

March 16, 1982

Docket No. 50-213
LS05-82-03-076

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Docket
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Mr. W. G. Council, Vice President
Nuclear Engineering and Operations
Connecticut Yankee Atomic Power Company
Post Office Box 270
Hartford, Connecticut 06101



Dear Mr. Council:

SUBJECT: REACTOR COOLANT SYSTEM (RCS) VENTS, (ITEM II.B.1) REQUEST FOR
ADDITIONAL INFORMATION

RE: HADDAM NECK PLANT

We have completed a preliminary review of your submittal(s) regarding TMI Action Plan Item II.B.1, RCS High Point Vents. The additional information identified in the enclosure to this letter 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 recommend that the questions in this area 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 60 days of the date of this letter.

The reporting and/or recordkeeping requirements contained in this letter are approved under OMB Clearance Number 3150-0065.

Sincerely,

Original signed by

Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

5001
1/1
DSu WSE (02)

Enclosure:
Request for Additional
Information on RCS
Vents (Item II.B.1)

cc w/enclosure:
See next page

OFFICE	DL: ORB #5	DL: ORB #5	DL: ORB #1				
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D	8203240346	820316					
NRC FO	PDR	ADOCK 05000213					
P	PDR						

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Mr. W. G. Council

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March 16, 1982

cc

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Haddam Neck Plant
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Northeast Utilities Service Company
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Haddam, Connecticut 06103

State of Connecticut
Office of Policy and Management
ATTN: Under Secretary Energy
Division
80 Washington Street
Hartford, Connecticut 06115

U. S. Environmental Protection Agency
Region I Office
ATTN: Regional Radiation Representative
JFK Federal Building
Boston, Massachusetts 02203

Resident Inspector
Haddam Neck Nuclear Power Station
c/o U. S. NRC
East Haddam Post Office
East Haddam, Connecticut 06423

Ronald C. Haynes, Regional Administrator
Nuclear Regulatory Commission, Region I
Office of Inspection and Enforcement
631 Park Avenue
King of Prussia, Pennsylvania 19406

REQUEST FOR ADDITIONAL INFORMATION
FOR
HADDAM NECK

1. The following items apply to the portions of the reactor coolant system (RCS) vent system 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. Provide the design temperature and pressure of the piping, valves, and components.
 - b. Verify that the piping, valves, components, and supports are classified Seismic Category I.
 - c. Describe the materials of construction and verify that they are compatible with the reactor coolant chemistry and will be fabricated and tested in accordance with SRP Section 5.2.3, "Reactor Coolant Pressure Boundary Materials."
2. Verify that the following RCS vent system 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 RCS vent system components that are not designed to withstand the safe shutdown earthquake.
 - b. Postulated missiles generated by failure of RCS vent system components.
 - c. Fluid sprays from RCS vent system component failures. Sprays from normally unpressurized portions of the RCS vent system that are Seismic Category I and Safety Class 1, 2, or 3 and have instrumentation for detection of leakage from upstream isolation valves need not be considered.

3. Demonstrate, using engineering drawings (including isometrics) and design descriptions as appropriate, that the RCS vent path to the containment atmosphere discharges into an area 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 vent system.
4. Verify that operability testing of the RCS vent system valves will be performed in accordance with all the requirements of subsection IWV of Section XI of the ASME Code for Category B valves (reference NUREG-0737 Item II.B.1 Clarification A.(11)).
5. Submit operating guidelines for use of the RCS vent system including the following:
 - a. Guidelines to determine when the operator should and should not manually initiate venting, and information and instrumentation required for this determination (reference NUREG-0737 Item II.B.1 Clarification A.(2)). The guidelines to determine whether or not to vent should cover a variety of reactor coolant system conditions (e.g., pressures and temperatures). The effect of the containment hydrogen concentration on the decision to vent or to continue venting should also be addressed considering the balance between the need for increased core cooling and decreased containment integrity due to elevated hydrogen levels.
 - b. Methods for determining the size and location of a noncondensable gas bubble (reference Position (2) and Clarification A.(2)).
 - c. Guidelines for operator use of the vents, including information and instrumentation available to the operator for initiating or terminating vent usage (reference Position (2)).
 - d. Required operator actions in the event of inadvertent opening, or failure to close after opening, of the vents including a description of the provisions and instrumentation necessary to detect and correct these fault conditions (reference Position (2) and Clarification A.(2)).

- e. Methods 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 Clarification C.(2)).
6. Verify that all displays (including alarms) and controls, added to the control room as a result of the TMI Action Plan requirement for reactor coolant system vents, have been or will be considered in the human factors analysis required by NUREG-0737 Item I.D.1, "Control-Room Design Reviews."