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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

April 11, 1996

MEMORANDUM TO: David L. Morrison, Director
Office of Nuclear Regulatory Research

FROM: William T. Russell, Director *W. Russell*
Office of Nuclear Reactor Regulation

SUBJECT: PERIODIC REVIEW OF LOW-PRIORITY GENERIC ISSUES

NRR has reviewed the list containing all low-priority generic safety issues (GSIs) provided in your memorandum dated February 16, 1996, to determine whether there is any new information that would necessitate reassessment of the original prioritization evaluations. The review resulted in recommending that two GSIs be raised in priority to medium, one GSI be closed as resolved, and two GSIs be combined into one. The bases for these recommendations are given below.

GSI A-38 - TORNADO MISSILES

This issue should be closed as resolved, based on SECY-93-087, "Policy, Technical, and Licensing Issues Pertaining to Evolutionary and Advanced Light-Water Reactor Designs," April 2, 1993; NUREG-1503, "Final Safety Evaluation Report Related to the Certification of the Advance Boiling Water Reactor Design," July 1994; and NUREG/CR-4661, "Tornado Climatology of the Contiguous United States," May 1986. These documents effectively have reduced the design basis tornado wind speed (which is the intent of A-38) that can be used at all nuclear power plants. See also our safety evaluation (Attachment 1) for WNP-2, which also allowed a reduction in design basis tornado wind speeds.

RECOMMENDATION: ISSUE SHOULD BE CLOSED

GSI 81 - IMPACT OF LOCKED DOORS AND BARRIERS ON PLANT AND PERSONNEL SAFETY

Issues 81 and 122.3 have been reviewed, and there is no new information that would necessitate reassessment of these issues. Since these issues are essentially the same, consideration should be given to integrating Issue 122.3 into Issue 81. Issue 122.3 should then be considered closed.

RECOMMENDATION: INTEGRATE ISSUE 122.3 INTO ISSUE 81 AND CONSIDER
ISSUE 122.3 CLOSED

CONTACT: Tom Greene, PECB/DRPM/NRR
(301) 415-1175

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April 11, 1996

GSI 107 - MAIN TRANSFORMER FAILURES

This issue was very close to being prioritized Medium but further analysis (including consideration of potential benefits from station blackout resolution) resulted in it being given a Low Priority ranking. On March 17, 1996, the Electrical Engineering Branch provided a brief report (Attachment 2) to the Director of ADT on recent events involving transformer failures. This report is being provided to RES for your consideration.

RECOMMENDATION: RAISE PRIORITY TO MEDIUM

GSI 122.3 - PHYSICAL SECURITY SYSTEM RESTRAINTS

See GSI 81.

GSI 152 - DESIGN BASIS FOR VALVES THAT MIGHT BE SUBJECT TO SIGNIFICANT BLOWDOWN LOADS

A motor-operated valve (MOV) testing program conducted by the Electric Power Research Institute (EPRI) has provided significant information regarding the performance of safety-related gate, globe and butterfly valves. In particular, EPRI found that a high percentage of gate valves were damaged during blowdown testing using hot water and steam and that they were unable to predict the thrust requirements. Although EPRI tested only one globe valve under high temperature and blowdown conditions, the test revealed significantly higher thrust requirements than predicted. EPRI also found that load-sensitive behavior (or rate of loading) can reduce actuator thrust output under dynamic conditions. The Nuclear Energy Institute submitted EPRI Topical Report TR-103237, "EPRI MOV Performance Prediction Program," describing the methodology developed by EPRI to predict dynamic thrust and torque requirements for gate, globe, and butterfly valves without dynamic tests by licensees. The staff has prepared a safety evaluation which approves the topical report for use and reference with certain conditions and limitations.

EPRI has provided the results of its MOV test to licensees through industry meetings. The NRC staff has disseminated the results of the EPRI MOV test program to licensees through notices and public meetings. Some licensees have already incorporated this information into their MOV programs. Based on the EPRI testing indicating the potential damage and high thrust requirements of

April 11, 1996

valves (principally gate valves), we request that you re-evaluate the priority level of GSI 152, "Design Basis for Valves that might be subject to Significant Blowdown Loads."

RECOMMENDATION: RAISE PRIORITY TO MEDIUM

Attachments:

- 1. Safety Evaluation for Revised Tornado Design Criteria at Washington Nuclear Power Project No. 2 (WNP 2)(TAC #M88626), memorandum to James W. Clifford, PDIV-2/NRR from Conrad E. McCracken, Plant Systems Branch/NRR dated November 27, 1995
- 2. Transformer Failures, note to Ashok Thadani, ADT/NRR thru Gus C. Lainas, DE/NRR, from Jose Calvo, EELB/DE/NRR, dated March 7, 1996

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