April 17, 2008

Vice President, Operations
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: EMERGENCY DIESEL GENERATOR FUEL OIL TANK VOLUME, FUEL OIL TESTING AND REACTOR BUILDING CRANE INSPECTIONS (TAC NO. MD7054)

Dear Sir or Madam:

The Commission has issued the enclosed Amendment No. 231 to Facility Operating License DPR-28 for the Vermont Yankee Nuclear Power Station, in response to your application dated October 18, 2007.

The amendment would revise the Technical Specifications to change requirements related to emergency diesel generator (EDG) fuel oil tank volume, EDG fuel oil testing and reactor building crane inspections.

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,

/RA/

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. 231 to License No. DPR-28
2. Safety Evaluation

cc w/encls: See next page

Vermont Yankee Nuclear Power Station

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The amendment would revise the Technical Specifications to change requirements related to emergency diesel generator (EDG) fuel oil tank volume, EDG fuel oil testing and reactor building crane inspections.

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,

/RA/

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. 231 to License No. DPR-28
2. Safety Evaluation

cc w/encls: See next page

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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. 231
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 October 18, 2007, 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. 231 , 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

/RA/

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: April 17/2008

ATTACHMENT TO LICENSE AMENDMENT NO. 231

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	Insert
3	3

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

Remove	Insert
218	218
235	235
239	239

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 231 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 letter dated October 18, 2007, Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. (the licensees) submitted a request to amend the Vermont Yankee Nuclear Power Station Technical Specifications (TSs). The proposed amendment would revise the TSs to change requirements related to emergency diesel generator (EDG) fuel oil tank volume, EDG fuel oil testing and reactor building crane inspections.

2.0 REGULATORY EVALUATION

General Design Criterion (GDC) 17, "Electric Power Systems," of Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," requires that an onsite electric power system and an offsite electric power system be provided to permit functioning of structures, systems, and components important to safety. In addition, GDC 17 contains requirements concerning system capacity, capability, independence, redundancy, availability, testability, and reliability. Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50 establishes overall quality assurance requirements for the design, construction, and operation of structures, systems, and components important to safety.

The onsite electrical power system includes standby power sources, distribution systems, and vital auxiliary supporting systems to supply power to safety-related equipment. Most commercial nuclear power plants use diesel generators as the emergency power source for the safety-related electrical buses. The importance of the diesel generators (or other standby power sources) is reflected in their incorporation into Nuclear Regulatory Commission (NRC) regulations, TS, and other regulatory programs, including Appendix B (‘‘Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants’’) to 10 CFR Part 50. NUREG-0800, ‘‘Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants,’’ addresses diesel fuel oil and other supporting systems in Section 9.5.4, ‘‘Emergency Diesel Engine Fuel Oil Storage and Transfer System Review Responsibilities.’’

The TS include requirements for testing diesel fuel oil to ensure it is of the appropriate grade and that it has not been contaminated (i.e., proper fuel oil quality). The Diesel Fuel Oil Testing Program defined in the TS includes tests for (1) the acceptability of new fuel oil for use prior to addition to storage tanks; (2) other properties of new fuel oil within limits within 30 days following sampling and addition to storage tanks; and (3) total particulate concentration of the fuel oil every 31 days. The current TS identify particular American Society for Testing and Materials (ASTM) standards and methods of performing these tests. The requested change proposed to relocate references to specific ASTM standards for fuel oil testing to licensee-controlled documents to address changes in Environmental Protection Agency (EPA) requirements.

The licensee raised a concern about the accidental dropping of a fuel cask into the spent fuel pool, the subsequent rupture of the floor of the pool and eventual dewatering of the stored spent fuel. As a result, surveillance requirements of the reactor building crane in accordance with American National Standards Institute (ANSI) Standard B30.2, 1967 was implemented in TS 4.12.G. The TS provide for specific surveillance and testing of the reactor building crane prior to fuel casket handling and enhance the level of reliability associated with crane operation during cask handling. The current TS identify particular ANSI standard for the reactor building crane. The requested change proposes to remove the reference to the specific ANSI Standard (ANSI B30.2-1967) and replace it with a requirement to inspect “in accordance with the applicable ANSI Standard” and adds a reference to the applicable ANSI standard in the TS Bases.

These changes are intended to ensure that the information required by 10 CFR 50.36 “Technical specifications” is maintained in the TS. However, the specific design value for EDG fuel oil volume that needs to be maintained in the fuel oil storage tank and the specific versions of ASTM or ANSI Standards associated with testing of EDG fuel oil and inspection of the reactor building crane are not required to be in the TS per 10 CFR 50.36 and can be relocated to a licensee controlled document (i.e. the TS Bases). The TS Bases are controlled in accordance with TS 6.7.E “Technical Specification Bases Control Program” and 10 CFR 50.59 “Changes, Tests and Experiments.”

3.0 TECHNICAL EVALUATION

3.1 Diesel Fuel Oil Volume Requirements

The initial conditions of design-basis accident (DBA) analyses assume engineered safety feature (ESF) systems are operable. The EDGs are designed to provide sufficient capacity, capability, redundancy and reliability to ensure availability of necessary power to ESF systems so that nuclear fuel, reactor coolant system and primary containment design limits are not exceeded. To support this mission, an adequate quantity and quality of fuel oil needs to be maintained onsite so that adequate time is available to provide for offsite replenishment.

Each of the EDGs is capable of supplying 100 percent of the minimum emergency loads required under postulated DBA conditions. Each EDG is physically and electrically independent from the other and any offsite power source. Each EDGs fuel oil supply consists of an 800-gallon day tank piped directly to the diesel fuel block. Makeup to each EDG day tank is accomplished automatically from a 75,000 gallon fuel storage tank located adjacent to the building that houses the diesel generators. The storage tank is maintained with at least the minimum volume of oil necessary to provide 7 days fuel oil supply to an EDG operating at the continuous duty rating of 2750 Kw. This onsite fuel oil capacity is sufficient to operate an EDG

longer than the time needed to replenish the onsite supply from offsite sources. Fuel oil is transferred from the storage tank to the day tanks by transfer pumps. The transfer pump motor and automatic controls for the associated day tank receive electrical power from the diesel generator supplied from the respective day tank.

The current volume of fuel oil required to support an EDG operating for 7 days at the continuous rating of 2750 Kw is 36,000 gallons. This 36,000 gallon value is stated in both the TS and the TS Bases.

This proposed change replaces the 36,000 gallon requirement in the TS with a requirement to maintain a 7-day fuel oil supply. Subsequent changes to the specific volume requirement contained in the TS Bases would be reviewed under 10 CFR 50.59 to determine if prior NRC approval is required.

Based on this, the proposed TS and supporting TS Bases will continue to ensure that adequate fuel oil is available in the fuel oil storage tank. Therefore, the NRC staff finds this TS change acceptable because the operability of the EDGs is unaffected.

3.2 Diesel Fuel Oil Testing Requirements

The licensee proposes to relocate the reference to specific ASTM standards from the TS 4.10.C.2, “Diesel Fuel,” to a licensee-controlled document. Although the reference to specific testing standards or methods is relocated, TS 4.10.C.2 retains a requirement to sample "in accordance with the applicable ASTM Standards" which are already specified in the TS Bases. The licensee's testing programs for diesel fuel oil are also governed by other regulatory requirements, including Appendix B (Quality Assurance Criteria) to 10 CFR Part 50. While the relocation of selected program details provides the licensee with some flexibility to adopt practices defined in future ASTM standards, the NRC staff finds that the remaining TS, TS Bases Control Program, and other NRC regulations provide appropriate regulatory controls to ensure diesel fuel oil quality will be maintained.

Testing of the fuel oil is currently performed to demonstrate that the requirements specified on Table I of ASTM Standard D975-02 are satisfied. Reference to the ASTM standard is contained in both the TS and the TS Bases. Subsequent changes to the specific testing standard contained in the TS Bases would be reviewed under 10 CFR 50.59 to determine if prior NRC approval is required. Since the specific ASTM Standard reference is also included in both the TS and associated TS Bases, removal of the reference to the specific ASTM Standard from the TS will not affect the fuel oil properties and operability of the EDGs will be maintained. Based on this, the proposed TS and supporting TS Bases will continue to ensure that quality fuel oil is used in the EDGs. Therefore, the NRC staff finds this TS change acceptable because the operability of the EDGs is unaffected.

3.3 Reactor Building Crane Surveillance Requirements

TS 3.12.G requires the reactor building crane to be operable when the crane is used for handling of a spent fuel cask. To support operability, Surveillance Requirement (SR) 4.12.G.1.a requires that within 1 month prior to spent fuel cask handling operations, an inspection of crane cables, sheaves, hook, yoke and cask lifting trunnions will be made. The SR requires that these inspections meet the requirements of American National Standards Institute (ANSI) Standard

B30.2, 1967. In addition, the SR requires the crane rope to be replaced if any of the replacement criteria given in the ANSI standard are met. The operability and SRs of the reactor building crane ensure that the redundant features of the crane have been adequately inspected just prior to using the crane for handling of a spent fuel cask. The redundant hoist system ensures that a load will not be dropped for any postulated credible single component failure.

This change revises TS 4.12.G.1.a to replace reference to the specific ANSI Standard (ANSI B30.2-1967) with a requirement to inspect "in accordance with the applicable ANSI Standard." Reference to the specific ANSI Standard will be added to the applicable TS Bases. Once located in the TS Bases, the requirement will be controlled in accordance with TS 6.7.E "Technical Specifications (TS) Bases Control Program" and 10 CFR 50.59.

The proposed change will provide flexibility to update the inspection requirements in accordance with 10 CFR 50.59 when newer editions of the ANSI Standards are issued. Currently, the use of a different ANSI Standard than specified in the TS or a newer edition of the referenced ANSI Standard is not permitted without a license amendment. In order to facilitate the expeditious revision of the inspection requirements, the proposed change eliminates reference to the ANSI Standard in the TS since it will also be referenced in the supporting TS Bases. This change, to relocate the reference to a specific ANSI Standard in the TS, is consistent with the change proposed to TS 4.10.C.2 discussed above in Section 4.2.

Based on this, the proposed TS and supporting TS Bases will continue to ensure that adequate inspections are performed on the reactor building crane prior to use for spent fuel cask movement. Therefore, the NRC staff finds this TS change acceptable because the operability of the reactor building crane is unaffected.

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 (72 FR 71711). 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: J. Kim

Date: April 17, 2008