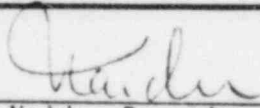



ORGANIZATION: LOUIS ALLIS  
NEW BERLIN, WISCONSIN

REPORT NO.: 99901017/85-01	INSPECTION DATE(S): May 22, 1985	INSPECTION ON-SITE HOURS: 4
CORRESPONDENCE ADDRESS: Louis Allis A Division of MagneTek Inc. Drives and Systems 16555 West Ryerson New Berlin, Wisconsin 53151		
ORGANIZATIONAL CONTACT: Harlan Driscoll, QA Manager TELEPHONE NUMBER: (414)-782-0200		
PRINCIPAL PRODUCT: Electrical Drives and Systems		
NUCLEAR INDUSTRY ACTIVITY: Louis Allis New Berlin is the successor of Beloit Power Systems, Beloit, which manufactured control panels for Emergency Diesel Engines manufactured by Colt Industries. Louis Allis has not manufactured any panels for nuclear power plants and does not plan to manufacture any in the future. Louis Allis intends to supply spare parts for the panels if requested.		
ASSIGNED INSPECTOR:	 K. R. Naidu, Reactive Inspection Section (RIS)	<u>7/1/85</u> Date
OTHER INSPECTOR(S):		
APPROVED BY:	 E. W. Merschoff, Chief, (RIS)	<u>7/3/85</u> Date
INSPECTION BASES AND SCOPE:		
A. <u>BASES</u> : 10 CFR Part 21 and 10 CFR 50 Appendix B.		
B. <u>SCOPE</u> : Review implementation of 10 CFR Part 21 and 10 CFR 50 Appendix B.		
PLANT SITE APPLICABILITY: Fermi 2 (50-341)		

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A. Inspection Issues

The Detroit Edison Company, owner of Fermi 2 Nuclear Power Plant reported on January 13, 1984, a significant construction deficiency in compliance to 10 CFR 50.55(e) requirements identifying poor quality of vendor workmanship on the control panels associated with the emergency diesel generators. The report identified loose crimp type lugs installed in the exciter regulator control circuits. The Detroit Edison Project Quality Assurance personnel initiated a nonconformance report to reinspect all the connections in all four emergency diesel generator control panels. The reinspection identified several hundred loose connections. Corrective action taken included recrimping and resoldering the wires to the connectors. The purpose of this inspection was to evaluate the potential for poor workmanship problems in similar panels supplied to other nuclear power plants.

B. Background Information

Beloit Power Systems (BPS) Beloit, Wisconsin manufactured control panels from 1973 to 1979, and supplied them to Colt Industries (CI) Fairbanks Morse Division to be used in conjunction with emergency diesel generators. BPS was a division of Tang Industries until 1979, when it was acquired by Louis Allis. Louis Allis moved the manufacturing facilities from Beloit in 1984 to its present location in New Berlin, Wisconsin. This plant, known as Louis Allis, Electrical Drives and Systems Divisions, manufactures drives for AC and DC motors, and power supplies for sonar transducers and degaussing systems. The QA Manager informed the NRC inspector that his management recently decided to limit their nuclear activities to the supply of spare parts such as indicating instruments and relays for control panels already installed, and not to manufacture control panels for emergency diesel generators (EDGs).

C. Inspection Findings and Other Comments

1. The NRC inspector, accompanied by the QA Manager, toured the facilities. Work on power supplies for sonar transducers was in progress. No manufacturing activities related to nuclear power plants were in progress. One locked cabinet has a 10 CFR Part 21 regulation affixed on its door. The QA Manager stated that this was the only cabinet which contained some spare-parts for control panels associated with EDGs.

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2. Review of 10 CFR Part 21 Applicability

The inspector discussed the recent problems identified at the Fermi 2 Nuclear Power Plant with the QA Manager. The QA Manager stated that this was an isolated case since they did not receive similar comments from any other nuclear power plant.

3. Review of Records

The QA Manager informed the inspector that all the original records pertaining to these panels were shipped to Detroit Edison Company (DECo) and that duplicates were stored at the Milwaukee plant.

A DECo inspection report dated May 27, 1975 indicated that a DECo representative observed the electrical testing of EDG set No. 1, reviewed documentation packages, inspected EDG set 2 in the final stages of assembly and inspected the electrical control cabinets for units 2, 3 and 4 in various stages of fabrication. The DECO representative observed that the certifications on the wire used were not available. He also observed that bare wire strands (without lugs) were inserted under the clamps of relays in the control cabinets. Loose wires in termination lugs were not identified in the report. Westinghouse Astronuclear Laboratory, Pittsburgh, conducted the seismic test of the EDG control cubicle using a seismic test procedure.

4. Review of the Crimping Procedure

Quality Control Procedure (QCP) 4.22.1 dated 6/15/76, "Inspection and Certification of Wire Stripping and Terminal Crimping Tools," describes the methods to be applied for testing and certifying wire stripping and crimping tools. This procedure meets the requirements of Military Specification MIL-T-7928F and gives the minimum tensile strengths the crimped connection should meet. This procedure was demonstrated by destructively testing samples of wire with terminations at both ends. The tensile strengths exceeded the required values.

All the existing quality control procedures meet MIL-Q-9858 and are being utilized where applicable to meet the QA program. A QA program has been developed to meet both MIL-Q-9858 and 10 CFR 50 Appendix B. This program has not been implemented due to lack of orders. The circumstances which led to the discovery of loose connections in the control panel could not be determined. Since similar deficiencies were not identified in panels supplied by this manufacturer at other plants, this may be considered an isolated incident.

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D. Exit Interview

The NRC inspector met with the QA Manager at the conclusion of the inspection and discussed the scope and results of the inspection.

E. Persons Contacted

H. Driscoll, QA Manager

S. Mix, QA Engineer