

Docket Nos. 50-348
50-364

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Mr. F. L. Clayton
Senior Vice President
Alabama Power Company
Post Office Box 2641
Birmingham, Alabama 35291

Dear Mr. Clayton:

SUBJECT: INFORMATION REQUEST FOR NUREG-0737 ITEM II.B.1 - REACTOR COOLANT SYSTEM VENTS
JOSEPH M. FARLEY NUCLEAR PLANT UNITS 1 AND 2

We have completed a preliminary review of your submittals regarding TMI Action Plan Item II.B.1, RCS High Point Vents. The additional information identified in the enclosure is required to complete our review for your facility.

We are currently in the process of reviewing the technical merit of the proposed operating guidelines for RCS Vent usage. We understand that the questions in this area will be resolved generically through the Owners Groups. Specific plant procedures will be reviewed against the approved guidelines as needed in the future, but not necessarily prior to design approval.

Please supply the requested information within six weeks of the receipt of this letter.

The reporting and/or recordkeeping requirements contained in this letter are approved under OMB clearance No. 3150-0065 which expires May 31, 1983.

Sincerely,

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Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosure:
As stated

cc: See next page

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| OFFICE | DL:ORB#1 | DL:ORB#1 | DL:ORB#1 | | | |
| SURNAME | EReeves:ms | JHannon | SAVarga | | | |
| | 3/10/82 | 3/10/82 | 3/10/82 | | | |

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REACTOR COOLANT SYSTEM HIGH POINT VENTS (II.B.1)
REACTOR SYSTEMS BRANCH

REQUEST FOR ADDITIONAL INFORMATION
FOR
FARLEY 1 & 2

1. Your submittals of June 25, 1981, February 21, 1980 and December 31, 1979 contained information concerning only the reactor vessel head vent. Provide information on the means for venting the pressurizer (reference NUREG-0737 Item II.B.1 Clarification C.(3)). If the existing power operated relief valve (PORV) system is designated as the required RCS vent for the pressurizer, verify that positive indication for the block valve is provided in the control room (reference NUREG-0737 Item II.B.1 Clarification A.(5)). Otherwise, provide a description of the pressurizer vent and its instrumentation, power and control system, appropriate drawings (with a legend of symbols and abbreviations), and a discussion of the pressurizer vent design with respect to each point of clarification of NUREG-0737 Item II.B.1.
2. Verify that the RCS vent flow restriction orifices are smaller than the size corresponding to the definition of a loss-of-coolant accident (10 CFR Part 50, Appendix A) by providing the pertinent design parameters of the reactor coolant makeup system and a calculation of the maximum rate of loss of reactor coolant through the flow restriction orifices (reference NUREG-0737 Item II.B.1 Clarification A.(4)).
3. In addition to the generic guidelines for operation of the reactor vessel head vent provided as part of your response to NUREG-0737 Item II.B.1, provide the following additional information:
 - a. Procedural guidelines, similar to the previously submitted reactor vessel head vent guidelines, for venting of the pressurizer (references NUREG-0737 Item II.B.1 Position (2) and Clarification A.(2)).
 - b. Procedural guidelines which in lieu of venting will assure that sufficient liquid or steam will flow through the steam generator U-tube region so that decay heat can be effectively removed from the reactor coolant system (reference NUREG-0737 Item II.B.1 Clarification C.(2)).

4. The following items apply to new portions of the reactor vessel head vent and pressurizer vent that form a part of the reactor coolant pressure boundary, up to and including the second normally closed valve (reference NUREG-0737 Item II.B.1 Clarification A.(7)):
 - a. Verify that the new piping, valves, components and supports are classified Seismic Category I.
 - b. Provide the design temperature and pressure of any new piping, valves, and components for the pressurizer vent, and verify that they are classified Safety Class 2 (Safety Class 1 where the size corresponds to the 10 CFR Part 50 Appendix A definition of a loss-of-coolant accident).
 - c. Describe the instrumentation that has been provided to detect and measure pressurizer and reactor vessel head vent isolation valve leakage (reference Appendix A to 10 CFR Part 50, General Design Criterion 30).
 - d. Verify that the materials of construction will be fabricated and tested in accordance with SRP Section 5.2.3, "Reactor Coolant Pressure Boundary Materials."
 - e. Demonstrate that internal missiles and the dynamic effects associated with the postulated rupture of piping will not prevent the essential operation of the vent system (i.e., at least one vent path remains functional) (reference Appendix A to 10 CFR Part 50, General Design Criterion 4).
5. Verify that the following reactor vessel head and pressurizer vent failures have been analyzed and found not to prevent the essential operation of safety-related systems required for safe reactor shutdown or mitigation of the consequences of a design basis accident:
 - a. Seismic failure of any reactor vessel head vent or pressurizer vent components that are not designed to withstand the safe shutdown earthquake.

- b. Postulated missiles generated by failure of reactor vessel head and pressurizer vent components.
 - c. Dynamic effects associated with the postulated rupture of new pressurizer vent piping greater than one-inch nominal size.
 - d. Fluid sprays from reactor vessel head and pressurizer vent component failures. Sprays from normally unpressurized portions of the vents that are Seismic Category 1 and Safety Class 1, 2 or 3 and have instrumentation for detection of leakage from upstream isolation valves need not be considered.
6. Your previous submittals stated that the reactor vessel head vent discharges into a well ventilated area of the containment. Provide a specific description of the vent paths. Also, demonstrate that both the reactor vessel head and pressurizer vent paths to the containment atmosphere discharge into areas:
- a. That provide good mixing with containment air to prevent the accumulation or pocketing of high concentrations of hydrogen, and
 - b. In which any nearby structures, systems, and components essential to safe shutdown of the reactor or mitigation of a design basis accident are capable of withstanding the effects of the anticipated mixtures of steam, liquid, and noncondensable gas discharging from the RCS vents (reference NUREG-0737 Item II.B.1 Clarification A.(9)).
7. Verify that operability testing of the reactor vessel head and pressurizer vent valves will be performed in accordance with Subsection IWV of Section XI of the ASME Code for Category B valves (reference NUREG-0737 Item II.B.1 Clarification A.(11)).
8. Since your submittal states that power lockout of the vent valves is not considered necessary, describe the design features (e.g., individual valve switches, distinctive valve switch labeling, or distinguishing alarms) or administrative procedures that will be employed to ensure that human error or a single active failure will not result in inadvertent actuation of the RCS vents (reference NUREG-0737 Item II.B.1 Clarification A.(7)).