

July 15, 2008

MEMORANDUM TO: Hubert T. Bell
Inspector General

FROM: Dale E. Klein */RA/*
Chairman

SUBJECT: SPECIAL INQUIRY MEMORANDUM: "NRC'S OVERSIGHT OF
HEMYC FIRE BARRIERS"

This is in response to your memorandum to me of January 22, 2008, providing the results of the Office of the Inspector General (OIG) Special Inquiry on the subject of "NRC's Oversight of Hemyc Fire Barriers." As stated in the NRC's press release of January 25, 2008 ("NRC Accepts Inspector General Findings Regarding Hemyc Fire Barrier Testing"), the NRC has agreed that more timely action could have been taken in investigating what turned out to be Hemyc's limited ability to protect important electrical systems. I conclude that the NRC should have done a better job in several respects: (1) the limitations of early testing should have been recognized in the 1980's; (2) the limitations of early testing should have been discovered in the 1993 review; (3) full-scale fire testing should have been initiated following the 1993 small-scale test results; and (4) full-scale testing should have been completed in a more timely manner.

Your description of the history of this matter serves as a serious reminder to the agency of the importance of timely follow-through in addressing potential safety issues. As your memorandum reports, the NRC staff conducted a full-scale test of the Hemyc fire barrier in 2005, in which Hemyc failed to perform for one hour as designed. The NRC staff's follow-up actions and current planning give me assurance that the NRC has taken appropriate steps to resolve the issue. The staff is scheduled to complete its verification of the final resolution of the issue or the corrective actions and compensatory measures at all affected licensees by September 30, 2008, with the exception of one facility which will be inspected after the licensee's scheduled corrective action completion date of December 1, 2008. I will follow closely the process for resolution of the issue.

On a more general level, the Commission has scheduled a public briefing on fire protection issues for July 17, 2008. I will be giving great attention to the program for voluntary transition to the alternative fire protection rule based on Standard 805 of the National Fire Protection Association. In addition, I assure you that I will continue to place great emphasis on the importance of timely action on all emerging safety issues.

As your memorandum observes, the NIST test in 1993 was a small-scale screening test and was not intended as a basis for making a final determination regarding the capabilities of the Hemyc fire barrier. The purpose behind the NIST test was to obtain screening information on the fire resistance characteristics of fire barrier materials other than Thermo-Lag. Substantial staff resources were being devoted to the use of Thermo-Lag at that time, which had demonstrated a burn-through failure mechanism. The NIST test results revealed potential problems with the fire endurance characteristics of Hemyc and should have led the staff to take further action at that time to obtain or perform additional tests of Hemyc and to inform affected licensees.

Similarly, more timely action should have been taken to complete full-scale testing following the NRC's determination in 2000 that three manufacturer qualification tests for Hemyc from the 1980's were inconclusive for the purpose of qualifying Hemyc for certain fire barrier ratings. While the NRC made that report public and initiated a program in 2001 to perform confirmatory full-scale testing that was eventually completed in 2005, this testing program was not completed in a timely manner.

The NRC staff promptly issued an Information Notice after the 2005 full-scale test indicated that Hemyc failed to perform for one hour as rated. While the NRC did not require action or response at that time, the issuance of the Information Notice provided a timely means of communicating the results of the test as well as the NRC's expectation that recipients would review the information and consider appropriate actions. Shortly thereafter, the NRC staff also conducted a public meeting with licensees and interested members of the public to discuss the results of the testing and the intention to take additional regulatory action to ensure that appropriate measures were under way.

The NRC's Generic Letter of April 10, 2006 on "Potentially Nonconforming Hemyc and MT Fire Barrier Configurations" requested that licensees make certain determinations within 60 days and required a written response on the actions taken to resolve problems with Hemyc and MT fire barriers by December 1, 2007. The Generic Letter further addressed the significance of the test results, which had indicated that Hemyc does not meet the criteria to achieve a 1-hour fire rating and MT does not meet the criteria for a 3-hour fire rating. As noted above, the staff is scheduled to complete verification of the final resolution of the issue or the corrective actions and compensatory measures at all affected licensees in the near future. Internal NRC guidance, issued in April 2008, addresses the associated inspection activities. While there is no specific budget for Hemyc inspections, the NRC annually budgets resources for fire protection inspections, and the NRC's regional offices have specific budgets for inspections of emerging issues.

From a broader perspective, I note that the NRC's Reactor Oversight Process helps ensure that reactors are operating safely, and the agency conducts comprehensive fire inspections every 3 years at operating plants. The NRC's onsite resident inspectors also inspect fire protection controls and equipment quarterly and fire brigade training annually. Inspectors review fire protection equipment design, operational safety programs, and the control of transient combustibles and ignition sources. They also examine the resolution of corrective actions for deficiencies. Fire protection issues identified by NRC inspectors will be assessed for safety significance and documented in publicly available inspection reports.

cc: Commissioner Jaczko
Commissioner Lyons
Commissioner Svinicki
R. William Borchardt, EDO
SECY