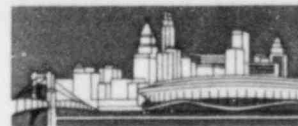


THE CINCINNATI GAS & ELECTRIC COMPANY



CINCINNATI, OHIO 45201

October 13, 1982
QA-2050

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
Regional Administrator

RE: WM. H. ZIMMER NUCLEAR POWER STATION - UNIT 1
10CFR50.55(e), ITEM M-46, TURNING VANE
FAILURES IN HVAC SYSTEMS, DOCKET NO. 50.358,
CONSTRUCTION PERMIT NO. CPPR-88,
W.O. 57300, JOB E-5590, FILE NO. NRC-8, M-46

Gentlemen:

This letter constitutes an interim report concerning the subject deficiency initially reported to the Commission under the requirements of 10CFR50.55(e).

Our previous letter, QA-1847, dated July 2, 1982 stated that turning vanes in four (4) HVAC duct elbows broke loose during normal system operating conditions. Three (3) additional failures have been discovered since our previous report.

The scope of our evaluation of the turning vane failures has been to determine potential causes; implement an investigation consisting of analysis, field walkdowns, and testing to scope the problem; and establish corrective actions.

We now believe these failures may have occurred at other than normal operating conditions.

We now believe the failures to have been fatigue induced. All failures occurred in or near the heat effected zone where the turning vanes were welded to the duct itself. We believe higher than normal stresses may have been inducted in those locations due to operation of the systems under off design conditions during the construction period. During those periods (prior to testing and balancing) systems were operated without filters and/or with sections of ductwork removed. Exact conditions were not recorded but such situations did exist and could have resulted in higher than normal air velocities.

8210260279 821013
PDR ADDCK 05000358
S PDR

IE27

OCT 18 1982

Mr. J. G. Keppler
Regional Administrator
Region III
October 13, 1982 - QA-2050
Page 2

Analysis indicates a 40% velocity increase could substantially increase the stresses at the vane/duct weld location. Thus we believe the vanes could have been subjected to stresses significantly greater than normal.

Since we believe these failures to have been fatigue induced we propose to confirm the adequacy of the remaining turning vanes via testing.

The test would operate the system at the maximum velocity which would be expected under the worst operating conditions for approximately 10^7 cycles (approximate 720 hours of operation). Following this test, representative locations will be examined for evidence of failure. Normal fatigue engineering indicates if failure has not occurred by that time the probability of failure is very low.

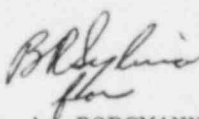
Corrective actions consist of repairing elbow turning vanes which have failed by adding supports in excess of original design and secondly, to add supports in excess of original design to selected elbows located in high radiation exposure zones to provide even more design margin and preclude future personal exposure due to rework of duct work.

A follow-up report will be submitted on January 15, 1983. 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

HCN/KRK/cse
cc: NRC Office of Inspection & Enforcement
Washington, D.C. 20555
NRC Senior Resident Inspector
Attn: W. F. Christianson
Zimmer Project Inspector
Region III