THE CINCINNATI GAS & ELECTRIC COMPANY

CINCINNATI, OHIO 45201

E. A. BORGMANN
SENIOR VICE PRESIDENT

Docket No. 50-358

July 30, 1981

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U.S. NUCLEAR REGULATORY COMMISSION

Mr. Harold Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: WM. H. ZIMMER NUCLEAR POWER STATION - UNIT 1 - BWR SCRAM DISCHARGE SYSTEM SAFETY EVALUATION

Dear Mr. Denton:

In response to the NRC Staff December 1, 1980 report entitled "BWR Scram Discharge System Safety Evaluation" as clarified by the staff letter dated March 30, 1981, there are attached six copies of our comments on that report. This matter was also the subject of IE Bulletins 80-14 and 80-17 and appeared in Supplement 1 to the SER as Section 4.6.2.

Very truly yours,

THE CINCINNATI GAS & ELECTRIC COMPANY

By E. A. Borgmann
E. A. BORGMANN

EAB:dew
Enclosure
cc: Charles Bechhoefer
M. Stanley Livingston
Frank F. Hooper
Troy B. Conner, Jr.
James P. Fenstermaker
Steven G. Smith
William J. Moran
J. Robert Newlin
Samuel H. Porter
James D. Flynn
F. T. Daniels
W. Peter Heile
James H. Feldman, Jr.
John D. Woliver
Mary Reder
David K. Martin
George E. Pattison
Andrew B. Dennison

State of Ohio)
County of Hamilton) ss

Sworn to and subscribed before me this 31st day of July, 1981.

Marilyn J. Luersen
Notary Public
MARILYN J. LUERSEN
Notary Public, State of Ohio
My Commission Expires June 7, 1986

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COMMENTS ON NRC STAFF
GENERIC SAFETY EVALUATION REPORT
BWR SCRAM DISCHARGE SYSTEM
DATED DEC. 1, 1980

COMMENT 1

CG&E feels it is important to emphasize that at this time no-one knows for sure what caused the float damage. Page 9 of your report states that larger flow rates or water hammer could have caused the damage. But neither of those mechanisms can address the random nature of the float damage. If one of the above mechanisms were responsible, there would be a repeatable pattern to the damage. Additionally, not all plants have experienced this float damage.

COMMENT 2

CG&E takes exception to the last sentence prior to section 2.1.2 that goes "...as previously discussed, damage occurs on scram or scram reset." Prior to this statement the SER many times states that this cause of the float damage is not definitely known.

COMMENT 3

By inuendo page 20 the SER implies that whenever water leaks into the IV it fills and degrades scram capability. This is not true, water leaking into the IV would flow to the clean radwaste, not fill the IV.

COMMENT 4

With regards to the plants excluded from requiring an automatic scram/air dump on low air header pressure, CG&E feels Zimmer should also be exempt due to the similarity of our SDIV design to those of Brunswick and Hatch (Table 1 on page 31). For the same reasons CG&E also believes that Zimmer should be excluded from the category of BWR's with inadequate hydraulic coupling.

COMMENT 5

CG&E completely concurs with the statement on page 29. "...In the long term, the improved hydraulic coupling will assure detection by level instrumentation and thereby provide a timely automatic scram independent of the inleakage rate when the SDV headers fill."

COMMENT 6

What follows is a list of NRC criteria from the SER which CG&E disagrees with or feels are not applicable to Zimmer. The criteria not addressed

COMMENT 6 CONTINUED

in the following pages are criteria that CG&E agrees with and/or Zimmer already meets.

4.2.2 Safety Criterion 1

No single active failure of a component or service function shall prevent a reactor scram, under the most degraded conditions that are operationally acceptable.

Technical Basis -- The single failure criterion provides the basis for this criterion.

Acceptable Compliance -- An acceptable means of complying with this criterion is to design the system such that partial losses of service functions (e.g., degraded control air pressure) as well as full loses do not adversely affect system function.

ZIMMER POSITION:

As stated under comment 4 we believe that Zimmer is exempt from this requirement due to our excellent hydraulic coupling.

4.2.2.2 Safety Criterion 2

No single active failure shall prevent uncontrolled loss of reactor coolant. (This criteria is directed at the single vent and drain isolation valves on the SDIV).

ZIMMER POSITION:

Disagree with the stated acceptable compliance for the following reasons.

1.) After many reactor years of operating experience there have been no reported failure of these valves.

2.) Should a vent and/or drain valve fail, resetting of the scram as soon as possible terminates loss of reactor water by closing outlet scram valves.

3.) Loss of Reactor water in this case is limited to CRD piston seal leakage which in the worst case is 5 gpm per CRD drive or 685 gpm total well within present make-up capabilities. Plus this "lost" reactor water is directed and contained by the RBEDT and not "uncontrolled" as stated in the technical basis for this criteria.

ZIMMER POSITION CONTINUED:

4.) SER states on page 11 that this failure need not be addressed in the short term. This seems to imply that it is really not a problem.

5.) Addition of a series valv. could introduce a new failure mechanisim. If it should be necessary to immediately drain the system, failure of one of the additional isolation valves would prevent drainage.

4.2.2.3. Safety Criterion 3

The scram discharge system instrumentation shall be designed to provide redundacy, to operate reliably under all conditions, and shall not be adversely affected by hydrodynamic forces or flow characteristics.

ZIMMER POSITION:

Zmmmer will implement Alternative 2 as modified by the March 30, 1981 letter on this subject taking exception to item (b) which requires that the damaged floats found at Brunswick have the damage mechanisim explained and compensated for. See Zimmer position for 4.2.4.3 Design Criterion 3.

4.2.2.4 Safety Criterion 4

System operating conditions which are required for scram shall be continuously monitored.

ZIMMER POSITION:

By meeting criteria 4.2.2.3, criteria 4.2.2.4 is satisfied.

4.2.2.5 Safety Criterion 5

Repair, replacement, adjustment, or surveillance of any system component shall not require the scram function to be bypassed.

ZIMMER POSITION:

Agree when this criteria is applied to the SDV/SDIV.

4.2.4.3 Design Criterion 3

Instrumentation taps shall be provided on the vertical instrument volume and not on the connected piping.

ZIMMER POSITION:

Disagree with NRC technical basis. While Brunswick and Hatch SDIV/SDV and associated piping have experienced high dynamic loading, there is no consistent evidence, in fact there is incongruous evidence as to why some of the float type level switch have failed. A more plausible explanation of float collapse is that the floats that collapsed were not properly isolated when the system was originally hydrostatically tested. If it were true, hydrodynamic forces that are causing floats to collapse, it would be present at all plants and would not have the random appearance and lack of symmetry experienced at Brunswick and Hatch.

Additionally, functional tests of the SDIV scram level switches after each scram would detect this collapsed float problem if it existed.

4.2.4.7 Design Criterion 7

Any reductions in the system piping flow path shall be analyzed to assure system reliability and operability under all modes of operation.

ZIMMER POSITION:

Not applicable to Zimmer.

4.2.4.10 Design Criterion 10

Vent and drain line valves shall be provided to contain the scram discharge water, with a single active failure and to minimize operational exposure.

ZIMMER POSITION:

Disagree - see 4.2.2.2

4.2.5.3 Surveillance Criterion 3

The operability of the entire system as in integrated whole shall be demonstrated periodically and during each operating cycle, by demonstrating scram instrument response and valve function at pressure and temperature at approximately 50% control-rod density.

ZIMMER POSITION:

Need clairification, right now disagree. To perform the intent of this test would necessiate placing the plant in an unsafe condition (i.e., water held in the SDV/SDIV) with control rods out.