

THE CINCINNATI GAS & ELECTRIC COMPANY



CINCINNATI, OHIO 45201

July 2, 1982
QA-1847

E. A. BORGMANN
SENIOR VICE PRESIDENT

U. S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Attention: Mr. J. G. Keppler

RE: WM. H. ZIMMER NUCLEAR POWER STATION UNIT I
10CFR50.55(e) - ITEM M-46, DEFECTS IN HVAC
TURNING VANES, DOCKET NO. 50-358, CONSTRUCTION
PERMIT NO. CPPR-88, W. O. #57300, JOB E-5590
FILE NO. NRC-8, ITEM M-46

Gentlemen:

This letter constitutes an interim report under 10CFR50.55(e) regarding defects in HVAC turning vanes which we have determined to be reportable. The turning vanes were fabricated without stitch weld details being reviewed and approved by the Architect-Engineer, and the vane installed within the duct without adequate installation detail drawings. This resulted in the construction and installation of the turning vanes without adherence to appropriate project specifications.

Turning vanes in four (4) HVAC duct elbows broke loose during normal system operating condition and substantially reduced the air flow in the affected HVAC systems.

In the essential Control Room HVAC system (VC) two (2) turning vane failures occurred. One (1) in the 60"x30" rectangular radius elbow located immediately downstream of return air fan 1VC04CA and the other in the 48"x40" rectangular mitered elbow also located downstream of fan 1VC04CA.

One (1) turning vane failure occurred in the non-essential Turbine Building ventilation system (VT) in the 94"x30" rectangular radius elbow located downstream of the supply air fans 1VT15CA, CB and CC.

The fourth turning vane failure occurred in the non-essential Reactor Building ventilation system (VR) in the 72"x72" rectangular radius elbow located downstream of supply air fans 1VR04CA, CB and CC.

All turning vanes were single thickness galvanized steel plate which was fastened to the sides of the elbow with stitch welds except for the mitered elbow where the vanes were stitch welded to vane runners which were fastened to the sides of the elbow. No intermediate supports had been installed along the vane lengths as required by the design specification.

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In all instances, turning vane failures occurred at the interface of the vane and/or vane runner and the elbow cheeks.

CG&E Engineering is evaluating the installation of turning vanes in other HVAC Systems to determine the extent of occurrence of the deficiency throughout the plant and develop total corrective action. Preliminary findings indicate that the HVAC Contractor responsible for fabrication of duct elbows did not submit, for approval to Sargent & Lundy, complete installation details showing vane attachment, reinforcing, metal gauge, etc. Further, a cursory field check of other elbows installed indicated that a uniform pattern weld spacing and configuration was not adhered to in vane attachment installation.

This evaluation and determination of acceptable corrective action is expected to be complete by September 30, 1982, and a follow-up report will be submitted at that time.

We trust the above will be found acceptable as an interim report under 10CFR50.55(e).

Very truly yours,

THE CINCINNATI GAS & ELECTRIC COMPANY

By



E. A. BORGMANN
SENIOR VICE PRESIDENT

RPE:ec

cc: NRC Resident Inspector
Att : W. F. Christianson
NRC Office of Inspection & Enforcement
Washington, D.C. 20555