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May 26, 1983

Mr. James G. Keppler, Regional Administrator
Directorate of Inspection and
Enforcement - Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Byron Station Unit 1
10 CFR 50.55(e) 30 Day Report
Preservice Inspection Weld
Indications
NRC Docket No. 50-454

References (a): E. D. Swartz letter to H. R. Denton
dated March 23, 1983.

(b): D. L. Farrar letter to J. G. Keppler
dated May 16, 1983.

Dear Mr. Keppler:

On April 29, 1983, the Commonwealth Edison Company Project Engineering Department notified Mr. Julian M. Hinds of your office of a deficiency reportable pursuant to 10 CFR 50.55(e) regarding weld indications identified during the Unit 1 Preservice Inspection at Byron Station. For your tracking purposes, this deficiency was assigned Number 83-05.

This letter fulfills the thirty (30) day reporting requirements of 10 CFR 50.55(e) regarding this matter and is considered to be an interim report.

DESCRIPTION OF DEFICIENCY

The preservice nondestructive examination under ASME Section XI 1977 Edition, with addenda through the Summer 1978 Addenda, has resulted in seven (7) rejectable indications in weld seams on Steam Generators #1 and #2, and the Pressurizer of Byron Unit 1. On Steam Generator #1, two (2) indications are located in weld seam SGC-03, which is the third circumferential weld from the bottom of the steam generator. On Steam Generator #2, three (3) indications are located on weld seam SGC-06, the circumferential weld between the transition cone and the upper shell. On the Pressurizer, two (2) indications are located on weld seam PC-01, the circumferential weld between the shell and the bottom head.

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ANALYSIS OF SAFETY IMPLICATIONS

Stresses due to system pressure and repeated heat-ups and cooldowns have the potential for causing Code rejectable weld indications to propagate into through-wall cracks. There is a possibility that such propagation might occur before it could be detected by nondestructive testing during the first inservice inspection interval.

For the indications in the Pressurizer, a through-wall crack would result in Reactor Coolant System (RCS) leakage. In such an event, the loss of RCS inventory is expected to be small and would be detected by the various available Reactor Coolant Inventory Monitoring Systems. A detailed description of these monitoring systems can be found in Section 5.2.5 of the Byron FSAR as recently revised and documented in References (a) and (b).

For the indications in the Steam Generators, a through-wall crack would result in a secondary system steam leak. If such a leak occurred, the leak would be expected to be small and it would be detected by a change in the containment environmental parameters as well as a change in the containment sump inventory.

In both cases of weld indication propagation, the resultant leaks are expected to be promptly detected in order to prevent any adverse safety consequences.

CORRECTIVE ACTION

The seven (7) weld indications were originally identified by the preservice inspection contractor. After the examination data was analyzed by Westinghouse, re-examinations of the indications were performed to verify the accuracy of the original data. The results are as follows:

A. Steam Generator #1 - One indication is rejectable and one indication is marginally rejectable based on Section XI calculations. Both indications will be removed.

B. Steam Generator #2 - Re-examinations were prevented by insulation rings needed for hot functional testing. The re-examinations will be performed after the completion of hot functional testing. The acceptablility of the three indications will be determined from the results of these examinations.

C. Pressurizer - Re-examination of the two (2) indications were performed, however, the accuracy of the data is somewhat suspect due to the complex entry surface geometry. Conclusions on acceptability are contingent on further analysis of geometrical configurations of weld area after hot functional testing.

Hot functional testing is expected to be completed by August 1, 1983. The disposition of all weld indications should be finalized within ninety (90) days following this date and a final report will be provided at that time. All required repairs will be made prior to final fuel load.

Please address any qestions that you or your staff may have concerning this matter to this office.

Very truly yours,

P.L. Barnes for

E. Douglas Swartz
Nuclear Licensing Administrator

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cc: Region III Inspector - Byron
Director of Insp. and Enf.
US Nuclear Regulatory Commission
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