

August 15, 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, as supplemented by letter dated March 15, 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 Section 2.3.3.8, "Fire Protection – Water," and Section 2.3.3.9, "Fire Protection – Carbon Dioxide," of the VYNPS license renewal application.

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 August 15, 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**  
**LICENSE RENEWAL APPLICATION**  
**REQUESTS FOR ADDITIONAL INFORMATION (RAIs)**

**RAI 2.3.3.8-1**

License renewal application (LRA) drawing LRA-G-191163-SH-01-0, "Fire Protection System Inner Loop," shows the yard fire hydrants as out of scope (i.e., not colored in purple). Verify whether the yard fire hydrants are in scope of license renewal in accordance with Title 10 *Code of Federal Regulations* Part 54.4(a) (10 CFR 54.4(a)) and subject to an aging management review (AMR) in accordance with 10 CFR 54.21(a)(1). If they are excluded from the scope of license renewal and not subject to an AMR, please provide justification for the exclusion.

**RAI 2.3.3.8-2**

LRA drawing LRA-G-191163-SH-02-0, "Fire Protection System Outer Loop," shows the recirculation pump motor generator set foam system colored in purple (i.e., in scope). This drawing does not show the 150 gallon foam concentrate tank and its components (piping and valves). Verify whether the 150 gallon foam concentrate tank and its components are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are excluded from the scope of license renewal and not subject to an AMR, please provide justification for the exclusion.

**RAI 2.3.3.8-3**

Section 3.2.2 of the January 17, 1978, U.S. Nuclear Regulatory Commission safety evaluation (the SE), approving the Vermont Yankee Nuclear Power Station fire protection program, discusses the use of flame retardant coating to protect electrical cables in trays and risers in the switchgear room to meet the requirements of 10 CFR 50.48. The LRA does not list flame retardant coating for cables. Verify whether the flame retardant coating is in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If flame retardant coating is excluded from the scope of license renewal and not subject to an AMR, please provide justification for the exclusion.

**RAI 2.3.3.8-4**

Section 4.3.1(f) of the SE discusses a manually-operated foam maker with a permanent storage tank with fire suppression functions in the event of a fire affecting the 75,000 gallon outdoor fuel oil storage tank, the diesel generator day tanks, or the diesel generator room located on the ground floor of the turbine building. The LRA does not list this foam maker and its associated storage tank systems and components. Verify whether the foam maker and storage tank system and components (piping and valves) are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are excluded from the scope of license renewal and not subject to an AMR, please provide justification for the exclusion.

ENCLOSURE

**RAI 2.3.3.8-5**

Section 4.5 of the SE discusses floor drains provided in all plant areas protected with fixed water fire suppression. Are they in the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1)? If they are excluded from the scope of license renewal and not subject to an AMR, please provide justification for the exclusion.

**RAI 2.3.3.8-6**

Section 3.3 of the SE supplement dated February 20, 1980, discusses the fire protection features for the primary containment (e.g., fixed suppression systems, standpipe and hose stations, and oil collection system). Determine whether fire protection systems and features for primary containment should be included as systems and components in scope for license renewal and subject to an AMR. If not, please explain the basis.

**RAI 2.3.3.8-7**

Section 3.3 of the SE supplement dated October 24, 1980, discusses the deluge system to protect the turbine building lay-down area. Determine whether the turbine building lay-down deluge system and its components should be included as systems and components in scope for license renewal and subject to an AMR. If not, please explain the basis.

**RAI 2.3.3.8-8**

Section 4.3.1(e) of the SE discusses the automatic sprinkler systems for various areas including the outdoor transformer. The LRA does not list the sprinkler systems nor associated components to protect the outdoor transformer. Verify whether the sprinkler system and associated components are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are excluded from the scope of license renewal and not subject to an AMR, please provide justification for the exclusion.

**RAI 2.3.3.8-9**

Section 5.12.6 of the SE discusses the use of a three-hour rated fire protection coating to protect the structural steel supporting the wall and ceiling of diesel generator rooms. The LRA does not list three-hour rated fire protection coating for structural steel. Verify whether the fire protection coating for structural steel is in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If fire protection coating is excluded from the scope of license renewal and not subject to an AMR, please provide justification for the exclusion.

**RAI 2.3.3.8-10**

LRA Table 2.3.3-8 excludes several types of fire protection components that appear in the SE and its supplements and/or updated final safety analysis report (UFSAR), and which also appear in the LRA drawings colored in purple. These components are listed below.

- hose stations
- hose connections
- hose racks
- pipe fittings
- pipe supports
- couplings
- threaded connections
- flexible hoses
- restricting orifices
- interface flanges
- chamber housings
- heat-actuated devices
- gauge snubbers
- tank heaters
- thermowells
- water motor alarms
- fire hydrants (casing)
- sprinkler heads
- dikes (contain oil spill)
- flame retardant coating for cables
- fire barrier penetration seals
- fire barrier walls, ceilings, floors, and slabs
- fire doors
- fire rated enclosures
- fire retardant coating for structural steel supporting walls and ceilings

For each, determine whether the component should be included in Table 2.3.3.8, and if not, please justify the exclusion.

**RAI 2.3.3.8-11**

LRA Table 2.3.3-8 listed flow nozzles (flow control) as within scope and subject to an AMR, but does not list spray nozzles (water). Please explain why the water spray nozzles are not subject to an AMR.

**RAI 2.3.3.9-1**

Sections 3.1.5 and 4.3.2 of the SE discusses a total flooding carbon dioxide (CO<sub>2</sub>) system for the cable spreading area, battery room, and diesel driven fire water pump tank room. The LRA does not list the CO<sub>2</sub> system for the cable spreading area, battery room, and diesel driven fire water pump tank room. Verify whether the CO<sub>2</sub> system and its components are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are excluded from the scope of license renewal and not subject to an AMR, please provide justification for the exclusion.

**RAI 2.3.3.9-2**

LRA Table 2.3.3-9 excludes several types of CO<sub>2</sub> fire suppression system components that appear in the SE and its supplements and/or UFSAR, and which also appear in the LRA drawings colored in purple. These components are listed below.



- strainer housings
- pipe fittings
- pipe supports
- couplings
- odorizer
- threaded connections
- flexible hose
- latch door pull box
- pneumatic actuators
- CO<sub>2</sub> bottles (CO<sub>2</sub> storage cylinders)

For each, determine whether the component should be included in Table 2.3.3.9, and if not, please justify the exclusion.

**RAI 2.3.3.9-3**

LRA Table 2.3.3-9 listed nozzles with an intended function of flow control as within scope and subject to an AMR. Nozzles with intended functions of total flood, vent, and S nozzles are not listed. Please explain why these nozzles are not subject to an AMR.