UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

January 17, 1984

MEMORANDUM FOR: Karl V. Seyfrit, Chief
Reactor Operations Analysis Branch
Office for Analysis and Evaluation
of Operational Data

AEOD/E403

THRU: Matthew Chiramal, Lead Engineer
Plant Systems Unit
Reactor Operations Analysis Branch

FROM: Frank Ashe, Plant Systems Engineer
Plant Systems Unit
Reactor Operations Analysis Branch

SUBJECT: ENGINEERING EVALUATION NO. AEOD/E4 - DEFICIENCY IN AUTOMATIC SWITCH COMPANY (ASCO) SPARE PARTS KITS FOR SCRAM PILOT SOLENOID VALVES

REFERENCE: Letter from J. P. McGaughy, Jr., Mississippi Power and Light Company to J. P. O'Reilly, Regional Administrator, NRC, Subject: Grand Gulf Nuclear Station Units 1 and 2, Final Report for Unit 1, Interim Report for Unit 2, ASCO Spare Parts Kits for Scram Pilot Valve Solenoids, dated September 16, 1983.

The enclosed Engineering Evaluation report is forwarded for your review and consideration. This report provides information concerning three events involving scram pilot solenoid valves. Two of these events occurred at Grand Gulf Unit 1 and are addressed in the referenced report. The remaining event occurred at La Salle Unit 2 and was identified in the daily report dated September 13, 1983.

Based on our review of these events, we believe that they have some safety implications even though two of the deficiencies identified as a result of these occurrences should be detected (and corrected) during post-maintenance testing. The remaining deficiency which involves reversed core springs on the core assemblies may not be detected during such testing. For this deficiency, the report identifies a mechanism whereby in time such affected solenoid valves may fail due to this common cause. If appropriate plant conditions exist, such failures could have significant safety consequences.

As a result of our review of these events, we attained the following conclusions.

1. The corrective measures taken at the Grand Gulf Station for the identified deficiencies were appropriate and if implemented properly they should preclude recurrence of such occurrences.

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2. Information obtained during our review illustrates that broad based generic preventive maintenance schedules for the identified and related devices should be modified in accordance with actual service conditions including environmental conditions. In general, for such devices, as actual service conditions become more severe, preventative maintenance activities should be more frequent (with less severe conditions resulting in less frequent maintenance activities).

3. Although a common cause failure mechanism has been identified for these solenoid valves that could have significant safety consequences, we were unable to identify any additional events involving these devices which would indicate that the common cause deficiency (core spring reversed on the core assembly) actually exists at any other nuclear facility. However, the fact that 30% of the spare parts kits provided to the Grand Gulf Station were found to have this deficiency tends to suggest that spare parts kits provided to other facilities may also have this deficiency.

However, since these devices are used in the scram system for BWRs and in view of the importance of the function of this system, we believe that further actions are warranted regarding them.

Accordingly, we suggest that AEOD continue monitoring actions for related events or occurrences for these solenoid valves. Also, it is suggested that our Office of Inspection and Enforcement be requested to issue an IE Information Notice to alert other users of these solenoid valves of the three identified quality assurance deficiencies.

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Enclosure:
As stated

cc: /enclosure:
P. Farron, IE
T. Gibbons, Region II