questions in our first request for additional information (RAI) transmitted in our letter dated January 27, 1997. The first RAI was related to your request to extend, for one more operating cycle, the voltage-based repair criteria incorporated into the Byron 1 and Braidwood 1 Technical Specifications (TS) by the license amendments issued on November 9, 1995. Specifically, these amendments raised the value of the lower voltage repair limit for a form of steam generator (SG) tube degradation identified as primarily axially-oriented outer diameter stress corrosion cracking (ODSCC) from 1.0 volt to 3.0 volts. Our review has identified the need for a second RAI on this subject. The RAI in the enclosure to this letter is related to certain aspects of your proposed criteria for assessing the scope of the forthcoming eddy current inspection (ECI) at Braidwood 1 presently scheduled to start in late March 1997. This second RAI would also be applicable to Byron 1 if the Byron 1 SG replacement program is delayed past December 1997.

If you have any questions on these matters, please contact me at (301) 415-3023.

Sincerely,

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ORIGINAL SIGNED BY:

M. David Lynch, Senior Project Manager
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Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-454, STN 50-456

Enclosure: RAI

cc w/encl: see next page

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REQUEST FOR ADDITIONAL INFORMATION

RELATED TO THE EXTENSION OF THE 3.0 VOLT LOWER VOLTAGE REPAIR LIMIT FOR ODSCC

BYRON 1 AND BRAIDWOOD 1

DOCKET NOS. STN 50-454 AND STN 50-456

1. In your response dated February 5, 1997, to Question 7 of our request for additional information (RAI) issued on January 27, 1997, ComEd stated that if an axial indication was found in a steam generator (SG) tube at the top of the tubesheet or at an expansion joint at the tube support plates (TSP), in one of the 21 expanded SG tubes in each of the four SGs at Byron 1 and Braidwood 1, the scope of the eddy current inspection (ECI) would not be expanded. These 21 expanded tubes act as additional tie rods supporting the TSPs under SG blowdown loads which would occur following a postulated main steamline break (MSLB) and are an important element in the staff's decision to issue on November 9, 1995, the Byron 1 and Braidwood 1 license amendments incorporating the lower voltage repair limit of 3.0 volts into the Byron 1 and Braidwood 1 Technical Specifications (TS). Specifically, the staff's review of the license amendments cited above, focused on the importance of the structural integrity of these additional 21 tie rods. ComEd's position on this particular issue is that the presence of axial indications found in an ECI would not result in a TSP displacement exceeding 0.10 inches. This is the value which was assumed in your evaluation of the SG tube burst probability under postulated accident conditions as well as your evaluation of potential SG tube leakage.

While this statement regarding TSP displacement may be true in itself, your response to Question 7 cited above does not address the need to expand the scope of the ECI as a result of identifying a potentially active stress corrosion process. The staff concern in this matter is that if an active stress corrosion process is occurring in one of the 21 expanded SG tubes acting as a tie rod, there is an increased potential for a circumferential indication to be developing in one of the expanded tie rods not chosen for inspection. Accordingly, discuss your plans for expanding the scope of your ECI in light of this particular staff concern.

2. In your response to Question 9 of our RAI dated January 27, 1997, ComEd indicated the conditions which would cause it to calculate the conditional failure probability of axial burst. Specifically, ComEd stated that either about 250 axial indications in the 10 to 15 volt range or one axial indication greater than 15 volts, would need to be identified before calculating this particular conditional failure probability. However, your projections for the forthcoming end-of-cycle

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(EOC) distribution of voltages include adjustments for: (a) the probability of detection (POD) in an ECI; (b) flaw growth estimates determined from previous ECIs; and (c) non-destructive examination (NDE) uncertainty associated with an ECI. The staff believes that the net effect of these three adjustments is to provide a conservative estimate of the EOC voltage distributions.

Accordingly, it is not clear to the staff that your proposed subject criteria are conservative. More importantly, if the licensee were to find on the order of one to five axial indications in the range of 10 to 15 volts during a forthcoming ECI, the staff would have serious concerns about the applicability of the methodology used to estimate the EOC voltage distribution given that a very limited number of indications is expected to be found in this voltage range if this methodology is sufficiently conservative. Accordingly, discuss your proposed subject criteria in light of this particular staff concern.