



Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
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John A. Dent, Jr.
Site Vice President

March 20, 2014

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
11555 Rockville Pike
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Subject: Entergy's Re-assessment of Pilgrim Nuclear Power Station Seismic Core
Damage Frequency

Pilgrim Nuclear Power Station
Docket No. 50-293
License No. DPR-35

- References:
- 1) Pilgrim Nuclear Power Station letter to the NRC, "Pilgrim Nuclear Power Station – Individual Plant Examination of External Events (IPEEE) For Severe Accident Vulnerabilities", dated-June 30, 1994. (BEC0 Letter 2.94.075)
 - 2) NRC Generic Letter 88-20, Supplement 4, "Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities", dated June 28, 1991
 - 3) NRC "Safety/Risk Assessment Results for Generic Issue (GI) 199, Implications of Updated Probabilistic Hazard Estimates in Central and Eastern United States on Existing Plants", dated September 2, 2010
 - 4) EPRI, "Updated Seismic Hazard Results for Arkansas, Fitzpatrick, Grand Gulf, Indian Point, Pilgrim, River Bend, Vermont Yankee, and Waterford Nuclear Sites", dated August 2010
 - 5) Pilgrim Nuclear Power Station letter to the NRC Response to Request for Additional Information Regarding Pilgrim's IPEEE Submittal, dated May 7, 1998. (PNPS Letter 2.98.064)

PNPS Letter 2.14.027

Dear Sir or Madam:

Reference 1 provided the results of the Individual Plant Examination of External Events and fulfilled the requirements of Generic Letter (GL) 88-20, Supplement 4 (Reference 2) for Pilgrim Nuclear Power Station (PNPS). A recent NRC Safety/Risk Assessment of US Nuclear Plant Seismic Core Damage Frequencies (SCDF) based on, among others, the 2008 US Geological Survey (USGS) hazard curves (Reference 3) identified PNPS as a plant with a large calculated SCDF. In this assessment the NRC used plant capacity estimates extracted from Reference 1. Although the NRC estimated SCDF was in the acceptable range, Entergy assembled a Seismic Review Team (SRT) to reassess key PNPS components.

A011
NRR
A recycling symbol consisting of three chasing arrows forming a triangle.

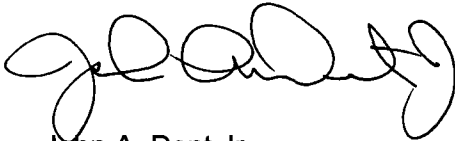
The plant level High Confidence of a Low Probability of Failure (HCLPF) spectrum peak ground acceleration estimate provided in Reference 1 was calculated in a very conservative manner.

When using the resulting capacity estimates in conjunction with the USGS seismic hazard curves, the NRC determined a very conservative SCDF estimate of $6.9\text{E-}05$ per year, or 1 in 14,493 reactor-years for PNPS. Using the improved plant capacities developed by the SRT, a reassessment of the SCDF estimate was performed (Enclosure 1). This resulted in a SCDF of $3.98\text{E-}05$ per year, or 1 in 25,126 reactor-years using the same USGS hazard curves. With the use of the improved plant capacity and EPRI updated 2010 hazard curves (Reference 4); the SCDF estimate is further reduced to $1.46\text{E-}05$ per year (or 1 in 68,493 reactor-years) for PNPS. In conclusion, the SRT has demonstrated a larger plant-level seismic capacity (plant is more robust) than that used in the NRC assessment for PNPS.

Should you have any questions concerning the content of this letter or require additional information, please contact Mr. Joseph Lynch, Regulatory Assurance Manager at 508-830-8403.

There are no new regulatory commitments in this submittal.

Sincerely,

A handwritten signature in black ink, appearing to read 'John A. Dent Jr.', with a stylized, cursive flourish at the end.

John A. Dent Jr.
Site Vice President
JAD/rmb

Enclosures:

Enclosure 1: Entergy Nuclear Engineering Report No. PNPS-RPT-11-00001, Revision 0
"Re-Assessment of Pilgrim Seismic Core Damage Frequency", dated June 2011

cc:

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NRC Senior Resident Inspector
Pilgrim Nuclear Power Station