



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

February 11, 2009

Site Vice President  
Entergy Nuclear Operations, Inc.  
Vermont Yankee Nuclear Power Station  
P.O. Box 250  
Governor Hunt Road  
Vernon, VT 05354

SUBJECT: VERMONT YANKEE NUCLEAR POWER STATION - ISSUANCE OF  
AMENDMENT RE: BATTERY SYSTEMS (TAC NO. MD9724)

Dear Sir or Madam:

The Commission has issued the enclosed Amendment No.234 to Facility Operating License DPR-28 for the Vermont Yankee Nuclear Power Station, in response to your application dated September 22, 2008.

The amendment would revise the Technical Specification (TS) to change requirements related to Battery Systems specified in TS Section 3.10 resulting in removing the Limiting Condition for Operation pertaining to 345 kV switchyard batteries, chargers and associated direct current distribution panel.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink that reads "James Kim".

James Kim, Project Manager  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-271

Enclosures:

1. Amendment No.234 to License No. DPR-28
2. Safety Evaluation

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

ENTERGY NUCLEAR VERMONT YANKEE, LLC  
AND ENTERGY NUCLEAR OPERATIONS, INC.

DOCKET NO. 50-271

VERMONT YANKEE NUCLEAR POWER STATION  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 234  
License No. DPR-28

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment filed by Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. (the licensee) dated September 22, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-28 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 234 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Mark Kowal, Chief  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the License and  
Technical Specifications

Date of Issuance: February 11, 2009

ATTACHMENT TO LICENSE AMENDMENT NO. 234

FACILITY OPERATING LICENSE NO. DPR-28

DOCKET NO. 50-271

Replace the following page of the Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove  
3

Insert  
3

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove  
213  
217

Insert  
213  
217

- E. Entergy Nuclear Operations, Inc., pursuant to the Act and 10 CFR Parts .30 and 70, to possess, but not to separate, such byproduct and special nuclear material as may be produced by operation of the facility.
- 3. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Section 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

- A. Maximum Power Level

Entergy Nuclear Operations, Inc. is authorized to operate the facility at reactor core power levels not to exceed 1912 megawatts thermal in accordance with the Technical Specifications (Appendix A) appended hereto.

- B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No.234 are hereby incorporated in the license. Entergy Nuclear Operations, Inc. shall operate the facility in accordance with the Technical Specifications.

- C. Reports

Entergy Nuclear Operations, Inc. shall make reports in accordance with the requirements of the Technical Specifications.

- D. This paragraph deleted by Amendment No. 226.

- E. Environmental Conditions

Pursuant to the Initial Decision of the presiding Atomic Safety and Licensing Board issued February 27, 1973, the following conditions for the protection of the environment are incorporated herein:

### 3.10 LIMITING CONDITIONS FOR OPERATION

- c. Deleted.
- d. Deleted.
- e. The Alternate Shutdown AS-2 battery, one of the two associated chargers, and DC Distribution panel DC-2AS.
- f. Both UPS batteries, associated Uninterruptible Power Supplies and MCC 89A and B.

### 4.10 SURVEILLANCE REQUIREMENTS

- c. Once per operating cycle each Alternate Shutdown AS-2 battery, and Main Station battery shall be subjected to a Service (Load Profile) discharge test. The specific gravity and voltage of each cell shall be measured after the recharge at the end of the discharge test and logged.
- d. Once every five years, each UPS, AS-2, and Main Station Battery shall be subjected to a Performance (capacity) Discharge Test. This test will be performed in lieu of the Service Test requirements of 4.10.A.2.c above.
- e. Each 480 V Uninterruptible Power System shall be checked daily.
- f. 480 V Motor Control Centers 89A and 89B shall be checked daily.
- g. Once per operating cycle, the actual conditions under which the 480 V Uninterruptible Power Systems are required will be simulated and a test conducted to demonstrate equipment performance.

### 3.10 LIMITING CONDITIONS FOR OPERATION

- e. From and after the date that one of the two 24 Volt Neutron Monitoring and Process Radiation Monitoring battery systems is found or made to be inoperable for any reason, continued reactor operation is permissible providing the minimum channel requirements of Sections 3.1 and 3.2 for the Neutron Monitoring and Process Radiation Monitoring systems are met.
- f. Deleted

#### 3. Off-Site Power

- a. From and after the date one off-site power source is made or found to be inoperable for any reason, reactor operation may continue for seven days provided the remaining off-site power source and both diesel generators are operable, and either:

### 4.10 SURVEILLANCE REQUIREMENTS

#### 3. Off-Site Power

- a. When one off-site power source is unavailable, the remaining power source shall be verified operable within one hour and once per eight hours thereafter.



UNITED STATES  
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 234 TO FACILITY OPERATING LICENSE NO. DPR-28

ENTERGY NUCLEAR VERMONT YANKEE, LLC

AND ENTERGY NUCLEAR OPERATIONS, INC.

VERMONT YANKEE NUCLEAR POWER STATION

DOCKET NO. 50-271

1.0 INTRODUCTION

By application dated September 22, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082700457), Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. (the licensee) submitted a request to amend the Vermont Yankee Nuclear Power Station (Vermont Yankee or VY) Technical Specifications (TSs). The proposed amendment changes would remove the Limiting Condition for Operation (LCO) pertaining to 345 kV switchyard batteries, chargers, and associated direct current (DC) distribution panels.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Appendix A of Part 50, General Design Criterion (GDC) 17, "Electric power systems," requires, in part, that "An onsite electric power system and an offsite electric power system shall be provided to permit functioning of structures, systems, and components important to safety ... The onsite electric power supplies, including the batteries, and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure. Electric power from the transmission network to the onsite electric distribution system shall be supplied by two physically independent circuits (not necessarily on separate rights of way) designed and located so as to minimize to the extent practical the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions ... Provisions shall be included to minimize the probability of losing electric power from any of the remaining supplies as a result of, or coincident with, the loss of power generated by the nuclear power unit, the loss of power from the transmission network, or the loss of power from the onsite electric power supplies."

Paragraph 50.36(c)(2)(ii) of 10 CFR, "Technical specifications," specifies four criteria to be used in determining whether a TS LCO needs to be established for a particular item. These criteria are as follows:

- (A) *Criterion 1.* Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

Enclosure

- (B) *Criterion 2.* A process variable, design feature, or operating restriction that is an initial condition of a design-basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- (C) *Criterion 3.* A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- (D) *Criterion 4.* A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

### 3.0 TECHNICAL EVALUATION

The 345 kV distribution switchyard at VY has a 125 volt (V) DC system consisting of two 59-cell batteries, three battery chargers, and associated distribution panels. Each battery powers its own independent DC distribution panel. Each battery has its own charger and a third (swing) charger that is provided as an installed spare. The 345 kV switchyard DC system provides power for operation, control circuitry, monitoring, logic, and indication of the switchyard circuit breakers.

Section 8.6, "125 V DC System," of the VY Updated Final Safety Evaluation Report (UFSAR) reads as follows:

#### 8.6.5 Additional DC Systems

In addition to the above DC systems, there exists two 125 V DC Systems in the 345 kV switchyard and two 125 V DC systems in the 115 kV switchyard which provide power for breaker operation and control and protective relaying circuitry.

The Nuclear Regulatory Commission (NRC) staff reviewed the licensee's UFSAR and confirmed that the 345 kV switchyard DC systems have no safety-related function. The NRC staff also confirmed that the 115 kV switchyard DC systems are not listed in the VY TSs and that they also have no safety related function.

Based on its review, the NRC staff finds it acceptable to remove the VY switchyard batteries and associated components from the TS as the switchyard batteries and associated components meet the 10 CFR 50.36 requirements as they (1) do not impact instrumentation used to detect degradation of the reactor pressure boundary; (2) are not credited in any design basis accident or transient, and (3) are not assumed or credited in any mitigation role for design bases accidents or transients. Furthermore, the licensee stated that the proposed amendment does not involve any changes in the operation or function of any component or system. Both the licensee and the NRC staff understand that offsite power can be risk significant; however, separate TS requirements currently exist for offsite power availability at VY. In its license amendment request, the licensee noted that individual components within the VY switchyard are not modeled in the VY probabilistic risk assessment. Therefore, a probabilistic risk assessment is not available to show a need for a TS LCO for the switchyard batteries and associated components. Based on this information, the NRC staff finds that the VY 345 kV switchyard DC

systems do not meet any of the four 10 CFR 50.36 criteria for needing to have an associated TS LCO. Therefore, the NRC staff finds that removing the TS LCO pertaining to the VY 345 kV switchyard batteries, chargers, and associated DC distribution panels acceptable. Based on the above evaluation, the NRC staff finds the proposed revisions to the VY TSs provide reasonable assurance of the continued availability of the required DC power to shut down the reactor and to maintain the reactor in a safe condition after an anticipated operational occurrence or a postulated design-basis accident. The NRC staff also concludes that the proposed TS changes are in accordance with 10 CFR 50.36 and the requirements of GDC 17 continue to be met. Therefore, the NRC staff finds the proposed changes acceptable.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Vermont State official was notified of the proposed issuance of the amendment. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in 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 the amendment involves no significant hazards consideration, and there has been no public comment on such finding (73 FR 68454). Accordingly, the 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 the amendment.

#### 6.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: M. McConnell

Date: February 11, 2009

February 11, 2009

Site Vice President  
Entergy Nuclear Operations, Inc.  
Vermont Yankee Nuclear Power Station  
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Sincerely,

/ra/

James Kim, Project Manager  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
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Accession No.: ML090120658

\*See memo dated January 9, 2009

OFFICE	LPLI-1/PM	LPLI-1/LA	EEEB/BC	OGC	LPLI-1/BC
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