



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

MAY 15 1991

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MEMORANDUM FOR: Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

inRU: William T. Russell
Associate Director for Inspection and Technical Assessment *WM 5/14/91*
Office of Nuclear Reactor Regulation

FROM: Brian K. Grimes, Director
Division of Reactor Inspection
and Safeguards
Office of Nuclear Reactor Regulation

SUBJECT: REVIEW OF OI REPORT OF INVESTIGATION OF STOKLEY
ENTERPRISES/SPECTRONICS (CASE No. 2-90-14)

In accordance with NRR Office Letter No. 1001, my staff has reviewed the following Report of Investigation issued by the NRC Office of Investigations (OI):

Facility: Spectronics, Incorporated
1201 Montlamar Drive #650,
Mobile, Alabama 36609-1718

Stokley Enterprises, Incorporated
880 Avenue J
Norfolk, Virginia 23518

Case No: 2-90-014

Title: POSSIBLE COUNTERFEIT RELAYS
SUPPLIED BY VENDOR

Summary of the OI Report

The report describes the investigation of allegations of counterfeit or refurbished electric rotary relays manufactured by Potter & Brumfield, Incorporated (P&B), that was initiated in accordance with a referral and request for investigation from the Director of the Office of Nuclear Reactor Regulation (NRR) on June 26, 1990. The referral concerned 22 MDR-type electric rotary P&B relays, which appeared to the personnel at Shearon Harris Nuclear Power Plant (Harris) to have been refurbished and not new. The relays were confiscated by the NRC and taken to P&B in Princeton, Indiana,

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where P&B examined them and determined that the relays were not new and had been altered without authorization from P&B. P&B concluded that the relays had counterfeit name plates, incorrect electric coils and leads, incorrect tolerances between the mating contacts, inadequate insulation between contact blocks, and lacked the mandatory P&B quality control stamps which were stamped on relays that had successfully passed all the physical and electrical tests.

Region II:OI, in conjunction with the Vendor Inspection Branch (VIB), determined that Spectronics procured these refurbished relays from Stokley Enterprises, Incorporated (Stokley), and the Martin Company, both located in Norfolk, Virginia. Spectronics sold these relays as new to Harris; the Sequoyah Nuclear Plant (Sequoyah) in Soddy-Daisy, Tennessee; and the Watts Bar Nuclear Plant (Watts Bar) in Spring City, Tennessee, through Nutherm International, Incorporated (Nutherm), in Mt. Vernon, Illinois.

Assessment of OI Conclusions

The VIB staff examined the facts and evidence in the VIB inspection reports and OI interview reports and agrees with the OI conclusion that no NRC regulations were violated regarding the sale of the refurbished relays because they were purchased as commercial-grade items. OI made this conclusion recognizing that Spectronics knowingly had misrepresented and sold refurbished P&B relays as new to nuclear customers, and in one case provided a certificate of conformance to Sequoyah for three refurbished relays. The use of the false certificate of conformance is not a violation of NRC requirements because the relays were provided by Spectronics as commercial-grade items. Although prosecution for the unauthorized refurbishment of these relays and use of the P&B logo is difficult because the relay labels were not protected by patent, OI has provided information on this case to the Department of Justice to support criminal prosecution of Spectronics and other electrical distributors in the Norfolk, Virginia, area for fraudulent sales to the U.S. Navy.

In a letter of March 28, 1991, the Director of OE informed the Region II Regional Administrator that he concurred with OI's conclusion that no NRC regulations were violated and that he did not intend to request an analysis of this report by the Office of the General Counsel.

Identification and Assessment of Safety Significance

Based on the testing performed by the relay manufacturer, none of the refurbished relays passed all of their acceptance criteria. Thus, none of the relays would have operated correctly. The following are examples of the inadequacies of these relays:

1. Two relays would have failed to change state because they had been assembled with incorrect operating coils.
2. The contacts on 5 relays had not been adjusted properly and thus would have failed to change state.

Mr. Thomas E. Murley

-3-

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3. The contact blocks on 12 relays had been incorrectly assembled, failed to withstand the minimum breakdown voltage, and would have caused ground faults.
4. All the relays had been assembled with either inadequate clearances between the rotating shafts and the cover or incorrect end play, which would have prevented them from operating on demand.

The investigation determined that Spectronics had supplied refurbished relays to three nuclear power plants. Although Sequoyah had installed one refurbished relay in a nonsafety-related application, refurbished relays were not installed in safety-related systems at Sequoyah. Spectronics also sold 22 refurbished relays to the Harris plant, however, Harris personnel suspected the relays were fraudulent due to their short delivery time. After confirmation that the relays were counterfeit and substandard, Harris notified the NRC and the relays were not installed. Spectronics also sold 32 P&B relays to Nutherm who, in turn, sold the relays to Watts Bar. Watts Bar had installed four of them and stored the remaining 28 in the warehouse. In July 1990, as a result of preliminary inquiries from the NRC, Nutherm recalled the 28 relays that were in storage at Watts Bar because they suspected that the relays they supplied may have been refurbished. Nutherm reinspected these 28 relays and determined that 4 of the 28 were refurbished. Nutherm retained the four refurbished relays and returned the remaining 24 relays to Watts Bar. On July 25, 1990, a VIB inspector visited Watts Bar and inspected these 24 relays which were in storage. The VIB inspector, accompanied by Watts Bar personnel, also inspected the visually accessible portions of the four (MDR-134-1-type) P&B relays that Watts Bar had installed in a panel (PNL-O-L-321) in the "A" train of the Unit 1 Auxiliary Air Compressor System. The NRC inspector determined that these four relays were genuine and not refurbished relays. Therefore, none of the refurbished relays were installed at Watts Bar.

On September 5, 1990, the NRC issued Information Notice (IN) 90-57, "Substandard, Refurbished Potter & Brumfield Relays Misrepresented and Sold as New," to alert all licensees of this problem.

VIB concludes that the use of these refurbished P&B relays had a minimal significance to safety because the relays were not installed in safety-related systems at Sequoyah; Harris receipt inspection identified that the refurbished relays were counterfeit and prevented their installation; and the NRC's efforts alerted Watts Bar of the existence of refurbished relays and prevented their installation. The NRC has not received any additional information concerning refurbished P&B relays after issuing IN 90-57. Based on the lack of evidence that refurbished P&B relays have been supplied or installed at other nuclear power plants in safety-related applications, there is no known operational or licensing impact at the present time. No further action is appropriate.

Brian K. Grimes, Director
Division of Reactor Inspection
and Safeguards
Office of Nuclear Reactor Regulation

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To: *Long Letter*

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