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SUBJECT: Forwards response to NRC 830511 ltr requesting addl info re TMI Item II.K.3.28, "Qualification of Automatic Depressurization Sys (ADS)." Designated allowable leakage criteria for ADS is zero.

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June 28, 1983

Director
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U S Nuclear Regulatory Commission
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Information Related to NUREG-0737, Item II.K.3.28,
Qualification of ADS Accumulators

In a letter dated May 11, 1983 from Mr Domenic B Vassallo, Chief, Operating Reactors Branch #2, USNRC, we were requested to provide additional information related to the qualification of automatic depressurization system (ADS) accumulators. The purpose of this letter is to provide the requested information.

Attached you will find our response to the NRC requests contained in Mr Vassallo's letter. Please contact us if you have any questions concerning the information we have supplied.

Thomas M Parker
for David Musolf
Manager - Nuclear Support Services

DMM/bd

cc: Regional Administrator-III, NRC
NRR Project Manager, NRC
Resident Inspector, NRC
G Charnoff

Attachment



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Director of NRR
June 28, 1983
Attachment

The following information is being provided as requested in a letter dated May 11, 1983 from Domenic B Vassallo, Chief, Operating Reactors, Branch #2, USNRC

Reference (a) Letter, L.O. Mayer (NSP) to the Office of Nuclear Reactor Regulation dated December 31, 1981.

NRC Requests:

1. When taking into account leakage, seismic events and a harsh environment, what is the length of time the accumulators are available to perform their function, both at normal containment pressure and at a specified percent (i.e, 70%) of drywell pressure following an accident? Does this meet the requirements specified in the plant's FSAR?

   NSP Response - Per the Plant's USAR, "Each dual safety/relief valve is equipped with an air accumulator and check valve arrangement. These accumulators are sized to hold the valve open for 30 minutes following failure of the air supply to the accumulators." As stated in reference (a) the length of time the accumulators are available to perform their function, both at normal containment pressure and at a specified percent (i.e., 70%) of drywell pressure following an accident is seven days. This meets the aforementioned requirement specified in the Plant's USAR.

2. Describe the ADS accumulator system design and operation (e.g., trains, air supply, capacity, alarms and instrumentation and their location, etc.).

NSP Response - There are three safety/relief valves that comprise the ADS system, each of which has a separate accumulator and isolation check valve. The ADS accumulator system, defined as from the accumulator check valve to the safety/relief valve, has no associated alarms and instrumentation. During normal plant operation a nitrogen connection to the instrument air supply is utilized to provide nitrogen to the drywell non-safety related instrument air header. On high or low pressure the drywell nitrogen supply is isolated and makeup is transferred to the instrument air system. The instrument air system includes three non-safety related air compressors connected in parallel. We believe that the redundant pneumatic supplies provide a high degree of reliability to the ADS accumulator system.

3. Define the basis for the allowable leakage criteria for the ADS accumulator system (e.g., boundary conditions, environmental, and seismic parameters, operator interface, margin, etc.).

NSP Response - As stated in reference (a) the designated allowable leakage criteria for the ADS accumulator system is zero. The basis for designating zero as the allowable leakage criteria is to 1) attain a zero leakage system while 2) inherently maximizing the allowable leakage margin.

4. What margin is in the allowable leakage criteria to account for possible increase in leakage resulting from the effects of a harsh environment and/or a seismic event.

NSP Response - To account for a possible increase in leakage resulting from the effects of a harsh environment and/or a seismic event, a 5.37 SCFH calculated margin, per ADS accumulator system, is in the allowable leakage criteria. This value is based on meeting the USAR requirement to hold the valve open for 30 minutes following failure of the air supply to the accumulators.

5. A statement that test and/or analysis performed verified that a harsh environment and/or seismic event would not increase the leakage rate.

NSP Response - No test and/or analysis has been performed to verify that a harsh environment and/or seismic event would not increase the leakage rate. The seismic qualification for the ADS pneumatic system is:

a) Class I from the accumulator system check valve to the ADS operator.

b) Non Class I from the containment penetration to the ADS accumulator check valve.

The margin in the allowable leakage criteria should conservatively account for any possible increase in leakage resulting from the effects of a harsh environment and/or seismic event. It is also noted that there are five additional safety/relief valves each with a separate accumulator, that can be manually operated to perform a pressure relief function.

6. A statement that verifies that no credit was taken for non-safety related equipment and instrumentation when establishing the allowable leakage criteria.

NSP Response - No credit was taken for non-safety related equipment and instrumentation when establishing the allowable leakage criteria.

7. A concise description of the surveillance performed, and how frequent, on alarms and instrumentation associated with the ADS accumulator system.

NSP Response - As previously stated in our response to request No. 2, the ADS accumulator system has no associated alarms and instrumentation, therefore, surveillance requirements are not applicable.

8. A statement that confirms that the ADS accumulator system and associated equipment and control circuitry are environmentally qualified for conditions associated with normal operation, maintenance, testing, and postulated accidents.

NSP Response - The environmental qualifications, for the ADS accumulator system, are documented in reference (a).

9. A statement verifying that the ADS valves, accumulators, associated equipment and instrumentation are capable of performing their function during and following an accident situation while taking no credit for non-safety related equipment and instrumentation.

NSP Response - As stated in reference (a) a preventive maintenance procedure has been implemented to periodically inspect the accumulator check valve internals and replace software. Additionally, leak testing of the safety/relief valve accumulator system is performed once per refueling outage. By attaining a zero leakage system, on a refueling outage

basis, the ADS valves, accumulators, and associated equipment are capable of performing their function during and following an accident situation while taking no credit for non-safety related equipment and instrumentation.

Please contact us if you have any questions related to the information we have provided.