



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20535

June 26, 1990

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Request No. NRR-90-08
Allegation No. NRR-90-08-0020

TO: Ben Hayes, Director
Office of Investigations

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

REQUEST FOR INVESTIGATION

Stokely Enterprises
Vendor

N/A
Docket No.

Norfolk, Virginia
Site Location

Spectronics
Vendor

N/A
Docket No.

Mobile, Alabama
Site Location

Thomas E. Murley
Office Director

June 26, 1990
Date

A. Request

What is the matter that is being requested for investigation?

We are requesting the Office of Investigations (OI) to investigate the circumstances surrounding possible wrongdoing by Stokely Enterprises (Stokely) of Norfolk, Virginia, and Spectronics of Mobile, Alabama, who appear to have supplied misrepresented Potter & Brumfield (PB) relays to the Shearon Harris nuclear power plant. Carolina Power & Light Company (CP&L) issued a purchase order (PO) on May 24, 1990, to Spectronics, an authorized distributor of PB relays, for the supply of commercial-grade PB relays for use at the Shearon Harris nuclear site. In response to this PO, the licensee reported receiving a drop shipment of 22 relays from

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Stokely. We presume that Stokely is a subvendor of Spectronics. The licensee indicated that the nameplates of the relays appeared to be counterfeit. Further review and testing witnessed by the Vendor Inspection Branch (VIB) suggest that Stokely and Spectronics supplied unauthorized, refurbished Potter & Brumfield relays as new relays to the Shearon Harris power station. At this time, the breadth and depth of the supply is not clear and may not be limited to the Shearon Harris site. An investigation is requested to identify and confirm the facts involving the unauthorized refurbishment of the relays and to determine how the relays were represented (new or used). This information will assist the staff in determining the safety significance of this matter.

B. Purpose of Investigation

1. What is the basis for the belief that the violation of a regulatory requirement is more likely to have been intentional or to have resulted from careless disregard or reckless indifference than from error or oversight?

The relays, which have a normal lead delivery time of 10 to 14 weeks, were shipped in less than a week. The licensee personnel examined the relays on receipt and determined that the relays had counterfeit nameplates, and observed that several other characteristics of the relays were different from the manufacturer-supplied relays which were in storage. The licensee personnel informed the NRC on June 7, 1990, that they suspected having received PB relays with counterfeit nameplates. The apparently counterfeit nameplates on the relays and the refurbishment of the relays with obsolete parts and poor quality workmanship, indicate that the representation of the relays as new was apparently intentional.

2. What are the potential regulatory requirements that may have been violated?

Appendix A and Appendix B to 10 CFR Part 50. Even though the specific relays in question were supplied as commercial-grade items, the licensee intended to dedicate them for safety-related service. Similar relays from different suppliers have previously been used in emergency diesel generator load-sequencing systems to minimize the effects of excessive voltage drops on the safety-related electrical buses during a LOCA or LOOP. Historically, the relay manufacturer (Potter & Brumfield) has always supplied the subject relays as commercial-grade items and the purchaser was responsible for establishing suitability for use in safety-related applications. If undetected by a utility, the substandard relays could have caused the utility to be in non-compliance with the regulations.

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3. If no violation is suspected, what is the specific regulatory concern?

N/A

4. Why is an investigation needed for regulatory action and what is the regulatory impact of this matter, if true?

The purpose of this request is to determine the extent, breadth, and depth of the misrepresentation of the relays supplied, or if other substandard parts were supplied to other nuclear utilities under fraudulent conditions by Stokely Enterprises or Spectronics. Furthermore, we require additional information from Stokely Enterprises and Spectronics relative to their involvement in the supply of parts to nuclear power plants.

The issue may have an impact on the licensing of new plants, the operation of licensed plants and the restarting of plants. If material of indeterminate quality is used in safety (load-sequencing systems) or other important applications, this could potentially result in a public health and safety concern requiring NRC and licensee actions.

C. Requester's Priority

1. Is the priority of the investigation high, normal, or low?

High

2. What example from Appendix 0517, Part III, does this incident most closely fit, if any?

Example B.4.a.(5) requiring an immediate investigation to ensure preservation and availability of evidence.

3. What is the estimated date when the results of the investigation are needed?

July 30, 1990

4. What is the basis for the date and the impact of not meeting this date?

The expedited completion date is based upon the results of the electrical testing of the relays. A VIB inspector along with technical experts from Potter & Brumfield (PB) visually inspected the relays and conducted inspections and electrical tests at the PB facilities in Princeton, Indiana, on June 20 and 21, 1990. PB factory standards were used to inspect and test the relays. None of the 22 relays supplied by Stokely and Spectronics met all the acceptance criteria. The extent of the proliferation of the relays with

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substituted parts needs to be established. Because these relays are normally procured as commercial-grade items and subsequently dedicated for use in safety-related systems, normal inspections and tests may not be sufficient to detect inherent flaws resulting from substitution of obsolete, incompatible and substandard internal components without the benefit of PB factory specifications, which require tight tolerances and stringent acceptance criteria.

The impact of not meeting this date promptly is that actions would need to be requested of licensees without information as to the potential scope of the problem.

D. Actions by Staff

1. What actions have been taken by the staff?

A Vendor Inspection Branch (VIB) inspector, accompanied by an OI investigator, visited the Shearon Harris site on June 14 and 15, 1990, examined the relays in the presence of a PB applications engineer, and confirmed that the relays appeared to have been refurbished in an unauthorized manner. The relays were confiscated by OI on June 14, 1990, based on confirmation by the PB representative that nameplates of the relays had been counterfeited. Arrangements were made to maintain a chain of custody and to transfer the relays to the PB facilities located in Princeton, Indiana. The relays were visually inspected and electrically tested in the presence of a VIB inspector on June 20 and 21, 1990. All the relays failed to meet the manufacturer's acceptance criteria. Three relays (one of each model) were disassembled at the conclusion of the tests. All the disassembled relays had genuine PB parts, but these parts were from obsolete or incompatible relay models. For example, one 125 VDC coil had been reassembled with a 200 VDC coil. In addition to the counterfeited nameplates, the inspector observed other abnormal features such as missing date code stamps on the relays and re-used terminal boards which were assembled with poor quality workmanship. The PB personnel confirmed that the relays had been assembled with genuine PB parts, but from various vintages without the benefit of factory instructions. CP&L purchased the relays as commercial-grade items with the intent to dedicate the relays prior to replacing the existing PB relays in the emergency diesel generator load sequencing system. This a safety-related system whose primary function is to start the safety-related equipment during a LOCA or LOOP in order to minimize the effects of excessive voltage drops on the safety-related electrical buses.

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2. Actions to be taken if investigation is closed without a report.

The staff intends to conduct an inspection of the activities of Stokely in order to confirm the facts surrounding the unauthorized refurbishment of the relays and the breadth and depth of Stokely's supply of these apparently counterfeit relays and other components to the nuclear industry.

E. Contact

1. Staff members: K. R. Heidt, SPIS/VIB/DRIS/NRR
C. VanDenburgh, Section Chief, SPIS/VIB/DRIS/NRR
2. Allegers identification with address and telephone number
if not confidential

N/A

F. Other Relevant Information

N/A

Frank J. Miraglia
for Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

cc: EDO
OGC
RA/RII
OE
DEDS