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December 15, 1989

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Subject: McGuire Nuclear Station
Docket Nos. 50-369, 370
Inspection Report Nos. 369, 370/89-24
Reply to a Notice of Violation

Gentlemen:

Pursuant to 10CFR.201, please find attached Duke Power Company's response to Violation 369, 370/89-24-03 for the McGuire Nuclear Station.

Should there be any questions concerning this matter, contact W. T. Byers at (704) 373-6194.

Very truly yours,

Hal B Tucker / RJS

Hal B. Tucker

WTB145/lcs

Attachment

xc: Mr. S. D. Ebneter
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta St., NW, Suite 2900
Atlanta, Georgia 30323

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

Mr. P. K. VanDoorn
NRC Resident Inspector
McGuire Nuclear Station

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ENCLOSURE 1

REPLY TO A NOTICE OF VIOLATION

Violation 50-369, 370/89-24-03

In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Action," 10CFR Part 2, Appendix C, (1989), the violation is set forth below:

> 10 CFR 50, Appendix B, Criterion III, Design Control, requires in part that measures be established to assure that applicable regulatory requirements and the design basis for structures, systems, and components are correctly translated into specifications, drawings, procedures, and instructions. It is further required that these measures provide for verifying the adequacy of design, such as by the performance of design reviews, by the use of calculational methods, or the performance of a testing program.
>
> Contrary to the above, design control measures were inadequate in that:
>
> 1. In August 1989, it was found that the Annulus Ventilation Systems on both units had been inoperable since initial licensing. It was found that the Annulus Ventilation Systems were unable to produce and maintain their negative pressure requirements throughout the annulus under all possible outside air temperatures following a loss of coolant accident.
>
> 2. In August 1989, it was found that the Control Area Ventilation System had been inoperable since initial licensing. It was found that the Control Area Ventilation System had not met pressurization requirements of maintaining at least 1/8-inch water gauge positive pressure in the control room relative to outside atmosphere.
>
> This is a Severity Level IV Violation.

Reply to Part 1. of the Violation - Annulus Ventilation System

1. Admission or Denial of the Violation

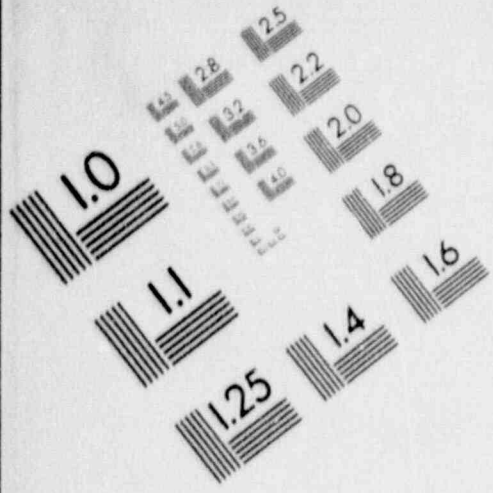
   The violation is admitted as stated.

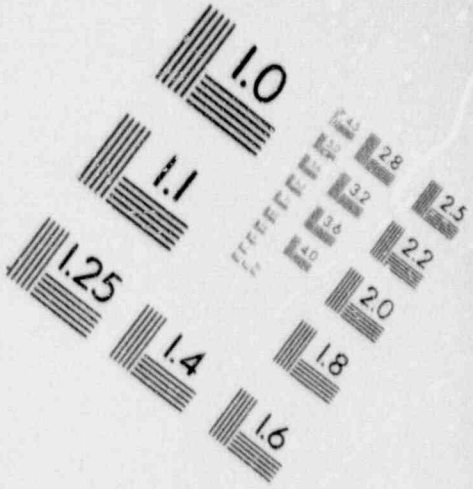
2. Reason for the Violation if Admitted

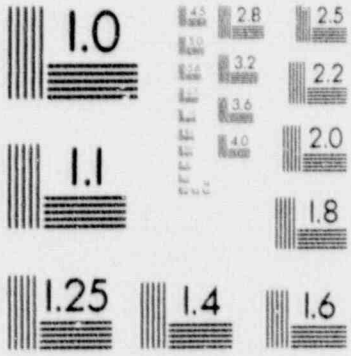
   This violation is the result of a Design Deficiency because of unanticipated environmental interaction. The initial design analyses did not take into consideration the temperature-induced difference in the pressure gradients inside and outside the annulus.

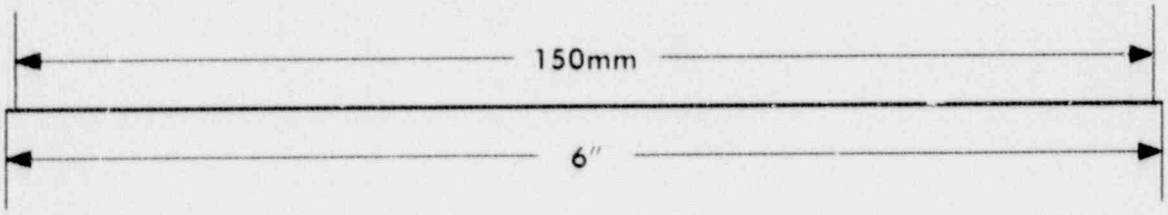
1

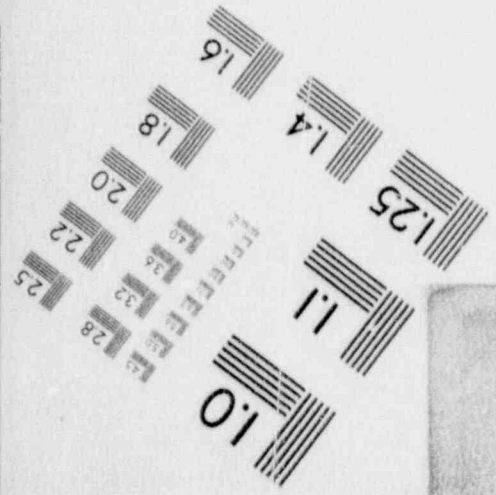
IMAGE EVALUATION TEST TARGET (MT-3)











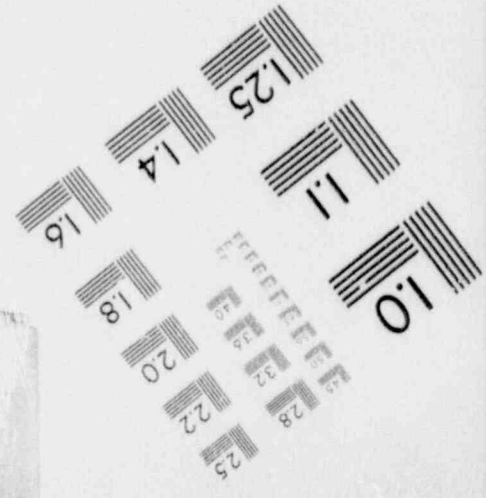


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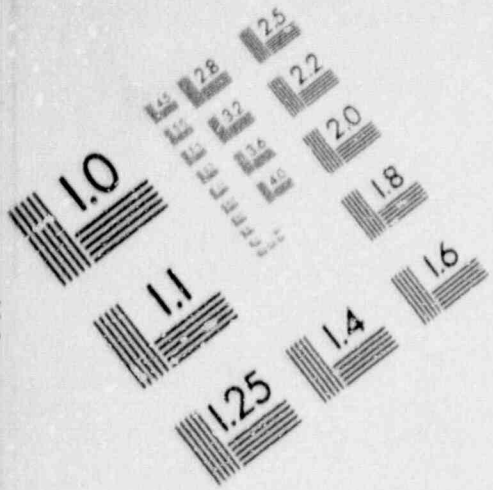
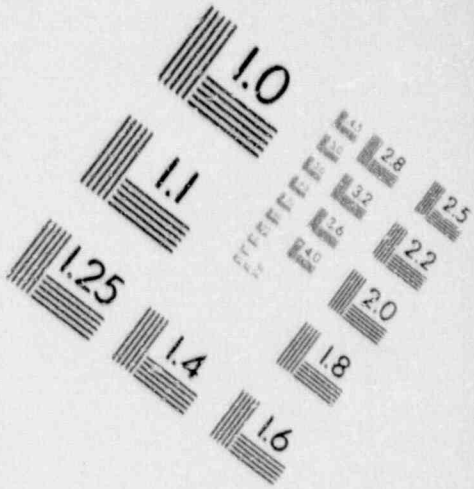
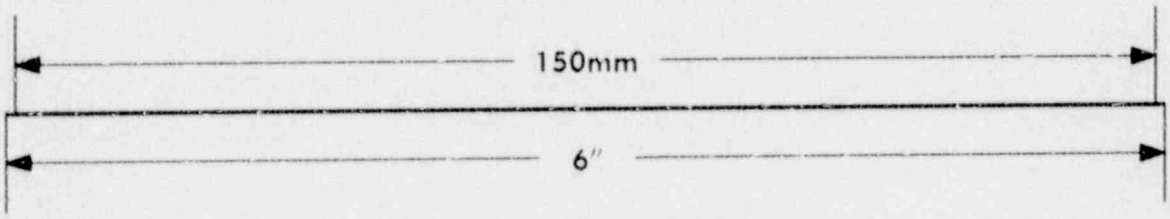
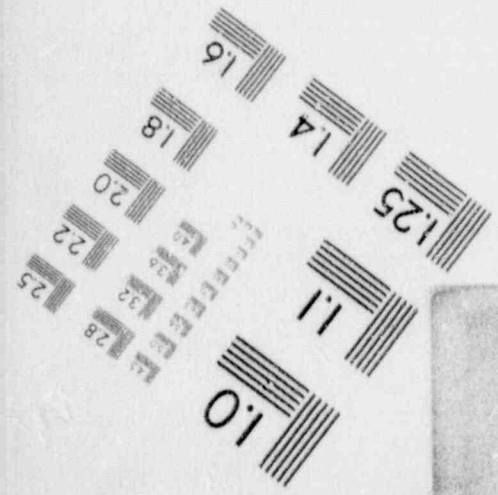
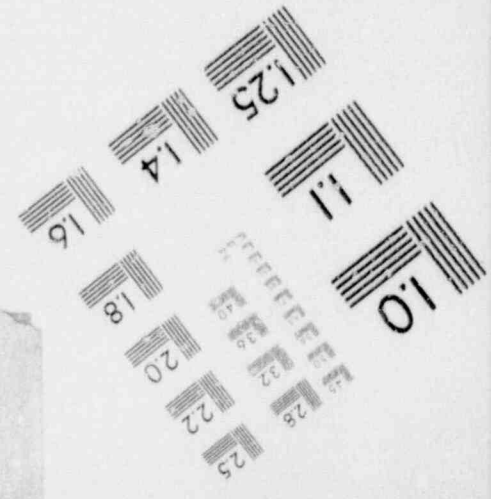
IMAGE EVALUATION TEST TARGET (MT-3)











1

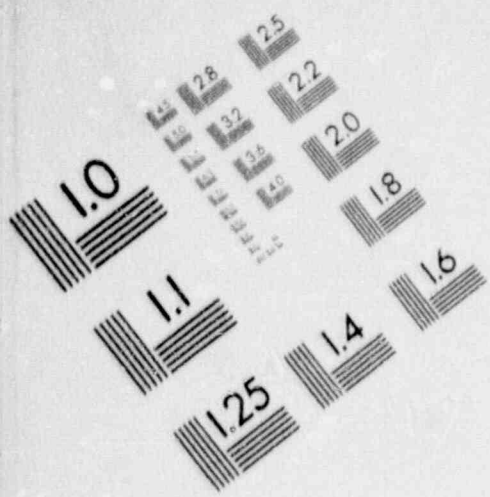
IMAGE EVALUATION TEST TARGET (MT-3)

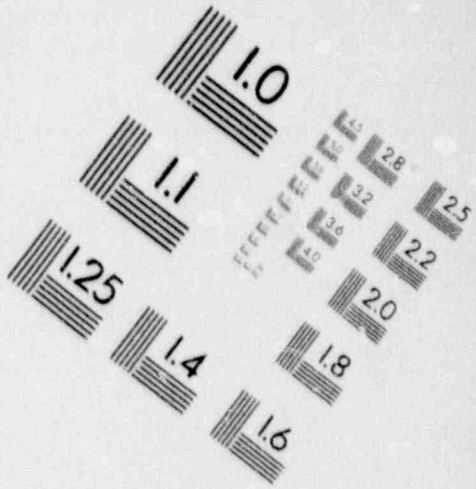
150mm

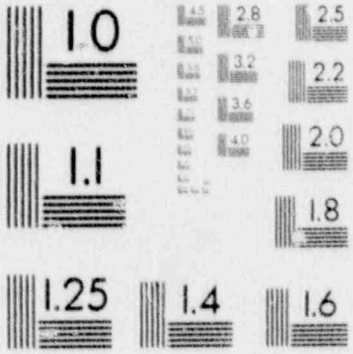
6"

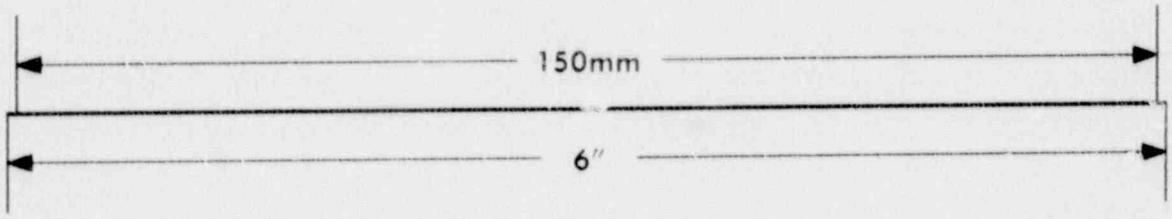
1

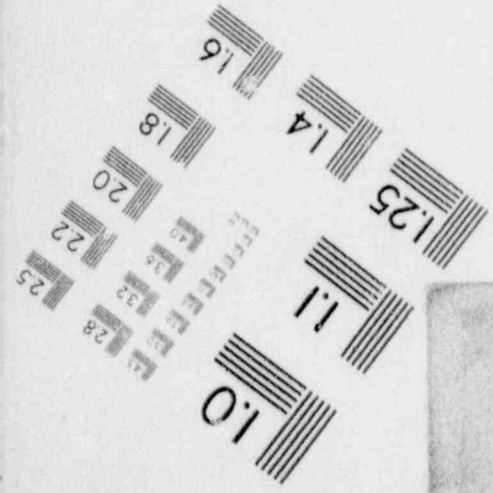
IMAGE EVALUATION TEST TARGET (MT-3)

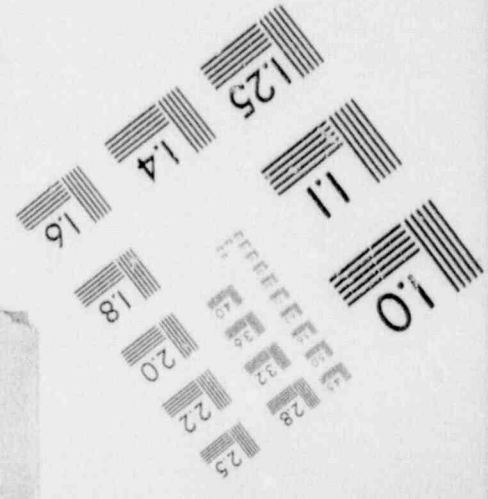












3. Corrective Steps which have been taken and Results Achieved

The following corrective actions were taken:

a. Design Engineering and Nuclear Production personnel performed an operability evaluation based on the condition of the VE system in the configuration at the time of the event and a statement was issued stating that continued operation of Unit 1 was as safe as shutting Unit 1 down. Consequently, Discretionary Enforcement was requested and subsequently granted by NRC/Region II.

b. Design Engineering personnel determined that VE system setpoints could be adjusted by negative 0.7 inches W.G. as necessary to account for the effect identified in NRC Information Notice 88-76.

c. Exempt Variation Notices were initiated to change the VE system setpoints for Unit 1 and Unit 2.

d. Instrumentation and Electrical (IAE) personnel implemented the setpoint changes for Unit 1 and Unit 2.

e. Performance personnel performed procedure PT/1, 2/A/4450/03C, Annulus Ventilation System Performance Test, to ensure TS requirements were met.

The above corrective actions ensure that the Technical Specification requirement for a minimum negative pressure of 0.5 inches W.G. is met for all areas of the Annulus.

4. Corrective Steps Planned to Avoid Further Violations

The following corrective actions will be taken to avoid further violations:

a. Design Engineering personnel will review all safety related ventilation system differential pressure transmitters that indicate or control building pressurization (positive or negative) to ensure that reference point differences are accounted for.

b. Design Engineering personnel will develop a Design Basis Document for the VE system.

5. Date When Full Compliance Will be Achieved

Completion of all corrective actions for the VE system is scheduled for June, 1990. This date allows time to complete the Design Basis Document for the VE System.

Reply to Part 2. of the Violation - Control Area Ventilation System

1. Admission or Denial of the Violation

The violation is admitted as stated.

2. Reason for the Violation if Admitted

This violation is the result of a Design Deficiency because of a design oversight that required testing the Control Room positive pressure with respect to the Cable Spreading Room and not the outside atmosphere. The Cable Room was chosen because it is relatively unaffected by outside influences, it is controlled by a safety related ventilation system, the majority of the penetrations into the Control Room are from the Cable Spreading Room, and that the Cable Spreading Room was representative of outside atmosphere as it was not a pressurized area. This boundary was assumed to be the most conservative because any degradation in pressure seals would most likely occur within this boundary and would be discovered during surveillance testing.

3. Corrective Steps which have been taken and Results Achieved

The following corrective actions were taken:

a. Operations personnel revised procedures OP/1/A/1600/10R and 10Q, Annunciator Response for Annunciator 1RAD1 and 1KAD2, to instruct Control Room personnel to ensure all 4 outside inlets are open in all conditions of operation.

b. Performance personnel inspected the smoke purge fan to ensure that no air was being drawn from the Control Room AHU plenum to the VA system unfiltered exhaust intake through the smoke purge exhaust fan. No loss of air was identified.

c. Design Engineering personnel submitted a Station Problem Report to evaluate replacing the OAPFT discharge check dampers with dampers that have improved sealing characteristics.

d. A permanent atmosphere reference point was installed in a sheltered area outside in accordance with Urgent Modification MG-52281.

e. Mechanical Maintenance personnel inspected the tornado valves to ensure no additional restrictions exist in the outside intake lines. The valves operated freely.

f. Performance personnel performed a visual inspection of Control Room Air Handling Units A and B duct/dampers for external leakage.

g. Performance personnel inspected the backflush valves 1VC-13 and 1VC-14 to ensure they are locked closed.

h. Design Engineering and Mechanical Maintenance personnel evaluated the feasibility of using a non-permeable sealant for cable penetrations. Additional sealing efforts have been completed.

i. Projects, Performance and Mechanical Maintenance personnel sealed infrequently used Control Room doors with RTV.

4. Corrective Steps Planned to Avoid Further Violations

The following corrective action will be taken:

1. Design Engineering and Projects personnel will evaluate upgrading Control Room doors to provide additional leak tightness.

2. Performance personnel will perform additional inspection of Control Room Air Handling Units A and B duct/dampers for external leakage.
3. The OAPFT discharge check dampers will be replaced with new, tighter sealing check dampers.

The above corrective actions will work toward ensuring that the Technical Specification requirement for a positive pressure of $\geq$ 0.125 inches watergauge (WG), relative to outside atmosphere, can be maintained during operation in the Control Room.

5. Date When Full Compliance Will Be Achieved

Completion of activities on Control Room Pressurization is scheduled for October, 1990. Additional time is required to procure and install new, tighter sealing check dampers as described in 3.C.