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## TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

July 11, 1985

Director of Nuclear Reactor Regulation Attention: Mr. Domenic B. Vassallo, Chief Operating Reactor Branch No. 2 Division of Licensing U.S. Nuclear Regulatory Commission Washington, D.C. 20555

Dear Mr. Vassallo:

In the Matter of the	)	Docket Nos.	50-259
Tennessee Valley Authority	)		50-260
			50-296

Enclosed is additional information regarding NUREG-0737, Item II.K.3.28, Automatic Depressurization System Accumulator Qualification, for the Browns Ferry Nuclear Plant. This is in response to an informal request for additional information from your staff. This information was provided informally to your staff previously.

If you have any questions, please get in touch with us through the Browns Ferry Project Manager.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer, Chief Nuclear Licensing Branch

Sworn to and subscribed before me this // day of July 1985

Notary Public My Commission Expires

Enclosure cc: See page 2

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Director of Nuclear Reactor Regulation

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July 11, 1985

cc (Enclosure): U.S. Nuclear Regulatory Commission Region II Attn: Dr. J. Nelson Grace, Regional Administrator 101 Marietta Street, NW, Suite 2900 Atlanta, Georgia 30323

Mr. R. J. Clark Project Manager Browns Ferry Nuclear Plant U.S. Nuclear Regulatory Commission 7920 Norfolk Avenue Bethesda, Maryland 20814 , <sup>,</sup> Р. и. К 

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## ENCLOSURE

RESPONSE TO INFORMAL NRC REQUEST FOR ADDITIONAL INFORMATION NUREG 0737 ITEM II.K.3.28 BROWNS FERRY NUCLEAR PLANT ζ.

## Question

Clarify what portions of the existing and proposed ADS accumulator drywell air supply are seismically qualified.

### Response

The system for supplying pneumatic pressure from the accumulator to the valve is seismically qualified for each ADS valve. The system for supplying pneumatic pressure to the accumulators from any of the pressure sources is not seismic.

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## Question

Considering that portions of the proposed modifications for providing 100 day recharge capability for the ADS accumulators will not be seismically qualified, clarify how the accumulators would be recharged should the non-seismic portions fail.

#### Response

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In the current and proposed systems, there is no way to recharge the accumulators assuming the failure of all nonseismic portions. However, those portions will be in two independent parts which both must fail in order to prevent charging of a sufficient number of accumulators.

### Question

Explain any other considerations such as risk, time and procedures available for repairs, or alternative means for cooling or depressurization that are germane in providing a basis for your proposed modifications.

## Response

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Browns Ferry is equipped with HPCI and RCIC systems which are capable of providing adequate core cooling without need for depressurization. Both systems are capable of 100 day operation.

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In the event that depressurization is required after a seismic event where all nonseismic equipment is assumed to fail, HPCI is capable of depressurizing the reactor vessel a short time after shutdown. Startup test data indicates that HPCI consumes 155,000 LBm/hr of steam at full flow and 950 psig steam pressure at a pump discharge pressure 100 psi above the steam pressure. Data at Jesser pressures is not available. The rated capacity of one ADS valve is approximately 897,000 lbs/hr. However, for the same fluid power output (5000 gpm at 1100 psig) with the system operated in the test mode (condensate storage tank to condensate storage tank), the HPCI is expected to replace a proportionally increasing amount of ADS valve capacity as pressure decreases. The HPCI system is designed to operate down to 100 psig vessel pressure.

5

Depressurization via the HPCI system is addressed in the BWR Emergency Procedure Guidelines which are being implemented at Browns Ferry. Using procedures based on these guidelines HPCI, over a period of days, is capable of depressurizing the reactor vessel and maintaining it in the 100 to 200 psig range for 100 days.

