UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

March 2, 2016

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

SUBJECT: ANNUAL ASSESSMENT LETTER FOR PILGRIM NUCLEAR POWER STATION (REPORT 05000293/2015006)

Dear Mr. Dent:

On February 9, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed its end-of-cycle performance review of Pilgrim Nuclear Power Station (Pilgrim). The NRC reviewed the most recent quarterly performance indicators in addition to inspection results and enforcement actions from January 1, 2015, through December 31, 2015. This letter informs you of the NRC's assessment of Pilgrim during this period and its plans for future inspections at your facility.

The NRC determined that the performance at Pilgrim during the most recent quarter was within the Repetitive Degraded Cornerstone Column (Column 4) of the NRC's Reactor Oversight Process (ROP) Action Matrix. This resulted from issuance of an additional White finding in the Mitigating Systems cornerstone while Pilgrim was in the Degraded Cornerstone Column (Column 3) of the ROP Action Matrix for more than five consecutive quarters, as described in the mid-cycle assessment letter, dated September 1, 2015 (ML15243A259[1]).

The NRC has also determined that Pilgrim continues to operate safely, and additional regulatory actions beyond those prescribed for plants in Column 4 are not required at this time. There have been no risk significant events, equipment failures, or inspection findings since Pilgrim's entry into Column 4. Our inspections (including Phase 'A' of Inspection Procedure (IP) 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs or One Red Input,") have determined that to date Entergy's evaluations of, and corrective actions for, significant performance deficiencies were sufficient to correct those deficiencies and prevent recurrence. Nevertheless, the NRC continued to identify weaknesses in implementation of the corrective action program at Pilgrim in 2015. During this assessment period, the NRC identified a cross-cutting theme in accordance with Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program," in the Problem Identification and Resolution area, in that inspectors identified 13 findings with a cross-cutting aspect in this area. The NRC will continue to monitor your staff's

[1] The designation in parentheses refers to an Agencywide Documents Access and Management System (ADAMS) Accession Number. Documents referenced in this letter are publicly available using the Accession Number in ADAMS.

effort and progress in addressing weaknesses in the corrective action program, both through the baseline inspection program, and as part of the IP 95003 inspection discussed further below.

As a result of Pilgrim's entry into Column 4, in addition to ROP baseline inspections, the NRC plans to conduct a supplemental inspection in accordance with IP 95003. Based on the corrective action program weaknesses that resulted in Pilgrim's entry into Column 4, this supplemental inspection will be focused on the Pilgrim corrective action program and safety culture assessment (reference sections 02.02 and 02.07 through 02.09 of IP 95003). The scope of the supplemental inspection will also include the Reactor Safety Strategic Performance Area, with focus on the key attributes of human performance, procedure quality, and equipment performance (reference sections 02.03c, 02.03d and 02.03e of IP 95003).

The objectives of IP 95003 are to: 1) provide the NRC timely additional information to be used in deciding whether the continued operation of the facility is acceptable and whether additional regulatory actions are necessary to arrest declining licensee/plant performance; 2) provide an independent assessment of the extent of risk-significant issues to aid in the determination of whether an unacceptable margin of safety or security exists; 3) independently assess the adequacy of the programs and processes used by the licensee to identify, evaluate, and correct performance issues; 4) independently evaluate the adequacy of programs and processes in the affected strategic performance areas; 5) provide insight into the overall root and contributing causes of identified performance deficiencies; and 6) evaluate the licensee's third-party safety culture assessment and conduct a graded assessment of the licensee's safety culture based on the results of the evaluation.

In a letter dated December 18, 2015 (ML15352A128), the NRC informed you of its intent to conduct IP 95003 in three phases ('A' through 'C'). The NRC completed the Phase 'A' portion of this inspection on January 15, 2016. The purpose of this inspection was to review aspects of Pilgrim's corrective action program and to determine whether continued operation of Pilgrim is acceptable and whether additional regulatory actions are necessary to arrest declining plant performance. The results of this inspection are documented in NRC Inspection Report 05000293/2016008 (ML16060A018), dated February 29, 2016. While one non-cited violation was identified, results of this inspection were consistent with the conclusion that Pilgrim continues to operate safely. Phase 'B' is scheduled for April 4–8, 2016, and will review overall corrective action program performance since the last problem identification and resolution inspection in August 2015. The results of the Phase 'A' and Phase 'B' inspections will inform the final scope for the Phase 'C', which will complete our review of the IP 95003 objectives as described above. The NRC will schedule Phase 'C' when you provide us written notification of your readiness for the inspection.

In the interim, in addition to the aforementioned phased approach of IP 95003, IMC 0305 provides a number of regulatory tools to ensure increased oversight to monitor for any additional performance decline. For instance, NRC senior management will conduct quarterly reviews of Pilgrim performance, with a particular focus on monitoring for additional performance decline. The NRC will also engage Entergy with more frequent site visits, and the Commission may call for Entergy to discuss its performance improvement plan at a public meeting. The NRC may take additional regulatory actions as warranted, including additional supplemental inspections, a demand for information, or issuance of an order, up to and including a plant shutdown.

The enclosed inspection plan lists the inspections scheduled through December 31, 2017. Routine inspections performed by resident inspectors are not included in the inspection plan. In addition, the NRC plans to conduct IP 60855.1, “Operation of an Independent Spent Fuel Storage Installation at Operating Plants,” at your facility. The NRC provides the inspection plan to allow for the resolution of any scheduling conflicts and personnel availability issues. The NRC will contact you as soon as possible to discuss changes to the inspection plan should circumstances warrant any changes. This inspection plan does not include security-related inspections, which will be sent via separate, non-publicly available correspondence.

The NRC plans to conduct inspections to review traditional enforcement violations issued to Pilgrim in accordance with IMC 0305, “Operating Reactor Assessment Program,” Section 13.02.b. As stated in the mid-cycle assessment letter dated September 1, 2015, we plan to conduct IP 92723, “Follow-up Inspection for Three or more Severity Level IV Traditional Enforcement Violations in the Same Area in a 12 Month Period,” due to identifying three Severity Level IV traditional enforcement violations associated with impeding the regulatory process. A fourth Severity Level IV violation for impeding the regulatory process was identified in September 2015. This violation will be incorporated into the scope of the planned IP 92723 inspection.

In response to the accident at Fukushima, the Commission issued Order EA-12-049, “Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events.” This Order requires licensees to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities following a beyond-design-basis external event. Additionally, the Commission issued Order EA-12-051, “Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation.” This Order requires licensees to have a reliable means of remotely monitoring wide-range Spent Fuel Pool levels to support effective prioritization of event mitigation and recovery actions in the event of a beyond-design-basis external event. The NRC is conducting audits of licensee efforts towards compliance with these Orders. The audit was completed for Pilgrim, and the information gathered will aid staff in development of the ultimate Safety Evaluation for the site. After the NRC staff receives the Final Compliance letter for the site, the Final Safety Evaluation will be issued. Then, the NRC staff will confirm through inspections the full implementation of the orders mentioned above by performing Temporary Instruction 2515/191, “Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans.”

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Please contact Arthur Burritt at (610)337-5069 with any questions you have regarding this letter.

Sincerely,

/RA David C. Lew for/

Daniel H. Dorman
Regional Administrator

Docket No. 50-293
License No. DPR-35

Enclosure:
Pilgrim Inspection/Activity Plan

cc w/encl: Distribution via ListServ

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☑ SUNSI Review		☑ Non-Sensitive ☐ Sensitive		☑ Publicly Available ☐ Non-Publicly Available	
OFFICE	RI/DRP	RI/DRP	RI/DRP	RI/ORA	
NAME	LCline/LMC	ABurritt/ALB	MScott/MLS	DDorman/DCL for	
DATE	2/23/16	2/26/16	2/26/16	3/2/16	

OFFICIAL RECORD COPY

Pilgrim
Inspection / Activity Plan
01/01/2016 - 12/31/2017

Unit Number	Planned Dates Start	End	Inspection Activity	Title	No. of Staff on Site
			95003	**- 95003 PHASE A INSPECTION**	**4**
1	01/11/2016	01/15/2016	IP 95003	Inspection For Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inp	
			95003	**- 95003 PHASE B INSPECTION**	**4**
1	04/04/2016	04/08/2016	IP 95003	Inspection For Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inp	
			TI-191	**- FUKUSHIMA LESSONS-LEARNED**	**2**
1	03/21/2016	03/25/2016	IP 2515/191	Inspection of Licensee's Responses to Order EA-12-049, EA-12-051 & EP Info Request March 12, 2012	
			71124	**- 01 EXPOSURE CONTROL**	**1**
1	03/21/2016	03/24/2016	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
			92702	**- IP 92702**	**1**
1	03/28/2016	04/01/2016	IP 92702	Followup On Corrective Actions For Violations And Deviations	
			92723	**- IP 92723**	**1**
1	03/28/2016	04/01/2016	IP 92723	Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the S	
			7111117T	**- PERMANENT PLANT MODIFICATIONS**	**3**
1	05/02/2016	05/06/2016	IP 7111117T	Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications	
1	05/16/2016	05/20/2016	IP 7111117T	Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications	
			71124	**- 05 RAD MONITORING INSTRUMENTATION**	**1**
1	05/02/2016	05/06/2016	IP 71124.05	Radiation Monitoring Instrumentation	
			7111107T	**- TRIENNIAL HEAT SINK**	**1**
1	07/18/2016	07/22/2016	IP 7111107T	Heat Sink Performance	
			2/27EXM	**- PILGRIM INITIAL EXAM**	**4**
1	01/30/2017	02/05/2017	U01945	FY17-PILGRIM INITIAL OPERATOR LICENSING EXAM	
1	02/27/2017	03/03/2017	U01945	FY17-PILGRIM INITIAL OPERATOR LICENSING EXAM	
			ISFSI	**- ISFSI LOADING CAMPAIGN INSPECTION**	**3**
1	09/26/2016	09/30/2016	IP 60855	Operation Of An ISFSI	
1	09/26/2016	09/30/2016	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	
			EP	**- EP EXERCISE EVALUATION**	**4**
1	11/14/2016	11/18/2016	IP 7111401	Exercise Evaluation	
			71124	**- 71151 PI VERIFY 71124.01EXPCONT05RAD MON**	**1**
1	11/21/2016	11/25/2016	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1	11/21/2016	11/25/2016	IP 71124.05	Radiation Monitoring Instrumentation	
1	11/21/2016	11/25/2016	IP 71151-OR01	Occupational Exposure Control Effectiveness	
1	11/21/2016	11/25/2016	IP 71151-PR01	RETS/ODCM Radiological Effluent Occurrences	

This report does not include INPO and OUTAGE activities.
This report shows only on-site and announced inspection procedures.

Pilgrim
Inspection / Activity Plan
01/01/2016 - 12/31/2017

Unit Number	Planned Dates Start	End	Inspection Activity	Title	No. of Staff on Site
			7111108G	**- INSERVICE INSPECTION**	**1**
1	04/24/2017	04/28/2017	IP 7111108G	Inservice Inspection Activities - BWR	
			71124	**- 71124.01 RAD HAZARD AND 71124.02 ALARA**	**1**
1	04/24/2017	04/27/2017	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1	04/24/2017	04/27/2017	IP 71124.02	Occupational ALARA Planning and Controls	
			71124.08	**- RADWASTE**	**1**
1	06/05/2017	06/09/2017	IP 71124.08	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	
			71124	**- RAD HAZ- ALARA- AIRBORNE-DOSIMETRY**	**1**
1	06/19/2017	06/23/2017	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1	06/19/2017	06/23/2017	IP 71124.02	Occupational ALARA Planning and Controls	
1	06/19/2017	06/23/2017	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
1	06/19/2017	06/23/2017	IP 71124.04	Occupational Dose Assessment	
			7111111B	**- PILGRIM REQUAL INSP W/ P/F RESULTS**	**2**
1	09/04/2017	09/08/2017	IP 7111111B	Licensed Operator Requalification Program	
			7111121	**- CDBI**	**6**
1	07/31/2017	08/04/2017	IP 7111121	Component Design Bases Inspection	
1	08/14/2017	08/18/2017	IP 7111121	Component Design Bases Inspection	
1	08/28/2017	09/01/2017	IP 7111121	Component Design Bases Inspection	
			71124	**- 71124.06 RETS**	**1**
1	08/07/2017	08/11/2017	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment	
			71152B	**- PI&R BIENNIAL TEAM INSPECTION**	**5**
1	09/11/2017	09/15/2017	IP 71152B	Problem Identification and Resolution	
1	09/25/2017	09/29/2017	IP 71152B	Problem Identification and Resolution	
			71124	**- 71124.07 REMP**	**1**
1	09/18/2017	09/21/2017	IP 71124.07	Radiological Environmental Monitoring Program	
			71124	**- 71151 PI VERIFY71124.02ALARA06RETS07REMP**	**1**
1	11/20/2017	11/23/2017	IP 71124.02	Occupational ALARA Planning and Controls	
1	11/20/2017	11/23/2017	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment	
1	11/20/2017	11/23/2017	IP 71124.07	Radiological Environmental Monitoring Program	
1	11/20/2017	11/23/2017	IP 71151-OR01	Occupational Exposure Control Effectiveness	
1	11/20/2017	11/23/2017	IP 71151-PR01	RETS/ODCM Radiological Effluent Occurrences	
			EP	**- EP PROGRAM INSPECTION**	**1**
1	11/27/2017	12/01/2017	IP 7111402	Alert and Notification System Testing	

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Pilgrim
Inspection / Activity Plan
01/01/2016 - 12/31/2017

Unit Number	Planned Dates Start	End	Inspection Activity	Title	No. of Staff on Site
			EP - EP PROGRAM INSPECTION		**1**
1	11/27/2017	12/01/2017	IP 7111403	Emergency Preparedness Organization Staffing and Augmentation System	
1	11/27/2017	12/01/2017	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies	
1	11/27/2017	12/01/2017	IP 71151	Performance Indicator Verification	

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