GENERAL ELECTRIC

NUCLEAR ENERGY DIVISION

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ATOMIC POWER EQUIPMENT DEPARTMENT

Letter No. 183-431-73

July 30, 1973

Mr. L. Manning Muntzing
Director of Regulations
U.S. Atomic Energy Commission
Washington, D.C. 20545

SUBJECT: GENERAL ELECTRIC COMPANY REVIEW OF ATOMIC ENERGY COMMISSION REGULATORY GUIDE 1.7

REFERENCES:

(1) Letter from General Electric (J.A. Hinds) to AEC (L. Rogers), No. 183-379-72, dated September 11, 1972

(2) Wilson, R.M., and Slifer, B.C., "Hydrogen Generation and the General Electric Boiling Water Reactor," NEDO-10723, February 1973

(3) Slifer, B.C. and Peterson, T.G., "Hydrogen Flammability and Burning Characteristics in BWR Containments," NEDO-10812, April 1973

(4) Scatena, G.J., "An Analytical Procedure for the Conservative Calculation of Core Metal-Water Reaction Following a Design Basis Loss of Coolant Accident," NEDO-11013-77, May 1972

Dear Mr. Muntzing:

Reference (1) presented the General Electric Company opinions on AEC Regulatory Guide 1.7 as of September 1972. That letter mentioned that certain aspects of Safety Guide 7 are unrealistic. The Licensing Topical Reports of references (2), (3), and (4), which are currently under consideration by the AEC, describe studies and analyses conducted by General Electric Company pertaining to hydrogen generation and flammability. These studies provide a technical basis for establishing hydrogen flammability limits in BWR containments.

We believe that the technical information contained in the aforementioned topical reports represents a technically sound basis which can be utilized by the AEC in reevaluating the requirements of Regulatory Guide 1.7. We urge the AEC to reconsider and modify the Regulatory Position as reflected in Regulatory Guide 1.7 to reflect hydrogen

control requirements which are more consistent with the established technical considerations. We will be pleased to discuss these considerations with you further at your convenience.

Sincerely,

A.P. Bray, Manager
Applications Engineering

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6.4 STANDBY GAS TREATMENT SYSTEM

Ref. Q15.8 Section 6.4
Q 6.2.37
Q 15.17

6.4-1 - single active failure proof
- "seismic" Category I
- ~~emergency power supplies~~
- maintain -½" w.g. up to 83 mph wind
- separated by walls (Fig. 1.2-5)

6.4-2 - not used during normal operation
- 3000 cfm per train

boundary:
(1) enclosure building
(2) penetration rooms
(3) ECCS pump rooms
(4) fuel handling area - not clearly define

penetrations not included in SGTS:
1. fuel transfer tube - 2 valves + water seal
2. personnel lock - double gasketed test?
3. equipment hatch - double gasketed test?
4. [illegible]

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are gasketed seals testable? yes 6.4-2a
can through line leakage be tested?
can leakage through steam tunnel be tested? NO?
see 6.2.1.4 - YES

6.4-2a Leakage Bypass:

(1) lines open to atmos post LOCA but w/in SGTS boundary
— OK, all filtered

(2) lines which are isolated & extend beyond SGTS
— ?

(3) lines which are ~~not~~ isolated & don't extend beyond SGTS
— OK, all filtered

(4) lines open to atmos, and extend beyond the SGTS

Main steam? & feedwater lines are open to atmosphere — have not been considered

Are there any instrument lines connected to reactor coolant pressure boundary & with SGTS boundary?

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6.4-2c max. air inlet temp = ~~148~~ 148 F
100% R.H.

environmental design specs?

6.4-3 drawdown to $-\frac{1}{4}$" W.g 48 seconds
assuming both trains are operating
check emergency bus loading, all fans
fans must be hooked to 2 buses.

Fig. 6.4-1 - I don't understand the
inlet line arrangement on
penetration rooms.
- Should specify failure modes of
valves

Also don't understand fuel handling
area lines.