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

August 25, 2011

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: ELIMINATION OF TECHNICAL SPECIFICATION PROVISIONS ALLOWING HIGH-PRESSURE COOLANT INJECTION AND REACTOR CORE ISOLATION COOLING SUCTIONS TO BE ALIGNED TO THE SUPPRESSION POOL (TAC NO. ME4999)

Dear Sir or Madam:

The Commission has issued the enclosed Amendment No. 248 to Renewed Facility Operating License DPR-28 for the Vermont Yankee Nuclear Power Station, in response to your application dated November 8, 2010.

The proposed amendment would revise Technical Specifications (TS) to eliminate provisions allowing the high-pressure coolant injection (HPCI) system and the reactor core isolation cooling (RCIC) system to be aligned to the suppression pool when required instrument channels are inoperable. In this configuration, the HPCI and RCIC systems would not be capable of mitigating some plant events. Also, an administrative change to the TS Table of Contents is proposed.

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,

James Kim

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

Docket No. 50-271

Enclosures:
1. Amendment No. 248 to License No. DPR-28
2. Safety Evaluation

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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. 248
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 November 8, 2010, 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 as indicated in the attachment to this license amendment, and paragraph 3.B of the Renewed 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. 248, are hereby incorporated in the license. Entergy Nuclear Operations, Inc. 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

Nancy L. Salgado, Chief
Plant Licensing Branch 1-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the License and
Technical Specifications

Date of Issuance: Agust 25, 2011

ATTACHMENT TO LICENSE AMENDMENT NO. 248

RENEWED FACILITY OPERATING LICENSE NO. DPR-28

DOCKET NO. 50-271

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

Remove	Insert
ii	ii
39	39
74	74

D. Entergy Nuclear Operations, Inc., pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components.

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 renewed 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. 248, 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:

1. This paragraph deleted by Amendment No. 206, October 22, 2001.

2. This paragraph deleted by Amendment 131, 10/07/91.

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Table 3.2.1 ACTION Notes

1. With one or more channels inoperable for ECCS instrumentation Trip Functions 1.a, 1.b, 2.b and 2.c:
   a. Declare the associated systems inoperable within 1 hour from discovery of loss of initiation capability for feature(s) in both divisions; and
   b. Place any inoperable channel in trip within 24 hours.

   If any applicable Action and associated completion time of Note 1.a or 1.b is not met, immediately declare associated systems inoperable.

2. With one or more channels inoperable for ECCS instrumentation Trip Functions 1.c, 1.d, 1.e, 1.g, 1.h, 2.a, 2.e, 2.h, 2.i and 2.j:
   a. Declare the associated systems inoperable within 1 hour from discovery of loss of initiation capability for feature(s) in both divisions; and
   b. Restore any inoperable channel to operable status within 24 hours.

   If any applicable Action and associated completion time of Note 2.a or 2.b is not met, immediately declare associated systems inoperable.

3. With one or more channels inoperable for ECCS instrumentation Trip Functions 2.d and 2.g:
   a. For Trip Function 2.g only, declare the associated system inoperable within 1 hour from discovery of loss of LPCI initiation capability; and
   b. For Trip Function 2.g, place any inoperable channel in trip within 24 hours.
   c. For Trip Function 2.d restore any inoperable channel to operable status within 24 hours.

   If any applicable Action and associated completion time of Note 3.a, 3.b or 3.c is not met, immediately declare associated systems inoperable.

4. With one or more channels inoperable for ECCS instrumentation Trip Functions 3.a and 3.c:
   a. Declare the HPCI System inoperable within 1 hour from discovery of loss of HPCI System initiation capability; and
   b. Place any inoperable channel in trip within 24 hours.

   If any applicable Action and associated completion time of Note 4.a or 4.b is not met, immediately declare HPCI System inoperable.

5. With one or more channels inoperable for ECCS instrumentation Trip Function 3.b, declare the HPCI System inoperable within 1 hour from discovery of loss of HPCI initiation capability.

   If any applicable Action and associated completion time of Note 5 is not met, immediately declare the HPCI System inoperable.

Table 3.2.9 ACTION Notes

1. With one or more RCIC System instrumentation Trip Function 1 channels inoperable:

   a. Declare the RCIC System inoperable within 1 hour from discovery of loss of RCIC initiation capability; and
   b. Place any inoperable channel in trip within 24 hours.

   If any applicable Action and associated completion time of Note 1.a or 1.b is not met, immediately declare the RCIC System inoperable.

2. With one or more RCIC System instrumentation Trip Function 2 channels inoperable, declare the RCIC System inoperable within 1 hour from discovery of loss of RCIC initiation capability.

   If any applicable Action and associated completion time of Note 2 is not met, immediately declare the RCIC System inoperable.

3. With one or more RCIC System instrumentation Trip Function 3 channels inoperable:

   a. Restore any inoperable channel to operable status within 24 hours.

   If the Action and associated completion time of Note 3.a is not met, immediately declare the RCIC System inoperable.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 248 TO

RENEWED 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 November 8, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML103200074), Entergy Nuclear Operations, Inc. (the licensee) submitted a request to amend the Vermont Yankee Nuclear Power Station (VY) Technical Specifications (TS). The amendment would change VY TS Tables 3.2.1 and 3.2.9 to eliminate the allowance to align the high-pressure coolant injection and reactor core isolation cooling systems to the suppression pool as an alternative to declaring the affected systems inoperable.

The licensee also proposed to change the TS Table of Contents to show that TS 4.5.I is on page 109a instead of page 109. The change is an administrative change.

1.1 Proposed Changes

The first change that the licensee proposed is to TS 3.2.A, Table 3.2.9, Note 5 which would read:

"5. With one or more channels inoperable for ECCS [emergency core cooling system] instrument Trip Function 3.b, declare the HPCI System inoperable within 1 hour from discovery of loss of HPCI initiation capability.

If any applicable Action and associated completion time of Note 5 is not met, immediately declare the HPCI System inoperable."

The licensee also proposed to change TS 3.2.L, Table 3.2.9, Note 2 to read:

"2. With one or more RCIC System instrumentation Trip Function 2 channels inoperable, declare the RCIC System inoperable within 1 hour from discovery of loss of RCIC initiation capability.

If any applicable Action and associated completion time of Note 2 is not met, immediately declare the RCIC System inoperable."

The licensee also proposed to change the TS Table of Contents is to show that TS 4.5.I is on page 109a instead of page 109. The change is an administrative change.

2.0 REGULATORY EVALUATION

The Commission's regulatory requirements related to the contents of TS, set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.36, require that the TS limiting conditions for operations are consistent with assumed values of the initial conditions in the licensee's safety analyses. 10 CFR 50.36(c)(2)(i) states: "limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met."

Nuclear Regulatory Commission (NRC) Administrative Letter 98-10 covers the discovery of TS that are insufficient to assure plant safety. The discovery of an improper or inadequate TS value or required action is considered a degraded or nonconforming condition as defined in Generic Letter 91-18. Imposing administrative controls in response to an improper or inadequate TS is considered an acceptable short-term corrective action. The NRC staff expects that, following the imposition of administrative controls, an amendment to the TS, with appropriate justification and schedule, will be submitted in a timely fashion. Once any amendment correcting the TS is approved, the licensee must update the Updated Final Safety Analysis Report (UFSAR), as necessary, to comply with 10 CFR 50.71(e).

3.0 TECHNICAL EVALUATION

The HPCI System is a core standby cooling system (CSCS) and is provided to assure that the reactor core is adequately cooled in the event of a small break in the nuclear system and loss-of-coolant accident which does not result in rapid depressurization of the reactor vessel simultaneous with a loss of normal auxiliary power. The HPCI System permits the reactor to be shut down while maintaining sufficient reactor vessel water inventory until the reactor vessel is depressurized. The HPCI System continues to operate until reactor vessel pressure is below the pressure at which low-pressure coolant injection (LPCI) operation or core spray system operation maintain core cooling.

The HPCI System is designed to pump water into the reactor vessel for a wide range of pressures in the reactor vessel. Two sources of water are available. Initially, demineralized water from the condensate storage tank (CST) is used instead of injecting the lower quality water from the suppression pool into the reactor. This provides reactor grade water to the reactor vessel for the case where the need for the HPCI System is rapidly satisfied. When water level in the CST drops below a preselected value, the water supply automatically shifts to the suppression pool. Water from either source is pumped into the reactor vessel via the feedwater line. Flow is distributed within the reactor vessel through the feedwater spargers to obtain mixing with the hot water or steam in the reactor pressure vessel.

The RCIC system provides makeup water to the reactor vessel during shutdown and isolation to supplement or replace the normal makeup sources and shall operate automatically in time sufficient to obviate any requirement for the core standby cooling systems.

The RCIC system consists of a steam-driven turbine pump unit and associated valves and piping capable of delivering makeup water to the reactor vessel. The steam supply to the turbine comes from the reactor vessel. The steam exhaust from the turbine dumps to the suppression pool. The pump can take suction from the demineralized water in the condensate storage tank or from the suppression pool. The pump discharges either to the feedwater line or to a full-flow return test line to the condensate storage tank.

To mitigate some design basis transients, HPCI and RCIC are required to be normally aligned to take suction from the CST to satisfy the transient acceptance criteria. The current VY TS allows situations where a transient can initiate with the HPCI and RCIC aligned to the suppression pool as opposed to the CST. VY's analyzed transients acceptance criteria show that the HPCI and RCIC systems should be normally aligned to the CST to mitigate transient situations. During a transient, if the water level in the CST reaches the point in which the suction of the HPCI and RCIC need to switch to the suppression pool to continue to fulfill their function, they will automatically swap suction to the suppression pool. The swapping function is unaffected by the TS amendment request. The amendment request removes a TS allowance that would let the licensee operate in an unanalyzed situation of starting transients aligned to the suppression pool. The NRC staff reviewed UFSAR Section 14.5 transients and found that the acceptance criteria do include alignment to the CST for some transients, which are not analyzed for alignment to the suppression pool. Also, mitigation of design-basis events including station blackout, 10 CFR Part 50, Appendix R fires, as well as anticipated transient without scram events includes acceptance criteria that require the HPCI and RCIC systems to be normally aligned to the CST. The licensee stated that the current TS requirements were not conservative. The staff finds that the current TS are not conservative because they could allow the licensee to operate in an unanalyzed state, and therefore the TS change to eliminate the option to allow the HPCI and RCIC systems to be aligned to the suppression pool is acceptable.

The NRC staff has reviewed the proposed TS changes to TS Tables 3.2.1 and 3.2.9 regarding the elimination of the allowance to align the HPCI and RCIC systems to the suppression pool as an alternative to declaring the affected systems inoperable. The staff concluded that the configuration was not analyzed to mitigate plant events and the change in the TS assures the plant will operate in a safe configuration. The NRC staff also finds the administrative change to the TS Table of Contents to change the location of TS 4.5.I from page 109 to page 109a to be 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 (75 FR 37474). The amendment also relates to changes in

recordkeeping, reporting, or administrative procedures or requirements. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and 10 CFR 51.22(c)(10). 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. Miller

Date: August 25, 2011

August 25, 2011

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: ELIMINATION OF TECHNICAL SPECIFICATION PROVISIONS ALLOWING HIGH-PRESSURE COOLANT INJECTION AND REACTOR CORE ISOLATION COOLING SUCTIONS TO BE ALIGNED TO THE SUPPRESSION POOL (TAC NO. ME4999)

Dear Sir or Madam:

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

Docket No. 50-271

Enclosures:
1. Amendment No. 248 to License No. DPR-28
2. Safety Evaluation

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