



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

March 5, 2012

Mr. Eric Larson
Acting Site Vice President
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
P. O. Box 97, 10 Center Road, A-PY-A290
Perry, OH 44081-0097

**SUBJECT: ANNUAL ASSESSMENT LETTER FOR PERRY NUCLEAR POWER
PLANT (REPORT 05000440/2011007)**

Dear Mr. Larson:

On February 15, 2012, the U.S. Nuclear Regulatory Commission (NRC) staff completed its end-of-cycle performance review of Perry Nuclear Power Plant. The NRC reviewed the most recent quarterly performance indicators (PIs) in addition to inspection results and enforcement actions for the period from January 1, 2011, through December 31, 2011. This letter informs you of the NRC's assessment of your facility during this period and its plans for future inspections at your facility. This performance review and enclosed inspection plan does not include security information. A separate letter will include the NRC's assessment of your performance in the Security Cornerstone and its security-related inspection plan.

The NRC determined that the performance at the Perry Nuclear Power Plant during the most recent quarter was within the Degraded Cornerstone Column of the NRC's Reactor Oversight Process (ROP) Action Matrix because of one finding having a low-to-moderate safety significance (i.e., White) from the second quarter of 2011 and a White Occupational Exposure Control Effectiveness Performance Indicator (PI) with four occurrences (the threshold for Green-to-White is more than 2 occurrences) during the second and third quarters of 2011. The finding and the performance indicator were both in the Occupational Radiation Safety Cornerstone. One of the PI occurrences was in November 2010 and, therefore, no longer counted in the fourth quarter 2011. Additionally, one of the remaining three PI occurrences from the second quarter of 2011 had the same underlying cause as the White finding (a situation which could result in double counting the PI and the finding as White). Therefore, for the fourth quarter of 2011, in accordance with the guidance in Section 11.03 of Inspection Manual Chapter 0305, "Operating Reactor Assessment Program," the White PI is not considered an Action Matrix input. Despite having only the single White finding as an input to the Action Matrix, Perry will remain in the Degraded Cornerstone Column of the ROP until a supplemental inspection in accordance with Inspection Procedure (IP) 95002, "Supplemental Inspection for One Degraded Cornerstone or Any Three White Inputs in a Strategic Performance Area" is completed. We will schedule and conduct the inspection after you have completed your investigation on the reasons for the White performance indicator and White

finding in the same cornerstone, and after you have advised us, in writing, that you are ready for the inspection. This supplemental inspection is in addition to ROP baseline inspections at your facility.

Performance at the Perry Nuclear Power Plant during the assessment period continued to exhibit weaknesses in the area of human performance (HP) with 12 findings identified. This assessment period is the ninth consecutive assessment period identifying a substantive cross-cutting issue in the HP cross-cutting area. In our mid-cycle assessment letter [ADAMS ML112440084] dated September 1, 2011, we advised you of substantive cross-cutting issues (SCCIs) in the HP area with cross-cutting themes in Work Planning, H.3(a), and Documentation/Procedures, H.2(c). In addition, we advised you that the HP SCCIs would remain open until the number of findings in the H.3(a) and H.2(c) aspects were reduced and you demonstrated the implementation of effective corrective actions that resulted in sustained performance improvement in the HP area.

Regarding H.3 (a), at the time of the mid-cycle assessment, this SCCI was open for eight consecutive assessment periods. We performed an inspection [ADAMS ML120190153] in December 2011, and determined your corrective actions on this SCCI had been successful in reducing the findings and addressing the underlying causes. There were no findings in this aspect during this assessment cycle and there has been sustained performance improvement. For this reason, the SCCI in Work Planning, H.3(a), is closed.

During the same inspection performed in December 2011, regarding the SCCI in H.2(c), evaluations and actions had not been completed to allow NRC review. Your staff informed us that your facility was ready for the inspection in December; however, we determined while onsite that several key evaluations were not completed. We concluded the site was not ready for us to inspect your actions in regards to this SCCI. To date, the actions implemented by your staff have not resulted in sustained performance improvement in this aspect. Specifically, three inspection findings were identified with this aspect as the most significant contributing cause. As a result, the H.2(c) SCCI will remain open.

During this assessment period, the NRC staff identified a new SCCI in the HP area in the aspect of Conservative Assumptions, H.1(b). There were four findings during this assessment cycle which identified this aspect as the most significant contributing cause. At the close of 2011, your staff was performing a cause evaluation and the actions taken had not yet proven you were effective at mitigating the theme. Therefore, the NRC is opening an SCCI in Conservative Assumptions, H.1(b).

The SCCIs in H.1(b) and H.2(c) will remain open until the number of findings in the H.1(b) and H.2(c) aspects are reduced and you demonstrate the implementation of effective corrective actions that result in sustained performance improvement in each of these aspects of HP. Although we noted some improvement in specific areas of HP during this assessment cycle, concerns with the SCCIs identified by this letter continue to exist. Because we were not able to inspect these SCCIs at the end of 2011 [since you had not completed your actions], we are asking you to provide to us within 30 days of this letter, in writing, the causes and corrective action planned and completed for the two SCCIs addressed in this letter. The plan should provide projected dates for actions, and you should provide any metrics you are using to determine whether sustained improvement has been achieved. In addition, you should be

prepared to discuss these actions at the end-of-cycle assessment meeting. Based on the level of progress demonstrated at the end-of-cycle meeting, we will determine if additional meetings are needed.

The enclosed inspection plan lists the inspections scheduled through June 30, 2013. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the last 9 months of the inspection plan are tentative and may be revised at the mid-cycle performance review. 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.

In addition to the ROP baseline and IP 95002 inspections, inspections are planned for Temporary Instruction (TI) 2515/177, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems"; TI 2515/182, "Buried Piping and Tanks"; TI 2515/185, "Follow-up of NEI Groundwater Protection Initiative"; and Independent Spent Fuel Storage Installation (ISFSI) inspections: IP 60854.1, "Preoperational Testing of ISFSIs at Operating Plants"; IP 60855.1, "Operation of an ISFSI at Operating Plants"; and IP 60856.1, "Review of 10 CFR 72.212(b) Evaluations at Operating Plants."

In accordance with 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 John B. Giessner at 630-829-9619 with any questions you have regarding this letter.

Sincerely,

/RA/

Cynthia D. Pederson
Acting Regional Administrator

Docket No. 50-440
License No. NPF-58

Enclosure: Perry Nuclear Power Plant Inspection/Activity Plan

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|--------|---------------|------------------|-----------|--|--|
| OFFICE | RIII | RIII | RIII | | |
| NAME | JGiessner:dtp | GShear for SWest | CPederson | | |
| DATE | 02/27/12 | 03/02/12 | 03/0212 | | |

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Letter to E. Larson from C. Pederson dated March 5, 2012.

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PLANT 05000440/2011007

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Perry
Inspection / Activity Plan
01/01/2012 - 06/30/2013

| Planned Dates | | Inspection Activity | Title | No. of Staff on Site |
|---------------|------------|--|--|----------------------|
| Start | End | | | |
| | | ISFSI - ISFSI INSPECTION - SCHEDULE DEPENDENT | | 2 |
| 01/01/2012 | 05/31/2012 | IP 60854.1 | Preoperational Testing of Independent Spent Fuel Storage Facility Installation at Operating Plants | |
| | | BI PI&R - BIENNIAL PI&R INSPECTION | | 4 |
| 01/09/2012 | 01/27/2012 | IP 71152B | Problem Identification and Resolution | |
| | | BI HS - TRIENNIAL HEAT SINK INSPECTION | | 2 |
| 02/27/2012 | 03/02/2012 | IP 7111107T | Heat Sink Performance | |
| | | BI FIRE - FIRE PROTECTION INSPECTION & BAG TRIP | | 3 |
| 03/12/2012 | 04/13/2012 | IP 7111105T | Fire Protection [Triennial] | |
| | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 2 |
| 03/26/2012 | 03/30/2012 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 03/26/2012 | 03/30/2012 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| 03/26/2012 | 03/30/2012 | IP 71151-OR01 | Occupational Exposure Control Effectiveness | |
| | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 05/07/2012 | 05/11/2012 | IP 71124.04 | Occupational Dose Assessment | |
| 05/07/2012 | 05/11/2012 | IP 71151-BI01 | Reactor Coolant System Activity | |
| 05/07/2012 | 05/11/2012 | IP 71151-PR01 | RETS/ODCM Radiological Effluent | |
| | | ISFSI - ISFSI INSPECTION - SCHEDULE DEPENDENT | | 2 |
| 06/01/2012 | 11/30/2012 | IP 60855.1 | Operation of an Independent Spent Fuel Storage Installation at Operating Plants | |
| | | TI-182 - TI-2515/182 PHASE I - BURIED PIPING | | 1 |
| 06/11/2012 | 06/15/2012 | IP 2515/182 | Review of the Implementation of the Industry Initiative to Control Degradation of Underground Piping | |
| | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 2 |
| 08/20/2012 | 08/24/2012 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 08/20/2012 | 08/24/2012 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 09/17/2012 | 09/21/2012 | IP 2515/185 | Follow-up on the Industry's Ground Water Protection Initiative | |
| 09/17/2012 | 09/21/2012 | IP 71124.06 | Radioactive Gaseous and Liquid Effluent Treatment | |
| | | TI-177 - TEMPORARY INSTRUCTION 2515/177 | | 1 |
| 09/17/2012 | 10/05/2012 | IP 2515/177 | Managing Gas Accumulation In Emergency Core Cooling, Decay Heat Removal & Containment Spray System | |
| | | BI EPX - EP EXERCISE INSPECTION / PI VERIFICATION | | 2 |
| 10/01/2012 | 10/05/2012 | IP 7111401 | Exercise Evaluation | |
| 10/01/2012 | 10/05/2012 | IP 71151 | Performance Indicator Verification | |
| | | BI OLRQ - BIENNIAL REQUAL PROGRAM INSPECTION | | 2 |
| 12/10/2012 | 12/14/2012 | IP 7111111B | Licensed Operator Requalification Program | |

Perry
Inspection / Activity Plan
01/01/2012 - 06/30/2013

| Planned Dates | | Inspection Activity | Title | No. of Staff on Site |
|---------------|------------|---|--|----------------------|
| Start | End | | | |
| | | OL PREP - PERRY INIT PREP 02/2013 | | 3 |
| 02/04/2013 | 02/08/2013 | W90290 | OL - INITIAL EXAM - 2013 FEB-MAR - PERRY | |
| | | BI ISI - INSERVICE INSPECTION | | 1 |
| 02/18/2013 | 03/31/2013 | IP 7111108G | Inservice Inspection Activities - BWR | |
| | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 02/25/2013 | 03/01/2013 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| | | OL EXAM - PERRY INIT EXAM 02/2013 | | 3 |
| 02/25/2013 | 03/08/2013 | W90290 | OL - INITIAL EXAM - 2013 FEB-MAR - PERRY | |
| | | BI RP - RADIATION PROTECTION BASELINE INSPECTION | | 1 |
| 04/15/2013 | 04/19/2013 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |