UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSLYVANIA 19406-2713

February 28, 2018

Mr. Brian Sullivan
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 (REPORTS 05000293/2017006, 05000293/2017402, AND 05000293/2017501)

Dear Mr. Sullivan:

The NRC has completed its end-of-cycle performance assessment of Pilgrim Nuclear Power Station (PNPS), reviewing performance indicators (PIs), inspection results, and enforcement actions from January 1, 2017 through December 31, 2017. This letter informs you of the NRC's assessment of your facility during this period and our plans for future inspections.

The NRC determined that the performance at PNPS during 2017 was within the Multiple/Repetitive Degraded Cornerstone Column (Column 4), the second lowest performance category of the NRC's Reactor Oversight Process (ROP) Action Matrix. The NRC also determined that Entergy continued to operate PNPS safely and securely, and that additional regulatory action beyond Column 4 was not warranted. Notwithstanding placement within Column 4, our review of PIs and inspection results for PNPS indicated improved performance over the course of 2017. The NRC observed progress made by new site leadership through their reinforcement of site standards and expectations, and an overall improvement in the performance of licensed operators. However, a significant amount of work related to the performance recovery of PNPS remained for Entergy to complete. The NRC will inspect and verify that these recovery actions are adequately implemented to support sustainable performance improvement.

On January 13, 2017, the NRC completed the third and final phase of the Inspection Procedure 95003 supplemental inspections, Phase 'C', which reviewed PNPS's recovery plan and assessed the need for additional regulatory action, as required for all Column 4 plants. The NRC issued separate supplemental inspection reports to document completion of each phase of the inspection (ML16060A018, ML16144A027, and ML17129A217[1]).

On August 2, 2017, in accordance with the ROP Action Matrix requirements for plants in Column 4, the NRC issued a Confirmatory Action Letter (CAL) (ML17214A088) based on the results of the IP 95003 supplemental inspections. The CAL documented Entergy's commitments, based on its revised recovery plan for PNPS, to implement corrective actions

[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

needed to address the performance concerns that resulted in placement in Column 4 and the concerns documented in the IP 95003 supplemental inspections. The NRC is conducting CAL follow-up inspections to confirm these actions are completed and effective in accordance with the CAL commitments. While these follow-up inspections include five scheduled quarterly team inspections, additional quarterly inspections will be scheduled as needed until all CAL commitments are satisfied. The NRC completed the first CAL follow-up inspection on December 8, 2017. The results are documented in NRC Inspection Report 05000293/2017010 (ML18032A463) that was issued on February 1, 2018.

Previously, following the completion of the 2017 second-quarter assessment, PNPS was assigned a cross-cutting theme in accordance with Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program," based on having at least 20 inspection findings assigned with cross-cutting aspects in the Human Performance Cross-Cutting Area, as well as at least six findings assigned with cross-cutting aspect in Procedure Adherence [H.8]. This was the only assessment period with which these themes were assigned. As of the completion of this end-of-cycle performance assessment, due to the reduction in the number of associated findings for this 12-month assessment period, PNPS no longer has either of these cross-cutting themes in the Human Performance Cross-Cutting Area.

However, with the completion of this end-of-cycle assessment, the NRC has identified two new cross-cutting themes at PNPS associated with the Problem Identification & Resolution Cross-Cutting Area: one theme due to exceeding the threshold of 12 inspection findings (13 total) assigned with cross-cutting aspects in this cross-cutting area for this 12-month assessment period, as well as a theme due to having at least 6 inspection findings (8 total) assigned with the cross-cutting aspect Evaluation [P.2] for this 12-month assessment. Per IMC 0305, because this is the first assessment period during which the NRC has identified this theme, the NRC is documenting the theme in this assessment letter. However, given that PNPS is in Column 4, the NRC will review PNPS's broader actions in the area of problem identification and resolution under the baseline inspection program and the CAL follow-up inspections.

The enclosed inspection plan lists the inspections scheduled through December 31, 2019. This updated inspection plan now includes planned security inspections which were formerly transmitted under separate correspondence. The NRC provides the inspection plan to allow for the resolution of any scheduling conflicts and personnel availability issues. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the last twelve months of the inspection plan are tentative and may be revised.

Furthermore, the NRC has taken into consideration your intention to cease operations as part of the inspection planning process. The ROP and Inspection Program provides inherent flexibility to permit inspection sampling adjustments to be made in order to better inform our assessment of performance during this unique period of transition from operating status to permanent shutdown. Any inspections scheduled after the final shutdown date will be reevaluated at that time for applicability. Once you formally notify the NRC that PNPS is permanently shut down and that all fuel has been removed from the reactor vessel, then PNPS will transition from the IMC 0305, "Operating Reactor Assessment Program," and IMC 2515, "Light Water Reactor Inspection Program – Operations Phase," to IMC 2561, "Decommissioning Power Reactor Inspection Program." The NRC will contact you as soon as possible to discuss changes to the inspection plan should circumstances warrant any changes.

In addition to the baseline inspections and the CAL follow-up inspections, the NRC will conduct IP 60855.1, “Operation of an ISFSI Independent Spent Fuel Storage Installation at Operating Plants.”

From January 1, 2017 to December 31, 2017, the NRC issued three Severity Level IV Traditional Enforcement Violations for impeding the regulatory process. Therefore, the NRC plans 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,” to follow-up on these violations.

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 (PARS) component of 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 Anthony Dimitriadis at (610) 337-6953 with any questions you have regarding this letter.

Sincerely,

/RA/

David C. Lew
Acting Regional Administrator

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

Enclosure:
Inspection Activity Plan Report

cc w/encl: Distribution via ListServ

SUBJECT: ANNUAL ASSESSMENT LETTER FOR PILGRIM NUCLEAR POWER STATION (REPORTS 05000293/2017006, 05000293/2017402, AND 05000293/2017501) dated February 28, 2018

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ADAMS ACCESSION NUMBER: **ML18058A025**

☑ SUNSI Review		☑ Non-Sensitive ☐ Sensitive		☑ Publicly Available ☐ Non-Publicly Available	
OFFICE	RI/DRP	RI/DRP	RI/DRP	RI/ORA	
NAME	LCline	ADimitriadis	DPelton	DLew	
DATE	2/26/18	2/26/18	2/26/18	2/28/18	

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IP 22 Inspection Activity Plan Report

Pilgrim

01/01/2018 - 12/31/2019

Unit	Start	End	Activity	CAC	Title	Staff Count
Confirmatory Action Letter Inspection 2						5
1	03/19/2018	03/23/2018	IP 92702	000238	Followup On Corrective Actions For Violations And Deviations	
RAD HAZARDS 01						1
1	04/23/2018	04/27/2018	IP 71124.01	000725	Radiological Hazard Assessment and Exposure Controls	
ACCESS AUTH & CONTROL, SGI CONTROL, FFD						3
1	04/23/2018	04/27/2018	IP 71130.01	000733	Access Authorization	
1	04/23/2018	04/27/2018	IP 71130.02	000734	Access Control	
1	04/23/2018	04/27/2018	IP 71130.06	000738	Protection of Safeguards Information	
1	04/23/2018	04/27/2018	IP 71130.08	000740	Fitness For Duty Program	
1	04/23/2018	04/27/2018	IP 71151	001338	Performance Indicator Verification	
Confirmatory Action Letter 3						5
1	06/04/2018	06/08/2018	IP 92702	000238	Followup On Corrective Actions For Violations And Deviations	
ISFSI LOADING CAMPAIGN INSPECTION						2
1	07/09/2018	07/13/2018	IP 60855	001001	Operation Of An ISFSI	
1	07/09/2018	07/13/2018	IP 60855.1	000590	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	
RAD HAZARD, ALARA, AIRBORNE, DOSE ASSESS 01, 02, 03, 04						1
1	07/09/2018	07/13/2018	IP 71124.01	000725	Radiological Hazard Assessment and Exposure Controls	
1	07/09/2018	07/13/2018	IP 71124.02	000726	Occupational ALARA Planning and Controls	
1	07/09/2018	07/13/2018	IP 71124.03	000727	In-Plant Airborne Radioactivity Control and Mitigation	
1	07/09/2018	07/13/2018	IP 71124.04	000728	Occupational Dose Assessment	
RAD GAS AND LIQUID EFFLUENT TREATMENT (RETS) 06						1
1	08/27/2018	08/31/2018	IP 71124.06	000730	Radioactive Gaseous and Liquid Effluent Treatment	
Confirmatory Action Letter 4						5
1	09/10/2018	09/14/2018	IP 92702	000238	Followup On Corrective Actions For Violations And Deviations	
PROTECTIVE STRATEGY, TSR						3
1	09/24/2018	09/28/2018	IP 71130.05	000737	Protective Strategy Evaluation	
1	09/24/2018	09/28/2018	IP 71130.14	000743	Review of Power Reactor Target Sets	

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

IP 22 Inspection Activity Plan Report

Pilgrim

01/01/2018 - 12/31/2019

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TRIENNIAL FIRE PROTECTION						4
1	10/15/2018	10/19/2018	IP 71111.05T	000696	Fire Protection (Triennial)	
1	10/29/2018	11/02/2018	IP 71111.05T	000696	Fire Protection (Triennial)	
RAD HAZARD, ALARA, AIR ACT, DOSE ASSESS, PI's 01, 02, 03, 04, PR01, OR01						1
1	10/15/2018	10/19/2018	IP 71124.01	000725	Radiological Hazard Assessment and Exposure Controls	
1	10/15/2018	10/19/2018	IP 71124.02	000726	Occupational ALARA Planning and Controls	
1	10/15/2018	10/19/2018	IP 71124.03	000727	In-Plant Airborne Radioactivity Control and Mitigation	
1	10/15/2018	10/19/2018	IP 71124.04	000728	Occupational Dose Assessment	
1	10/15/2018	10/19/2018	IP 71151	000746	Performance Indicator Verification	
EP EXERCISE INSPECTION						4
1	11/05/2018	11/09/2018	IP 71114.01	000716	Exercise Evaluation	
1	11/05/2018	11/09/2018	IP 71151	001397	Performance Indicator Verification	
Confirmatory Action Letter 5						7
1	12/10/2018	12/14/2018	IP 92702	000238	Followup On Corrective Actions For Violations And Deviations	
RAD HAZARD, ALARA, AIRBORNE, DOSE ASSESS 01, 02, 03, 04						1
1	02/11/2019	02/15/2019	IP 71124.01	000725	Radiological Hazard Assessment and Exposure Controls	
1	02/11/2019	02/15/2019	IP 71124.02	000726	Occupational ALARA Planning and Controls	
1	02/11/2019	02/15/2019	IP 71124.03	000727	In-Plant Airborne Radioactivity Control and Mitigation	
1	02/11/2019	02/15/2019	IP 71124.04	000729	Occupational Dose Assessment	
PI&R BIENNIAL						4
1	02/25/2019	03/01/2019	IP 71152B	000747	Problem Identification and Resolution	
1	03/11/2019	03/15/2019	IP 71152B	000747	Problem Identification and Resolution	
ACCESS CONTROL, EQUIP PERF, TRAINING						3
1	04/08/2019	04/12/2019	IP 71130.02	000734	Access Control	
1	04/08/2019	04/12/2019	IP 71130.04	000736	Equipment Performance, Testing, and Maintenance	
1	04/08/2019	04/12/2019	IP 71130.07	000739	Security Training	
1	04/08/2019	04/12/2019	IP 71151	001338	Performance Indicator Verification	
RAD HAZARD, ALARA, AIRBORNE, DOSE ASSESS 01, 02, 03, 04						1
1	04/15/2019	04/19/2019	IP 71124.01	000725	Radiological Hazard Assessment and Exposure Controls	

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Pilgrim

01/01/2018 - 12/31/2019

Unit	Start	End	Activity	CAC	Title	Staff Count
RAD HAZARD, ALARA, AIRBORNE, DOSE ASSESS 01, 02, 03, 04						1
1	04/15/2019	04/19/2019	IP 71124.02	000726	Occupational ALARA Planning and Controls	
1	04/15/2019	04/19/2019	IP 71124.03	000727	In-Plant Airborne Radioactivity Control and Mitigation	
1	04/15/2019	04/19/2019	IP 71124.04	000729	Occupational Dose Assessment	
EQ PROGRAM						3
1	04/22/2019	04/26/2019	IP 71111.21N	000714	Design Bases Assurance Inspection (Programs)	
1	05/06/2019	05/10/2019	IP 71111.21N	000714	Design Bases Assurance Inspection (Programs)	
RAD INSTRUMENTATION 05						1
1	05/13/2019	05/17/2019	IP 71124.05	000729	Radiation Monitoring Instrumentation	
50.59 PROCESS						3
1	06/10/2019	06/14/2019	IP 71111.17T	000709	Evaluations of Changes, Tests, and Experiments	
Triennial Heat Sink						1
1	07/15/2019	07/19/2019	IP 71111.07T	000700	Heat Sink Performance -Triennial	
PILGR REQUAL INSP WITH P/F RESULTS						2
1	09/09/2019	09/13/2019	IP 71111.11A	000703	Licensed Operator Requalification Program and Licensed Operator Performance - Annual	
1	09/09/2019	09/13/2019	IP 71111.11B	000704	Licensed Operator Requalification Program and Licensed Operator Performance - Biennial	
EP PROGRAM INSPECTION						2
1	12/02/2019	12/06/2019	IP 71114.02	000717	Alert and Notification System Testing	
1	12/02/2019	12/06/2019	IP 71114.03	000718	Emergency Response Organization Staffing and Augmentation System	
1	12/02/2019	12/06/2019	IP 71114.05	000720	Correction of Emergency Preparedness Weaknesses and Deficiencies	
1	12/02/2019	12/06/2019	IP 71151	001397	Performance Indicator Verification	

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