August 31, 2006

MEMORANDUM TO: Daniel S. Collins, Chief,
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

FROM: Timothy J. Kobetz, Chief **/RA/**
Technical Specifications Branch
Division of Inspection and Regional Support
Office of Nuclear Reactor Regulation

SUBJECT: REVIEW OF PERRY AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS 3.8.1.2, 3.8.1.7, 3.8.1.12, 3.8.1.15 and 3.8.1.20 (TAC NO. MC8997)

By application dated November 21, 2005, FirstEnergy Nuclear Operating Company (FENOC), the licensee for Perry Nuclear Power Plant (PNPP), requested a change to the PNPP Technical Specifications on emergency diesel generator (EDG) Surveillance Requirements (SR) associated with start tests of the machines.

The Technical Specifications Branch (ITSB) has reviewed the Perry TS submittal and supporting documentation. Based on our review, the staff finds that the proposed revisions to the Perry Technical Specifications are acceptable. Our safety evaluation is attached. This completes our efforts on TAC Number MC8997.

Docket No. 50-440

Enclosure:
As stated

Contacts: T. Wertz, NRR/DIRS
301-415-1568

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

PERRY NUCLEAR POWER PLANT, UNIT 1

DOCKET NO. 50-440

1.0 INTRODUCTION

By letter dated November 21, 2005, FirstEnergy Nuclear Operating Company (FENOC), the licensee for Perry Nuclear Power Plant (PNPP), requested a change to the PNPP Technical Specifications on emergency diesel generator (EDG) Surveillance Requirements (SR) associated with start tests of the machines. Currently these surveillances (SR 3.8.1.2, SR 3.8.1.7, SR 3.8.1.12, SR 3.8.1.15 and SR 3.8.1.20) require that the Division 1 and Division 2 EDGs start from a standby condition and achieve a voltage between 3900 Volts (V) and 4400 V and frequency between 58.8 Hertz (Hz) and 61.2 Hz in less than or equal to 10 seconds. In addition, SR 3.8.1.7b requires the Division 3 EDG to achieve a frequency of at least 58.8 Hz in less than or equal to 10 seconds, and a voltage between 3900 V and 4400 V, and frequency between 58.8 Hz and 61.2 Hz in less than or equal to 13 seconds. The limits of the voltage and frequency tolerance specified in the current surveillances are more representative of steady state conditions than transient conditions. FENOC has therefore requested that the surveillances be modified to reflect the transient nature of the EDG voltage and frequency at the 10-second period following a start from the standby condition. These types of changes have been approved by the staff as generic changes and are incorporated in the latest revision of the Improved Standard Technical Specifications (ISTS).

2.0 REGULATORY EVALUATION

The Commission's requirements related to the content of Technical Specifications are set forth in 10 CFR 50.36. This regulation requires that the TS include items in five specific categories. These categories include (1) safety limits, limiting safety system settings and limiting control settings, (2) limiting conditions for operation, (3) surveillance requirements, (4) design features, and (5) administrative controls.

The proposed SR changes to the TS are subject to10 CFR 50.36(c)(3) which sets forth the criteria for SR in technical specifications. 10 CFR 50.36(c)(3)states:

> Surveillance are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operations will be within safety limits, and that the limiting conditions for operation will be met.

3.0 TECHNICAL EVALUATION

FENOC proposes to change Perry Technical Specification Section 3.8.1 by revising the acceptance criteria of surveillances SR 3.8.1.2, SR 3.8.1.7, SR 3.8.1.12, SR 3.8.1.15, and SR 3.8.1.20 consistent with the generic changes incorporated in the latest revision of the ISTS. Currently, these surveillances in the Perry Technical Specifications require that each EDG achieve a voltage > 3900 V and < 4400 V and frequency > 58.8 Hz and < 61.2 Hz within 10 seconds. FENOC is proposing that the surveillances be revised to require that each EDG (a)

achieve a voltage > 3900 V and a frequency > 58.8 Hz within 10 seconds, and (b) subsequently achieve a steady state voltage > 3900 V and < 4400 V and frequency > 58.8 Hz and < 61.2 Hz.

In their letter dated November 21, 2005, FENOC has stated that when a test is performed that does not result in tying the EDG to the bus, a momentary voltage or frequency overshoot (and/or subsequent undershoot) can occur because no loads are being tied to the EDG. FENOC indicates that loading tends to minimize the overshoot, whereas the unloaded overshoot might momentarily exceed the specified limit(s) within the 10 second time limit. The NRC staff agrees. The voltage and frequency tolerance band currently specified in the subject surveillances are more appropriate for steady state limits than transient limits, as evidenced by the recommendations in NRC Regulatory Guide 1.9 which allow a larger band for transient voltage and frequency deviations. In accordance with existing plant procedural requirements, the time for each EDG to reach steady state operation will continue to be periodically monitored and the trend evaluated to identify degradation of governor and voltage regulator performance.

The changes FENOC has proposed appropriately specify the original voltage and frequency tolerance band as steady state values while, in the transient region within 10 seconds, they specify only minimum values. In addition, the Loss of Offsite Power (LOOP) and the LOOP in conjunction with an Emergency Core Cooling System (ECCS) initiation signal tests required by PNPP SR 3.8.1.11 and SR 3.8.1.19 will continue to verify the capability of the Perry EDGs to provide power at a voltage and frequency adequate to start and operate the safety loads. Based on the foregoing considerations, the staff concludes that the proposed amendment is acceptable.

4.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.