Commonwealth Edison Company
1400 Opus Place
Downers Grove, IL 60515-5701

March 18, 1996

ComEd

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attn: Document Control Desk

SUBJECT: Teleconference between Commonwealth Edison Company and the Nuclear Regulatory Commission dated March 13, 1996, Regarding Use of the ABB/Combustion Engineering, Inc. Steam Generator Tube Sleeve for Byron Station Units 1 & 2 and Braidwood Station Units 1 &2

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

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

Reference: Teleconference between Commonwealth Edison Company and the Nuclear Regulatory Commission dated March 13, 1996.

In the reference teleconference, the Nuclear Regulatory Commission (NRC) discussed items with Commonwealth Edison Company (ComEd) pertaining to ComEd's request to use the ABB/Combustion Engineering, Inc. (ABB-CENO) steam generator tube sleeve for Byron Station Units 1 & 2 and Braidwood Station Units 1 & 2. The discussion focused on clarification of the term "minimum average weld height" as referenced in the ABB-CENO Topical Report CEN-621-P. The attachment to this letter provides further discussion and clarification on this matter.

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If you have any questions concerning this correspondence, please contact this office.

Sincerely,

Denise M. Saccomando
Senior Nuclear Licensing Administrator

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

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ATTACHMENT

Discussion of Minimum Average Weld Height for ABB-CENO Steam Generator Sleeves

As stated in Section 4.3 of the ABB-CENO Topical Report CEN-621-P, the "minimum average weld height" of a welded steam generator sleeve is 0.080 inches. The minimum average weld height is defined as the sum of the weld heights at each degree of circumferential extent and dividing this sum by 360 degrees.

The 0.080 inch minimum average weld height criterion was chosen during the weld process qualification program and was the average weld height which was exceeded by each and every qualification weld. The 0.080 inch minimum average weld height criterion was determined through metallurgical examination of the welds. Therefore, the minimum average weld height is satisfied by qualified process controls and verified through metallurgical examination. It should be noted that the 0.080 inch criterion is significantly larger than the minimum average weld height necessary to meet all appropriate structural guidelines. As discussed in Section 8.2 of the referenced Topical Report, the minimum average weld height required to meet Regulatory Guide 1.121 requirements during a main steam line break is 0.014 inches. Therefore, the 0.080 inch criteria provides a safety factor of 5 to the minimum weld height required for structural integrity.

The acceptance criteria for the ultrasonic (UT) examination of the weld is to perform a minimum of three ultrasonic weld scans across the weld and to verify at least one full scan line of continuous weld fusion for 360 degrees. The width of the ultrasonic scan line is 0.020 inches. Therefore, the minimum weld height at any location is 0.020 inches, which ensures that the structural minimum average weld height of 0.014 inches is satisfied. Welds that exhibit any extent of lack of fusion or less than one full UT scan line are grounds for rejecting the weld, even when the minimum average weld height exceeds 0.080 inches.