

August 22, 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 THE  
PILGRIM NUCLEAR POWER STATION LICENSE RENEWAL APPLICATION  
(TAC MC9669)

Dear Mr. Kansler:

By letter dated January 25, 2006, Entergy Nuclear Operations, Inc. submitted an application pursuant to 10 CFR Part 54, to renew the operating license for Pilgrim Nuclear Power Station for review by the U.S. Nuclear Regulatory Commission (NRC). 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. These requests for additional information address license Renewal Section 2.4, "Scoping and Screening Results: Structures."

These questions were discussed with a member of your staff, Bryan Ford, and a mutually agreeable date for this response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-1478 or e-mail [RXS2@nrc.gov](mailto:RXS2@nrc.gov).

Sincerely,

**/RA/**

Ram Subbaratnam, Project Manager  
License Renewal Branch A  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket No. 50-293

Enclosure:  
Requests for Additional Information

cc w/encl: See next page

August 22, 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 THE  
PILGRIM NUCLEAR POWER STATION LICENSE RENEWAL APPLICATION  
(TAC MC9669)

Dear Mr. Kansler:

By letter dated January 25, 2006, Entergy Nuclear Operations, Inc. submitted an application pursuant to 10 CFR Part 54, to renew the operating license for Pilgrim Nuclear Power Station for review by the U.S. Nuclear Regulatory Commission (NRC). 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. These requests for additional information address license Renewal Section 2.4, "Scoping and Screening Results: Structures."

These questions were discussed with a member of your staff, Bryan Ford, and a mutually agreeable date for this response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-1478 or e-mail [RXS2@nrc.gov](mailto:RXS2@nrc.gov).

Sincerely,

**/RA/**

Ram Subbaratnam, Project Manager  
License Renewal Branch A  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket No. 50-293

Enclosure:  
Requests for Additional Information

cc w/encl: See next page

**ADAMS Accession No.: ML062350440**

E:\Filenet\ML062350440.wpd

OFFICE	PM:RLRA:DLR	LA:RLRA:DLR	BC:REBB:DLR	OGC
NAME	RSubbaratnam	lKing	LLund (Rauluck for)	MZobler
DATE	8/15/06	8/14/06	8/18/06	8/22/06

OFFICIAL RECORD COPY

Letter to Michael Kansler from Ram Subbaratnam dated: August 22, 2006

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE  
PILGRIM NUCLEAR POWER STATION LICENSE RENEWAL APPLICATION  
(TAC MC9669)

**HARD COPY**

DLR R/F

**E-MAIL:**

JFair  
RWeisman  
AMurphy  
RPettis  
GGalletti  
DShum  
GBagchi  
SSmith (srs3)  
SDuraiswamy  
YL (Renee) Li  
RidsNrrDir  
RidsNrrDirRlra  
RidsNrrDirRlrb  
RidsNrrDe  
RidsNrrDci  
RidsNrrEemb  
RidsNrrDeEeeb  
RidsNrrDeEqva  
RidsNrrDss  
RidsNrrDnrl  
RidsOgcMailCenter  
RidsNrrAdes  
DLR Staff  
-----  
RSubbaratnam  
SHoffman  
SUttal  
JShea  
AWilliamson  
DJeng  
RKaras  
Sai Wah NG  
GWilson  
CAnderson, Region 1  
WRaymond, Region 1  
NSheehan, Region 1

Pilgrim Nuclear Power Station

cc:

Regional Administrator, Region I  
U. S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406-1415

Senior Resident Inspector  
U. S. Nuclear Regulatory Commission  
Pilgrim Nuclear Power Station  
Post Office Box 867  
Plymouth, MA 02360

Chairman, Board of Selectmen  
11 Lincoln Street  
Plymouth, MA 02360

Chairman  
Nuclear Matters Committee  
Town Hall  
11 Lincoln Street  
Plymouth, MA 02360

Chairman, Duxbury Board of Selectmen  
Town Hall  
878 Tremont Street  
Duxbury, MA 02332

Office of the Commissioner  
Massachusetts Department of  
Environmental Protection  
One Winter Street  
Boston, MA 02108

Office of the Attorney General  
One Ashburton Place  
20th Floor  
Boston, MA 02108

Director, Radiation Control Program  
Commonwealth of Massachusetts  
Executive Offices of Health and  
Human Services  
174 Portland Street  
Boston, MA 02114

Secretary of Public Safety  
Executive Office of Public Safety  
One Ashburton Place  
Boston, MA 02108

Director, Massachusetts Emergency  
Management Agency  
Attn: James Muckerheide  
400 Worcester Road  
Framingham, MA 01702-5399

Mr. William D. Meinert  
Nuclear Engineer  
Massachusetts Municipal Wholesale  
Electric Company  
P.O. Box 426  
Ludlow, MA 01056-0426

Mr. Michael A. Balduzzi  
Site Vice President  
Entergy Nuclear Operations, Inc.  
Pilgrim Nuclear Power Station  
600 Rocky Hill Road  
Plymouth, MA 02360-5508

Mr. Stephen J. Bethay  
Director, Nuclear Safety Assurance  
Entergy Nuclear Operations, Inc.  
Pilgrim Nuclear Power Station  
600 Rocky Hill Road  
Plymouth, MA 02360-5508

Mr. Bryan S. Ford  
Manager, Licensing  
Entergy Nuclear Operations, Inc.  
Pilgrim Nuclear Power Station  
600 Rocky Hill Road  
Plymouth, MA 02360-5508

Mr. Gary J. Taylor  
Chief Executive Officer  
Entergy Operations  
1340 Echelon Parkway  
Jackson, MS 39213

cc:

Mr. John T. Herron  
Sr. VP and Chief Operating Officer  
Entergy Nuclear Operations, Inc.  
440 Hamilton Avenue  
White Plains, NY 10601

Mr. Oscar Limpias  
Vice President, Engineering  
Entergy Nuclear Operations, Inc.  
440 Hamilton Avenue  
White Plains, NY 10601

Mr. Christopher Schwarz  
Vice President, Operations Support  
Entergy Nuclear Operations, Inc.  
440 Hamilton Avenue  
White Plains, NY 10601

Mr. John F. McCann  
Director, Nuclear Safety Assurance  
Entergy Nuclear Operations, Inc.  
440 Hamilton Avenue  
White Plains, NY 10601

Ms. Charlene D. Faison  
Manager, Licensing  
Entergy Nuclear Operations, Inc.  
440 Hamilton Avenue  
White Plains, NY 10601

Mr. Michael D. Lyster  
5931 Barclay Lane  
Naples, FL 34110-7306

Mr. Michael J. Colomb  
Director of Oversight  
Entergy Nuclear Operations, Inc.  
440 Hamilton Avenue  
White Plains, NY 10601

Ms. Stacey Lousteau  
Treasury Department  
Entergy Services, Inc.  
639 Loyola Avenue  
New Orleans, LA 70113

Mr. James Sniezek  
5486 Nithsdale Drive  
Salisbury, MD 21801

Mr. Travis C. McCullough  
Assistant General Counsel  
Entergy Nuclear Operations, Inc.  
440 Hamilton Avenue  
White Plains, NY 10601

Mr. James Ross  
Nuclear Energy Institute  
1776 I Street, NW, Suite 400  
Washington, DC 20006-3708

Plymouth Public Library  
Attn: Dinah O'Brien  
132 South Street  
Plymouth, MA 02360

Duxbury Free Library  
ATTN: Ms. Elaine Winquist  
77 Alden Street  
Duxbury, MA 02332

Kingston Public Library  
ATTN: Reference Librarian  
6 Green Street  
Kingston, MA 02364

Ms. Mary Lampert  
Duxbury Nuclear Advisory, Chair  
Pilgrim watch, Director  
148 Washington Street  
Duxbury 02332

**REQUEST FOR ADDITIONAL INFORMATION**  
**PILGRIM LICENSE RENEWAL APPLICATION (LRA)**  
**SECTION 2.4 SCOPING AND SCREENING RESULTS: STRUCTURES**

**Section 2.4.1 Primary Containment**

RAI 2.4.1-1

Table 2.4-1, Primary Containment of the license renewal application (LRA) does not include drywell head closure bolts, backing plates, spring seals, and removable guard rings. These components have the intended function of pressure boundary and support for criterion (a)(1) equipment. The staff requests the applicant provide justification for not including them in the scope of license renewal.

RAI 2.4.1-2

Neither Table 2.4-1, Primary Containment, nor Table 2.4-2, Reactor Building, of the LRA incorporates refueling cavity seal components within the scope of license renewal. The proposed license renewal interim staff guidance LR-ISG-2006-01, "Plant Specific Aging Management Program for Inaccessible Areas of Boiling Water Reactor Mark 1 Steel Containment Drywell Shell," which was published in the Federal Register on May 9, 2006, stated that the most likely cause of corrosion of the drywell shell in the sand-pocket areas (near the bottom of the drywell), and in the spherical portion of the drywell at higher elevations, was the water in the gap between the drywell and the concrete shield, and the source of the water was noted as leakage through the seal between the drywell and the refueling cavity. Therefore, the staff requests the applicant include all the refueling cavity seal components within the scope of license renewal and provide a drawing that depicts the refueling cavity seal components.

RAI 2.4.1-3

Table 2.4-2, Reactor Building, of the LRA lists the biological shield wall concrete as a component within the scope of license renewal. Clarify if the Pilgrim Nuclear Power Station (Pilgrim) plant needs a cooling system to maintain the temperature of the biological shield wall concrete within its design limit temperatures. If yes, confirm that the cooling system is included within the scope of license renewal and list the system in Table 2.4-2.

RAI 2.4.1-4

Table 2.4-1, Primary Containment, of the LRA lists "Floor slabs, walls (EQ Zone 1.30, Drywell El. 9'-2")." It is unclear to the staff if the above referenced slab is the same as the one located at the elevation of the moisture barrier which serves as the interface between the drywell floor concrete slab and the drywell shell. Provide a drawing to depict the "Floor slabs, walls (EQ Zone 1.30, Drywell El. 9'-2")," and indicate whether all floor slabs and walls inside the primary containment are within the scope of license renewal.

ENCLOSURE

RAI 2.4.1-5

Table 2.4-1, Primary Containment, of the LRA does not include the reinforced concrete shield plugs that provide shielding over the top of the drywell. The staff requests the applicant provide justification for not including them in the scope of license renewal. Exclusion of the reinforced concrete shield plugs from the scope of license renewal may lead to long-term unmanaged degradation of the plugs (e.g., full sectional concrete cracking, rebar corrosion, loss of bond, partial spalling or cracking of concrete due to handling, loss of load carrying capacity of plug attachments, etc.) with a seismic II/I implication potentially affecting the structural integrity of the drywell head.

RAI 2.4.1-6

Table 2.4-1, Primary Containment, of the LRA only lists the reactor vessel and drywell bellows. Confirm that items such as backing plates, spring seals, and removable guard rings are within the scope of license renewal and list the items in Table 2.4-1.

**Section 2.4.3 Intake Structure**

RAI 2.4.3-1

Table 2.4-3, Intake Structure, of the LRA does not include intake structure components specific to Pilgrim, such as sluice gates, trash racks, traveling screens, cranes and water proofing membranes, etc. within the scope of license renewal. As applicable, the staff requests the applicant provide justification for not including them in the scope of license renewal.

**Section 2.4.4 Process Facilities**

RAI 2.4.4-1

Section 2.4.4, Process Facilities, of the LRA under Main Stack and Filter Building states that "The main stack is a safety-related and seismic Class I structure but is not designed to withstand tornado loadings since it is located sufficiently far from other seismic Class I structures to preclude interaction." The staff needs additional information regarding the potential interaction between some seismic Class II structure, system, and components (SSCs) and the tornado-induced failure of the main stack. Specifically, the licensee is requested to confirm that appropriate measures have been taken to preclude potential interactions between the main stack and some nearby seismic Class II SSCs whose failure might have adverse effects on seismic Class I SSCs.

**Section 2.4.5 Yard Structures**

RAI 2.4.5-1

Table 2.4-5, Yard Structures, of the LRA does not include, the plant system portion of switchyard circuit breakers, transformers, transmission towers, and transmission tower foundations. As part of the list to comply with interim staff guidance(ML020920464) concerning scoping of offsite power systems necessary to support the Station Blackout Rule (10 CFR 50.63), the staff requests the applicant include these components in the scope of license

renewal. The ADAMS Public Electronic Reading Room is accessible at <http://www.nrc.gov/reading-rm/adams.html> on the NRC web site. Persons who do not have access to ADAMS, should contact the NRC's Public Document Room reference staff at 1-800-397-4209, or 301-415-4727, or by e-mail at [pdr@nrc.gov](mailto:pdr@nrc.gov).

#### **Section 2.4.6 Bulk Commodities**

##### RAI 2.4.6-1

Table 2.4-6, Bulk Commodities, of the LRA provides a list of bulk commodities for Pilgrim. The location of each commodity is unclear to the staff. The staff requests the applicant describe all commodities on the list as well as provide a comprehensive listing of components and locations for each commodity.

##### RAI 2.4.6-2

Table 2.4-6, Bulk Commodities, of the LRA lists "Insulation" with its intended functions. It is unclear to the staff why "Support for Criterion (a)(1) equipment" is not part of the intended functions when Table 2.0-1 defines the intended function of insulation as "provide insulating characteristics to reduce heat transfer," which is meant to apply to safety related and non-safety related components. The staff requests the applicant provide additional information on insulation and a list of in-scope components that have insulation included with their intended functions.

##### RAI 2.4.6-3

Table 2.4.6 lists steel "Flood curbs" as a component with intended functions for flood barrier and shelter or protection, and another component concrete "Flood curbs" with an intended function for flood barrier. The staff requests the applicant provide clarifications for the two different components by listing all structural members (elements) under each component.