Official

JUL 18 1990

Docket Nos. 50-269, 50-270, 50-287
License Nos. DPR-38, DPR-47, DPR-55

Duke Power Company
ATTN: Mr. H. B. Tucker, Vice President
Nuclear Production Department
P. O. Box 1007
Charlotte, NC 28201-1007

Gentlemen:

SUBJECT: ENFORCEMENT CONFERENCE SUMMARY
(INSPECTION REPORT NOS. 50-269/90-17, 50-270/90-17 AND 50-287/90-17)

This letter refers to the Enforcement Conference held at our request on July 12, 1990. This meeting concerned activities authorized for your Oconee facility. The issue discussed at this conference related to a design deficiency in the Penetration Room Ventilation System. A list of attendees, a summary, and a copy of your handout are enclosed. We are continuing our review of these issues to determine the appropriate enforcement action.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

Should you have any questions concerning this letter, please contact us.

Sincerely,

/S/

Luis A. Reyes, Director
Division of Reactor Projects

Enclosures:
1. List of Attendees
2. Enforcement Conference Summary
3. Enforcement Conference Handout

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7/17/90

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ENCLOSURE 1

LIST OF ATTENDEES

U.S. Nuclear Regulatory Commission

S. D. Ebneter, Regional Administrator, Region II
L. A. Reyes, Director, Division of Reactor Projects (DRP)
E. W. Merschoff, Acting Director, Division of Reactor Safety (DRS)
D. B. Matthews, Director, Project Directorate II-3, NRR
G. R. Jenkins, Director, Enforcement and Investigation Coordination Staff (EICS)
A. R. Herdt, Branch Chief, DRP
L. D. Wert, Resident Inspector, Oconee
K. N. Jabbour, Project Manager, NRR
B. Uryc, Senior Enforcement Coordinator, EICS
P. J. Kellogg, Section Chief, DRS
W. T. Orders, Senior Resident Inspector, Catawba
R. D. Gibbs, Reactor Engineer, DRS
B. R. Bonser, Project Engineer, DRP

Duke Power Company

M. S. Tuckman, General Manager Nuclear Support
H. B. Barron, Station Manager, Oconee
B. L. Peele, Design Engineering, Oconee Engineering Division
T. Curtisz, Oconee Compliance Manager
P. Guill, Regulatory Compliance
R. Lytton, Design Engineering, Oconee Engineering Division
C. Hanlin, Oconee Operations
B. Dolan, Oconee Design Engineering

ENCLOSURE 2

ENFORCEMENT CONFERENCE SUMMARY

On July 12, 1990, representatives from Duke Power Company (DPC) met with the NRC in the Region II office in Atlanta, Georgia to discuss a design deficiency in Oconee's Penetration Room Ventilation System.

Following opening remarks by Stewart Ebneter, NRC RII, Regional Administrator, DPC gave a presentation on the issue (Enclosure 3).

DPC's presentation covered a description and design basis of the Penetration Room Ventilation System; a design history; a description of the problem and current condition of the system; the Generic Letter 88-14 response, corrective actions and results; and a safety assessment. In summary, DPC made five major points:

- The root cause was an initial design deficiency in that all loss of instrument air events were not adequately addressed.

- The response to Generic Letter 88-14 was not broad enough in scope. Passive valves need to be tested in addition to the active valves already tested.

- The problem would probably have been identified during the Design Basis Documentation effort. However, DPC acknowledged that this system was of a lower priority and would not have been looked at soon.

- Off-site doses would not be significant with respect to Part 100 limits using realistic assumptions.

- The system was fully functional at all times.

The NRC closed the meeting by stating that Duke's presentation had served to enhance Region II's understanding of this issue and their corrective actions.

ENCLOSURE 3

OCONEE NUCLEAR STATION

PENETRATION ROOM VENTILATION SYSTEM DESIGN DEFICIENCY

NRC ENFORCEMENT CONFERENCE JULY 12, 1990

INTRODUCTION

SYSTEM DESCRIPTION AND DESIGN BASIS

DESIGN HISTORY

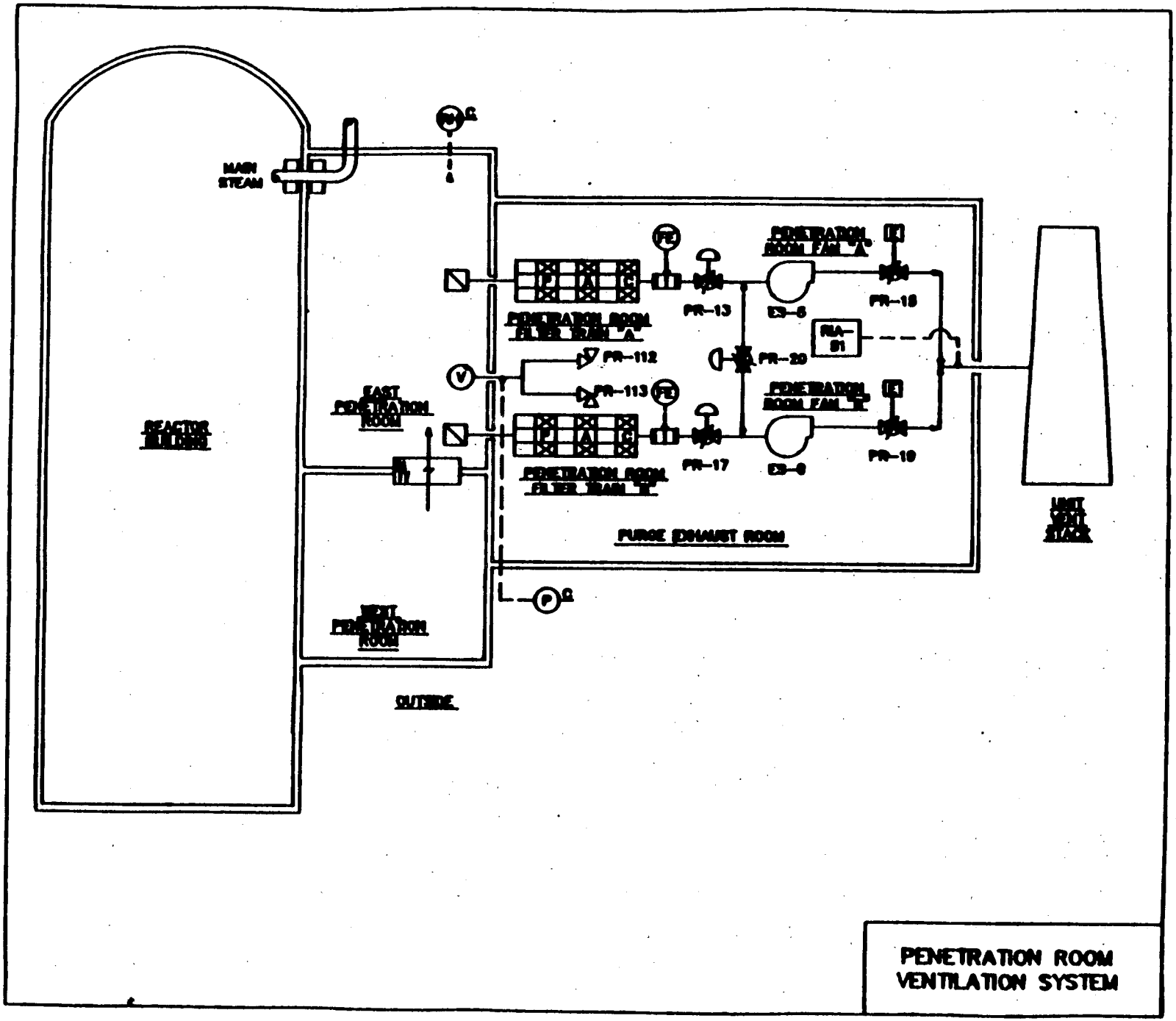
DESCRIPTION OF THE PROBLEM AND CURRENT CONDITION

GENERIC LETTER 88-14 RESPONSE

CORRECTIVE ACTIONS AND RESULTS

SAFETY ASSESSMENT

SUMMARY


MAIN STEAM
REACTOR BUILDING
FAST PENETRATION ROOM
PENETRATION ROOM FILTER TRAIN "A"
PENETRATION ROOM FILTER TRAIN "B"
PENETRATION ROOM FAN "A"
PENETRATION ROOM FAN "B"
PR-13
PR-17
PR-18
PR-19
PR-20
PR-112
PR-113
EX-A
EX-B
FIA-81
PURGE EXHAUST ROOM
UNIT VENT STACK
OUTSIDE
PENETRATION ROOM VENTILATION SYSTEM

DESIGN BASIS

PROCESS CONTAINMENT LEAKAGE FOLLOWING A MAXIMUM HYPOTHETICAL ACCIDENT (MHA)

ASSUMPTIONS

50% OF LEAKAGE IS PROCESSED BY PRVS FILTERS

90% REMOVAL RATE OF IODINES

DESIGN HISTORY

INITIAL DESIGN: MANUAL HANDWHEEL THROTTLE VALVES

DESIGN CHANGE TO REMOTE OPERATED AOV'S, IN RESPONSE TO NRC CONCERNS FOR OPERATOR RADIATION EXPOSURE (MARCH 1970)

FAIL CLOSED DESIGN APPARENTLY CHOSEN TO PROTECT FILTER FROM HIGH FLOW DURING LOSS OF INSTRUMENT AIR EVENT

FOLLOWING LOSS OF OFFSITE POWER EVENT, SYSTEM RECOVERY POSSIBLE IF FAILED CLOSED, BUT POSSIBLY NOT IF FILTER DAMAGED FROM EXCESSIVE FLOW

FAIL CLOSED DESIGN WELL DOCUMENTED THROUGHOUT PLANT HISTORY

DESCRIPTION OF THE PROBLEM AND CURRENT CONDITION

CONCERN WITH FAIL CLOSED DESIGN RAISED BY NRC RESIDENT INSPECTOR (JUNE 1990)

NEITHER FAIL CLOSED NOR FAIL OPEN DESIGN IS FULLY ACCEPTABLE

PRESENT DESIGN IS FAIL TO THROTTLED POSITION WITH (NON-SEISMIC) REMOTE CAPABILITY FOR OPENING

EXPERIENCE AND ANALYSIS DO NOT SHOW NEED TO RE-THROTTLE

GENERIC LETTER 88-14 RESPONSE

UTILIZED OCONEE "ACTIVE" VALVE LIST AS BASIS FOR REVIEW OF INSTRUMENT AIR PROBLEMS

PASSIVE VALVES NOT INCLUDED IN SCOPE OF REVIEW

PR-13 AND 17 NOT CLASSIFIED AS ACTIVE

GL 88-14 REQUESTED DESIGN VERIFICATION OF ALL COMPONENTS WITH SAFETY FUNCTION

CORRECTIVE ACTIONS AND RESULTS

VALVES MODIFIED AND OPERABILITY EVALUATION PROVIDED

ALL AIR OPERATED VALVES REVIEWED

- ~1075 ADDITIONAL VALVES EVALUATED
- 66 VALVES CLASSIFIED AS PASSIVE
- 3 VALVES ADDED TO ACTIVE LIST
- NO ADDITIONAL PROBLEMS IDENTIFIED

LONG TERM DESIGN OF PR-13 AND 17 UNDER EVALUATION

OCONEE FSAR AND GL 88-14 RESPONSE REVISIONS TO BE SUBMITTED

MCGUIRE AND CATAWBA GL 88-14 RESPONSES BEING REVIEWED

SAFETY ASSESSMENT

EXCLUSION AREA BOUNDARY 2-HOUR THYROID DOSES WITHOUT PENETRATION ROOM VENTILATION SYSTEM

ANALYSIS	SOURCE TERM	RELEASE ASSUMPTIONS	(R) DOSE
MHA	LICENSING (50% CORE IODINES)	LICENSING	> 300
DBA LOCA	100% GAP ACTIVITY (<2% IODINES)	LICENSING	< 20
MHA	REALISTIC	REALISTIC	< 1

REALISTIC DOSE ESTIMATES ARE SIGNIFICANTLY LOWER THAN PART 10CFR100 LIMITS

SUMMARY

ROOT CAUSE: INITIAL DESIGN DEFICIENCY - ALL LOSS OF INSTRUMENT AIR EVENTS NOT ADEQUATELY ADDRESSED

GENERIC LETTER 88-14 RESPONSE DEFICIENT - ONLY ACTIVE VALVES ADDRESSED

PROBLEM WOULD HAVE BEEN IDENTIFIED DURING DESIGN BASIS DOCUMENTATION EFFORT

REALISTIC OFF-SITE DOSES WOULD NOT BE SIGNIFICANT WITH RESPECT TO PART 100 LIMITS

SYSTEM WAS FULLY FUNCTIONAL AT ALL TIMES INSTRUMENT AIR WAS OPERABLE TO PR-13 AND PR-17