

September 11, 2006

Mr. Michael Kansler  
President  
Entergy Nuclear Operations, Inc.  
440 Hamilton Avenue  
White Plains, NY 10601-1839

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION FOR THE REVIEW OF  
VERMONT YANKEE NUCLEAR POWER STATION LICENSE RENEWAL  
APPLICATION

Dear Mr. Kansler:

By letter dated January 25, 2006, the U.S. Nuclear Regulatory Commission (NRC) received the Entergy Nuclear Operations, Inc., application for renewal of Operating License No. DPR-28 for the Vermont Yankee Nuclear Power Station (VYNPS). The NRC staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review. Specifically, the enclosed requests for additional information are from the NRC Project Team that performed the aging management program, aging management review, and time-limited aging analysis audits at VYNPS.

Based on discussions with Mr. Jim DeVincentis of your staff, a mutually agreeable date for your response is within 30 days of the date of this letter. If you have any questions regarding this letter or if circumstances result in your need to revise the response date, please contact me at 301-415-4053 or by e-mail at [jgr@nrc.gov](mailto:jgr@nrc.gov).

Sincerely,

**/RA/**

Jonathan Rowley, Project Manager  
License Renewal Branch B  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket No. 50-271

Enclosure:  
Requests for Additional Information

cc w/encl: See next page

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Letter to Michael Kansler from Jonathan Rowley dated September 11, 2006

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION FOR THE REVIEW OF  
VERMONT YANKEE NUCLEAR POWER STATION LICENSE RENEWAL  
APPLICATION

**HARD COPY**

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Vermont Yankee Nuclear Power Station

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**VERMONT YANKEE NUCLEAR POWER STATION**  
**LICENSE RENEWAL APPLICATION**  
**REQUESTS FOR ADDITIONAL INFORMATION (RAIs)**

**RAI 3.6.2.2-N-08-1**

The applicant responded to the staff's Request for Additional Information (RAI) 3.6.2.2-N-08 in a letter dated July 14, 2006, "License Renewal Application, Amendment 4". In the letter the applicant stated:

*"Entergy, consistent with the Peach Bottom precedent, credited the [Federal Energy Regulatory Commission] FERC dam inspection program to manage the effects of aging on civil and structural elements of the [Vernon Hydroelectric Station] VHS."*

A FERC letter to the previous owner of the VHS, New England Power Company (currently owned by TransCanada Hydro Northeast Inc.), dated August 6, 1997 states: "By letter dated June 26, 1997, you requested an exemption from filing an Independent Consultant's Safety Inspection Report under Part 12, Subpart D, of the Commission's Regulations..." and "...I am granting your request for an exemption from the Part 12, Subpart D requirement for submittal of an Independent Consultant's Safety Inspection Report."

As the exemption is only on the filing of an Independent Consultant's Safety Inspection Report under Part 12, Subpart D, describe specific Vermont Yankee Nuclear Power Station aging management activities, provide inspection reports, and describe any corrective actions that have been taken as a result of the inspection reports - as they pertain to the VHS in accordance with 10 CFR 54.21(a)(3) - since the exemption was granted.

**Integrated Plant Assessment for Electrical SSCs**

In letter dated July 14, 2006, "License Renewal Application, Amendment 4," the applicant stated that no aging effects require management for VHS based on independent generators and power transmission circuits. The Statements of Considerations for 10 CFR Part 54 clearly states that redundancy can not be used to preclude aging effects of in-scope passive-long-lived electrical components. In order for the staff to further evaluate the VHS issue, please provide the following additional information:

**RAI 3.6.2.2-N-08-2**

Electrical components for the VHS include 2 black-start turbine generators, cables and buses for power transmission, instrumentation and control components and their associated cables and connections. The audit team found that there is an aging management program (AMP) for underground cables from Vernon tie breaker routed to Vermont Yankee. However, there appears to be no AMPs for electrical components from the tie breaker to VHS generators. Please describe how aging effects on the rest of the electrical components will be managed during the period of extended operation.

Enclosure

### **RAI 3.6.2.2-N-08-3**

Identify all inaccessible medium-voltage (2 kV to 35 kV) cables associated with station blackout (SBO) alternate ac (AAC) source from the VHS generators to 4.16 kV safety buses at VYNPS. Please describe how aging effects will be managed for all inaccessible medium-voltage cables associated with SBO AAC that are not subject to environment qualification requirements of 10 CFR 50.49 and are exposed to moisture while energized.

### **RAI 3.6.2.2-N-08-4**

The applicant stated that VHS switchyard passive long-lived commodity groups are effectively maintained through routine maintenance by the switchyard owner. Describe how this routine maintenance will manage the aging effects on the VHS switchyard passive long-lived commodity groups during the period of extended operations.

### **RAI 3.6.2.2-N-08-5**

Address the following SBO AAC related items:

- a. Please describe (as stated in Generic Aging Lessons Learned (GALL) AMP XI.E6) how aging effects are managed so that the intended function of cable connections associated with SBO AAC (including VHS) will be maintained during the extended period of operation.
- b. As stated in GALL XI.E5, fuse holders that are within the scope of license renewal should be tested. Provide an aging management review (AMR) and describe how aging effects are managed for fuse holders (metallic clamps) associated with SBO AAC source (including VHS).
- c. Please discuss why torque relaxation for bolted connections of switchyard bus within the VHS switchyards (69 kV and 13.8 kV) is not a concern.
- d. Per LRA Section 3.6, increased resistance of connections due to oxidation is not an applicable aging effect. Please discuss why increased resistance of connections due to oxidation is not a concern for the switchyard bus and switchyard bus connections associated with the VHS switchyard, or provide an AMP to manage the aging effect.
- e. A large buildup of contamination enables the conductor voltage to track along the surface more easily and can lead to insulator flash over. Please describe how this aging effect is managed for high-voltage insulators within the VHS switchyards.