

December 19, 1986

Docket No. 50-271

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Dear Mr. Capstick:

SUBJECT: REVISED SAFETY EVALUATION SUPPORTING AMENDMENT NO. 96

Re: Vermont Yankee Nuclear Power Station

As a result of discovery of some factual and typographical errors in our Safety Evaluation (SE) for Amendment No. 96 to Facility Operating License No. DPR-28 issued August 11, 1986, we have revised the SE. The purpose of this reexamination was to determine if the errors affected our conclusions supporting the approval of Amendment No. 96.

We are enclosing a revised SE showing corrections indicated by marginal bars. We find that the revised SE does not change our previous conclusions regarding the acceptability of the Technical Specification changes approved in Amendment No. 96.

Sincerely,

Original signed by

Vernon L. Rooney, Project Manager  
BWR Project Directorate #2  
Division of BWR Licensing

Enclosure:  
Safety Evaluation

cc w/enclosure:  
See next page

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UNITED STATES  
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 96 TO FACILITY OPERATING LICENSE NO. DPR-28

VERMONT YANKEE NUCLEAR POWER CORPORATION

VERMONT YANKEE NUCLEAR POWER STATION

DOCKET NO. 50-271

1.0 INTRODUCTION

By Generic Letter (GL) 83-36, the NRC staff provided to all boiling water reactor licensees Technical Specification (TS) guidance for NUREG-0737 items scheduled for implementation after December 31, 1981. The Vermont Yankee Nuclear Power Corporation (the licensee/VYNPC) responded by letter dated February 22, 1984 and proposed TS by letter dated December 14, 1984. Following staff review and discussions with the licensee, the licensee clarified the proposed TS changes by letter dated November 26, 1985. This Safety Evaluation relates to the following NUREG-0737 items: II.B.1, II.B.3; III.D.3.4, II.F.1.3, II.F.1.4, II.F.1.5 and II.F.1.6.

2.0 EVALUATION

2.1 Reactor Coolant System Vents (TMI II.B.1)

The generic letter stated:

"The staff has determined that no changes in Technical Specifications are required by this Action Plan item for Boiling Water Reactors (BWRs) which do not have isolation condenser."

The Vermont Yankee Nuclear Power Plant does not have an isolation condenser, therefore this item is considered to be closed.

2.2 Post-Accident Sampling (TMI II.B.3)

The generic letter stated:

"Licensees should ensure that their plant has the capability to obtain and analyze reactor coolant and containment atmosphere samples under accident conditions. An administrative program should be established, implemented and maintained to ensure this capability. The program should include:

- a. training of personnel
- b. procedures of sampling and analysis, and
- c. provisions for maintenance of sampling and analysis equipment.

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It is acceptable to the staff, if the licensee elects to reference this program in the administrative controls section of the Technical Specifications and include a detailed description of the program in the plant operation manuals. A copy of the program should be easily available to the operating staff during accident and transient conditions."

The licensee responded in its February 22, 1984 letter stating:

"We concur with the staff's guidelines insofar as the details of our post-accident sampling program need not be incorporated into the Technical Specifications. However, we respectfully disagree with the need to reference this program in the administrative controls section of Technical Specifications. Because our sampling program (training, sampling and analysis procedures, and equipment maintenance) is subject to Region I inspection and enforcement, we cannot perceive of any value in referencing the existence of this program in our Technical Specifications. Further, such a reference does nothing to enhance the safe operation of the plant which we believe is the fundamental purpose of Technical Specifications."

The staff has evaluated the licensee's response with respect to the existing Technical Specifications. As a result of our review, we have determined that Sections 6.1.D.4 and 6.1.D.5 provide an acceptable minimum specification for training. Section 6.5.A requires that detailed written procedures, including check-off lists and instructions, be prepared and approved for all emergency conditions involving potential or actual release of radioactivity, as well as for the Offsite Dose Calculation Manual in-plant implementation. Post accident sampling procedures are therefore required to be prepared and approved. Section 6.5.B requires procedures that meet acceptable radiation control standards be prepared and approved. This requirement assures that appropriate radiation control procedures are applied to the task of post accident sampling. Taken together, Sections 6.5.A and 6.5.B provide an acceptable minimum specification for the procedures used to manage radioactive sampling.

Section 6.2.A identifies the Maintenance Superintendent as Vice Chairman and the Maintenance Supervisor as member of the Plant Operations Review Committee (PORC) and assigns PORC the responsibility for reviewing all operating and maintenance procedures (including emergency procedures). Section 6.2.B requires that the Nuclear Safety Audit and Review Committee (NSAR), as a group, employ broad expertise, and assigns NSAR responsibility for reviewing PORC meeting minutes, evaluating actions taken by PORC, and periodically auditing implementing procedures and the Offsite Dose Calculation Manual. Taken together, Sections 6.2.A and 6.2.B provide an acceptable minimum specification for maintenance of sampling and analysis equipment. Therefore the staff considers this matter closed.

### 2.3 Control Room Habitability Requirements (TMI III.D.3.4)

The generic letter stated:

"Licensees should assure that control room operators will be adequately protected against the effects of the accidental release of toxic and/or radioactive gases and that the nuclear power plant can be safely operated or shut down under design basis accident conditions. If the results of the analyses of postulated accidental release of toxic gases (at or near the plant) indicated a need for installing the toxic gas detection system, it should be included in the Technical Specifications. Typical acceptable LCO and surveillance requirements for such a detection system (e.g. chlorine detection system) are provided in Enclosure 3. All detection systems should be included in the Technical Specifications.

In addition to the above requirements, other aspects of the control room habitability requirements should be included in the Technical Specifications for control room emergency air filtration system. Two independent control room emergency air filtration system should be operable continuously during all modes of plant operation and capable of meeting design requirements. Sample Technical Specifications are provided in Enclosure 3."

The licensee responded by letter dated February 22, 1984 proposing Technical Specifications for control room habitability which were generally in agreement with staff guidance. At the staff's request, by letter dated November 26, 1985, the licensee provided additional support concerning operability time limit requirements. The staff has reviewed the information presented and considers that the proposed changes satisfy the requirements of II.D.3.4.

## 2.5 Sampling and Analysis of Plant Effluents (TMI II.F.1.2)

The generic letter stated:

"Each operating nuclear power reactor should have the capability to collect and analyze or measure representative samples of radioactive iodines and particulates in plant gaseous effluents during and following an accident. An administrative program should be established, implemented and maintained to ensure this capability. The program should include:

- a. training of personnel
- b. procedures for sampling and analysis, and
- c. provisions for maintenance of sampling and analysis equipment.

It is acceptable to the staff, if the licensee elects to reference this program in the administrative controls section of the Technical Specifications and include a detailed description of the program in the plant operation manuals. A copy of the program should be readily available to the operating staff during accident and transient conditions."

The licensee responded by referencing his position on TMI Item II.B.3. The staff considers this issue to be resolved acceptably for the reasons stated in our evaluation of Item II.B.3.

## 2.6 Containment High-Range Radiation Monitor (TMI II.F.1.3)

The generic letter required that:

"A minimum of two ig-containment radiation-level monitors with a maximum range of  $10^6$  rad/hr ( $10^7$  R/hr for photons only) should be operable at all times except for cold shutdown and refueling outages. In case of failure of the monitor, appropriate actions should be taken to restore its operational capability as soon as possible. If the monitor is not restored to operable condition within seven days after the failure, a special report should be submitted to the NRC within 14 days following the event, outlining the cause of inoperability, actions taken and the planned schedule for restoring the equipment to operable status.

Typical surveillance requirements are shown in Enclosure 3. The setpoint for the high radiation level alarm should be determined such that spurious alarms will be precluded. Note that the acceptable calibration techniques for these monitors are discussed in NUREG-0737."

In response, the licensee proposed limiting conditions for operation (LCOs) for the containment high-range effluent monitor. The LCOs satisfy the staff guidance, therefore, the staff finds the proposed changes acceptable.

#### 2.7 Containment Pressure Monitor (TMI II.F.1.4)

The generic letter stated that:

"Containment pressure should be continuously indicated in the control room of each operating reactor during Power Operation Startup Modes. Two channels should be operable at all times when the reactor is operating in any of the above mentioned modes. Technical Specifications for these monitors should be included with other accident monitoring instrumentation in the present Technical Specifications. Limiting conditions for operation (including the required Actions) for the containment pressure monitor should be similar to other accident monitoring instrumentation included in the present Technical Specifications."

The licensee responded by providing proposed Technical Specification changes that are similar to other accident monitoring instrumentation requirements included in the present Technical Specifications. Therefore, the staff finds the proposed changes acceptable.

#### 2.8 Containment Water Level Monitor (TMI II.F.1.5)

The generic letter stated that:

"A continuous indication of suppression pool water level should be provided in the control room of each reactor during Power Operation and Startup Modes. Two channels should be operable at all times when the reactor is operating in any of the above mentioned modes. Technical Specifications for these monitors should be included with other accident monitoring instrumentation in the present Technical Specifications. Limiting conditions for operation (LCO) for these monitors should be similar to other accident monitoring instrumentation included in the present Technical Specifications. Typical acceptable LCO and surveillance requirements for accident monitoring instrumentation are included in Enclosure 3.

The BWRs with dry containment should have at least two channels for wide range instruments and one channel of narrow range instrument operable at all times during above mentioned modes. LCOs for wide range monitors should be similar to that discussed above. LCOs for

narrow range should include the requirement that the inoperable channel will be restored to operable status within 30 days or the reactor will be brought to hot shutdown condition as required by other accident monitoring instrumentation."

The licensee responded by providing a proposed Technical Specification change that is similar to other accident monitoring instrumentation requirements included in the present Technical Specifications. Therefore, the staff finds the proposed changes acceptable.

### 2.9 Containment Hydrogen Monitor (TMI II.F.1.6)

The generic letter stated:

Two independent containment hydrogen monitors should be operable (should be capable of performing the required function) at all times when the reactor is operating in Power Operation and Startup Modes: Technical Specifications for hydrogen monitors should be included with other accident monitoring instrumentation in the present Technical Specifications. Typical acceptable LCO and surveillance requirements are included in Enclosure 3."

The licensee responded by letter dated February 22, 1984 proposing Technical Specifications for the containment hydrogen monitors which were generally acceptable, except for the need to specify a time to achieve hot shutdown after the operability LCO had expired. By letter dated November 26, 1985 the licensee satisfactorily corrected the above deficiency, and the proposed changes satisfy the requirements of II.F.1.6, and are acceptable.

### 3.0 SUMMARY

The licensee has provided sufficient justification for not providing Technical Specifications for the following GL 83-36 items:

1. Reactor Coolant System Vents (II.B.1)
2. Post-Accident Sampling (II.B.3)
3. Sample and Analysis of Plant Effluents (II.F.1.2)

The licensee has provided acceptable Technical Specifications for the following GL 83-36 items:

1. Containment High-Range Monitors (II.F.1.3)
2. Containment Pressure Monitors (II.F.1.4)
3. Containment Water Level Monitors (II.F.1.5)
4. Containment Hydrogen Monitor (II.F.1.6)
5. Control Room Habitability Requirements (III.D.3.4)

Technical Specifications for II.F.1.1 (Noble Gas Effluent Monitors) will be dealt with in a future license amendment.

### 3.0 ENVIRONMENTAL CONSIDERATIONS

This amendment changes a requirement with respect to in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

### 4.0 CONCLUSION

We have concluded, based on the considerations discussed above, that:

- (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and
- (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Scholl, K. Johnston, V. Rooney

Dated: August 11, 1986