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May 8, 2007

PY-CEI/NRR-3034L

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
11555 Rockville Pike  
Rockville, MD 20852Perry Nuclear Power Plant, Unit 1  
Docket No. 50-440**Subject: Response to NRC Generic Letter 2007-01 (TAC No. MD4363)**

On February 7, 2007, the NRC issued Generic Letter 2007-01, "Inaccessible or Underground Power Cable Failures That Disable Accident Mitigation Systems or Cause Plant Transients." The NRC issued the letter to: inform licensees that the failure of certain power cables can affect the functionality of multiple accident mitigation systems or cause plant transients; inform licensees that in the absence of adequate monitoring of cable insulation, equipment could fail abruptly during service, causing plant transients or disabling accident mitigation systems; and ask licensees to provide information on the monitoring of inaccessible or underground electrical cables. The NRC requested that the information be provided within 90 days of the date of the Generic Letter.

The attachment provides the FirstEnergy Nuclear Operating Company (FENOC) response to the Generic Letter for the Perry Nuclear Power Plant, Unit 1 (PNPP). FENOC has concluded that PNPP is in compliance with the applicable regulatory requirements delineated in the Generic Letter as they apply to inaccessible or underground power cables.

There are no commitments included in this response. If there are any questions, or if additional information is required, please contact Mr. Henry L. Hegrat, Supervisor – FENOC Fleet Licensing, at (330) 374-3114.

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I declare under the penalty of perjury that the foregoing is true and correct.  
Executed on May 8, 2007.

A handwritten signature in black ink, appearing to read "L. William Pearce". The signature is written in a cursive, flowing style.

L. William Pearce  
Site Vice President

Attachment: Response to Generic Letter 2007-01, "Inaccessible or Underground  
Power Cable Failures That Disable Accident Mitigation Systems or  
Cause Plant Transients."

CC: NRC Project Manager – Perry Nuclear Power Plant  
NRC Resident Inspector – Perry Nuclear Power Plant  
NRC Regional Administrator – Region III  
State of Ohio

**Response to Generic Letter 2007-01, "Inaccessible or Underground Power Cable Failures That Disable Accident Mitigation Systems or Cause Plant Transients"**

The NRC issued Generic Letter 2007-01, "Inaccessible or Underground Power Cable Failures That Disable Accident Mitigation Systems or Cause Plant Transients," to: inform licensees that the failure of certain power cables can affect the functionality of multiple accident mitigation systems or cause plant transients; inform licensees that in the absence of adequate monitoring of cable insulation, equipment could fail abruptly during service, causing plant transients or disabling accident mitigation systems; and ask licensees to provide information on the monitoring of inaccessible or underground electrical cables.

Each Generic Letter question is listed below, in bold, and is followed by the FirstEnergy Nuclear Operating Company (FENOC) response for the Perry Nuclear Power Plant (PNPP).

- 1. Provide a history of inaccessible or underground power cable failures for all cables that are within the scope of 10 CFR 50.65 (the Maintenance Rule) and for all voltage levels. Indicate the type, manufacturer, date of failure, type of service, voltage class, years of service, and the root causes for the failure.**

The maintenance history and failure trending programs, including the Corrective Action Program, were reviewed. No inaccessible or underground power cable failures within the scope of 10 CFR 50.65 were discovered during this review.

- 2. Describe inspection, testing and monitoring programs to detect the degradation of inaccessible or underground power cables that support EDGs, offsite power, ESW, service water, component cooling water and other systems that are within the scope of 10 CFR 50.65 (the Maintenance Rule).**

Electrical power cables routed through underground ducts and electrical manholes and imbedded conduits are considered inaccessible. FENOC employs the following testing and continuous and periodic monitoring of inaccessible cables that are within the scope of 10 CFR 50.65 at the PNPP.

The 480V Distribution System has a high impedance ground fault detection installed on the Nuclear Safety Related buses and on the non-nuclear safety related buses.

The 480 VAC power cables do not undergo periodic testing but are powered from 480 VAC Unit Substations, which have a ground detection

system with control room annunciation. This system provides continuous monitoring of 480 VAC system cables and alerts Control Room personnel of problems.

Operator tour rounds on the 480V ground fault detection systems are performed daily. The Operator is required to observe the Ground Indicating Lights at the switchgear equipment and record his observations. Alarm Response Instructions contain instructions to be followed when a trouble annunciator occurs (which may be due to a ground fault).

PNPP has a Predictive Maintenance Program in place that requires an Insulation Resistance (Megger) and a Polarization Index (PI) Test on 480, 4160, and 13,800 VAC motors and their power cables. The testing provides information on the motor stator windings as well as indication of cable integrity. The Predictive Maintenance Program also requires Electromagnetic Interference (EMI) tests on selected motor loads. The EMI tests, which include the motor feeder cable, are capable of identifying insulation degradation through measurement of corona and partial discharge activity, which are precursors to insulation failure. The scope of the Predictive Maintenance Program includes motor loads that are supplied from underground feeder cables.

Visual examination of electrical cable routed through electrical manholes is performed on a periodic basis in accordance with assigned preventative maintenance activities. During the performance of manhole inspections, exposed electrical cables are inspected for deficiencies. Any deficiencies found are documented in the Corrective Action Program and forwarded to the Engineering Staff for evaluation and disposition as necessary.

The inspection, testing and monitoring described above provide adequate validation of the condition of inaccessible and underground power cables at PNPP. The quality of cable construction, continued service reliability, continued periodic inspection and testing, and the ground detection system provides a high degree of confidence for continued uninterrupted operation of inaccessible and underground power cables at the PNPP.