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DMB

September 25, 1984

Mr. James G. Keppler
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
10 CFR 50.55(e) 30 Day Report
Steam Generator Snubber Piston
Rod Lamination
NRC Docket Nos. 50-454/455 and 50-456/457

Reference (a): E. D. Swartz letter to J. G. Keppler
dated July 31, 1984

Dear Mr. Keppler:

On August 7, 1984, the Commonwealth Edison Company notified Mr. Isa T. Yin of your office of a deficiency reportable pursuant to 10 CFR 50.55(e) concerning a large laminar indication in the Steam Generator Snubber serial number 4 piston rod end blade supplied by the Boeing Engineering and Construction Company for our Byron and Braidwood Stations. For your tracking purposes, this deficiency was assigned number 84-06 for Byron Station, and number 84-14 for Braidwood Station.

This letter fulfills the thirty day reportability requirements of 10 CFR 50.55(e) regarding this matter, and is considered to be an interim report because sufficient information is not available at this time to provide a definitive report. Our delay in submittal of this report was discussed with Mr. Duane Danielson of your office on September 6, 1984.

DISCUSSION

Reference (a) provided the Commonwealth Edison Company 10 CFR 50.55(e) thirty day report concerning the failure of the Boeing Steam Generator Snubbers during confirmatory testing at ITT Grinnell in Warren, Ohio in June, 1984. The cause of the snubber seal leakage and resultant testing failures remains unresolved at this time and is being addressed under report number 84-05 for Byron Station and number 84-11 for Braidwood Station. The purpose of this deficiency report is to document and address the material deficiencies that have since been discovered within the Boeing Steam Generator Snubbers.

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DESCRIPTION OF DEFICIENCY

The Commonwealth Edison Company has contracted ITT Grinnell to re-design and re-qualify a limited number of the Boeing Steam Generator Snubbers to accommodate our Byron Unit 1 fuel load requirements. During the tear-down of the snubbers and subsequent critical review of the parts within, various deficiencies have been observed. A well-documented evaluation of the materials within each snubber is being performed involving visual and dimensional inspection, and ultrasonic examination. As defects are discovered, each has been and will continue to be discussed with Mr. Isa T. Yin of Region III.

We have discovered two defects which question the integrity of certain parts. A laminar indication was detected in the piston rod end blade supplied with snubber serial number 4. Additionally, a linear indication in an end cap to rear blade weld supplied with snubber serial number 1 was detected. However, because each is limited to a discrete part, we do not believe that these defects question the integrity of the remaining materials.

In addition to these defects, other general degraded conditions were observed including thread damage, scoring and scratches on numerous parts, and metal debris found within the snubbers. These conditions for snubber serial numbers 1, 6, 10, 13, 19, 23 and 25 are documented in ITT Grinnell Corporation Report Nos. FSE-789 and FSE-813 providing the visual inspection and dimensional evaluation. Conditions that are found as the remaining snubbers are inspected will be documented as well.

ANALYSIS OF SAFETY IMPLICATIONS

As stated in Reference (a), the function of the Steam Generator Snubbers are two-fold. These snubbers allow movement of the Steam Generators due to thermal expansion and contraction of the Reactor Coolant System (RCS) during normal operation. Additionally, these snubbers resist movement of the Steam Generators during a Design Basis Event to ensure that the ASME Code allowable stresses of the RCS are not exceeded. The snubbers control the undesirable movement of the Steam Generators resulting from seismic shock and/or pipe rupture loading.

It has not been determined at this time what the relationship is between the material deficiencies found within the snubbers and the snubber seal leakage resulting in testing failures. Further, the extent to which these material deficiencies in and of themselves, notwithstanding seal leakage, would prevent the

Steam Generator Snubbers from performing their intended function and resisting design loads during a Design Basis Event is not known.

CORRECTIVE ACTION TAKEN

Concerning the laminar indication on the piston rod end blade, the Boeing Engineering Company Southeast, Inc. performed a re-inspection on August 20, 1984. This indication has been interpreted in accordance with ASME SA578 Level I Supplemental Requirement S-1, and the indication appears to meet the applicable code acceptance criteria. A review of the data package indicates that Boeing Engineering and Construction Company had noted this indication during fabrication of the snubber and dispositioned this indication in accordance with their program using NCR #361. However, a comparison of the indication initially found at the time of fabrication and that found during the current examinations is being performed.

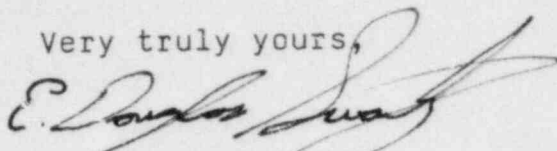
Concerning the indication in the end cap to rear blade weld, this defect is yet to be evaluated by Boeing. However, the review of our records indicates that no NCR was ever initiated by Boeing to disposition this indication.

Boeing has completed a preliminary analysis of the dimensional non-conformances reported by ITT Grinnell in Report Nos. FSE-789 and FSE-813, and has provided the results in a letter dated September 10, 1984 from O. R. Sanders to Sargent & Lundy. The general degraded conditions that were observed involving the remaining snubber parts are being corrected by the refurbishment efforts of ITT Grinnell. We believe that these conditions will therefore not affect the re-designed snubbers because these defects are being removed or corrected due to machining rework and refurbishment. This position has been supported by the Boeing analysis.

At this time, the Commonwealth Edison Company has not decided what corrective actions will be taken to address the snubber requirements of Byron Unit 2 and Braidwood Units 1 and 2. However, as additional Boeing snubbers are inspected, we will continue to document material conditions, including photographing the surface defects found, and we will provide this documentation to Region III.

We will continue to keep Mr. Isa T. Yin appraised of developments in this matter, and we anticipate submittal of a supplemental report as additional documentation packages are developed and reviewed. In the interim, please address any questions that you or your staff may have concerning this matter to this office.

Very truly yours,



E. Douglas Swartz
Nuclear Licensing Administrator

EDS/rap

cc: I. T. Yin
RIII Resident Inspector - Byron
RIII Resident Inspector - Braidwood

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