



## GE Nuclear Energy

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U. S. Nuclear Regulatory Commission  
Washington DC 20555

Attention: Richard W. Borchardt, Director  
Standardization Project Directorate

**Subject: Request for Exemption of the SBWR Drywell  
to Wetwell Vacuum Breaker from the Single  
Failure Criteria**

- Reference:
1. GE letter MFN No. 018-95, J. E. Quinn (GE) to R. W. Borchardt (NRC), "Approach to Achieve Closure of Items Related to the GE SBWR TAPD," dated February 14, 1995.
  2. Letter, T. R. McIntyre (GE) to Richard W. Borchardt (NRC), Responses to the Referenced Letters, GE MFN No. 113-94, dated September 26, 1994.
  3. Letter, J. E. Leatherman (GE) to Richard W. Borchardt (NRC), NRC Requests for Additional Information (RAIs) on the Simplified Boiling Water Reactor (SBWR) Design, GE MFN No. 065-94, dated May 2, 1994.

The "SBWR Drywell to Wetwell Vacuum Breaker Valve White Paper" Attachment to this letter is the GE response to item No. 42 in Attachment 2 to the Reference 1 letter. The purpose of this paper is to present additional information regarding exemption of the SBWR vacuum breakers from the single failure criteria based on demonstrated reliability. The paper describes the design features of this special vacuum breaker valve which significantly improve its leak tightness and reliability performance. The paper also presents the rigorous leak tightness, performance, Design Basis Accident (DBA), and reliability testing which the valve has successfully undergone in substantiating this exemption from the single failure criteria.

In the GE Response to RAI Number 900.63 (Reference 2), a discussion of vacuum breaker actions for analyses, transients and accidents, including a Gravity Driven Cooling System (GDCS) line break and discussion of assumptions made for both

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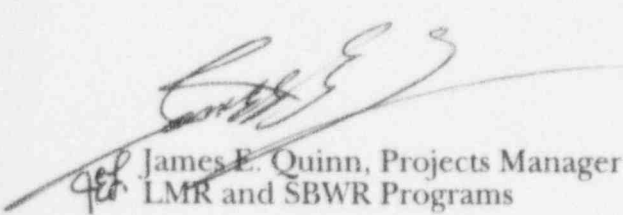


expected and "licensing basis" scenarios was presented. Reference 2 also included detail as to why failure to close (after actuation) of a drywell to wetwell vacuum breaker is not, in GE's view, a credible failure.

In the GE Response to RAI Number 900.62 (Reference 3), information was presented to enable the staff to access the adequacy of the wetwell-to-drywell vacuum breaker test program including: drawings of the vacuum breaker and instrumentation; the vacuum breaker Purchase Specifications; a copy of the Engineering Operating Procedure; detailed specification of the conditions, both normal and design basis, under which the vacuum breakers will be required to operate; the detailed test procedures for the vacuum breaker; and information appropriate to ensuring that the data obtained on the reliable performance of the valve is applicable to the valves to be incorporated into the certified plant design.

We hereby request your review of this letter along with the references and approval of this request for exemption of the subject vacuum breaker from having to meet the single failure criteria for application to the SBWR.

Sincerely,



James E. Quinn, Projects Manager  
LMR and SBWR Programs

Enclosure: SBWR Drywell to Wetwell Vacuum Breaker Valve White Paper

cc: P. A. Boehnert (NRC/ACRS)  
I. Catton (ACRS)  
S. Q. Ninh (NRC)  
J. H. Wilson (NRC)