

ORGANIZATION: LOUIS ALLIS  
A DIVISION OF MAGNETEK INC  
MILWAUKEE, WISCONSIN

REPORT NO.: 99900895/85-01	INSPECTION DATE(S): May 20-21, 1985	INSPECTION ON-SITE HOURS: 14
CORRESPONDENCE ADDRESS: Louis Allis A Division of MagneTek Inc 427 E Stewart Street P.O. Box 2020 Milwaukee, Wisconsin 53201  ORGANIZATIONAL CONTACT: Harlan Leusink, Vice President, Engineering TELEPHONE NUMBER: 414-481-6000		
PRINCIPAL PRODUCT: Electric Motors  NUCLEAR INDUSTRY ACTIVITY: No electric motors or generators intended for installation in nuclear power plants were being manufactured.		
ASSIGNED INSPECTOR: <u>K. R. Naidu</u> K. R. Naidu, Reactive Inspection Section (RIS)		<u>8/8/85</u> Date
OTHER INSPECTOR(S):		
APPROVED BY. <u>E. W. Merschoff</u> E. W. Merschoff, Section Chief, RIS		<u>8/8/85</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 action taken on Part 21 reports and selectively review implementation of the QA Manual.		
PLANT SITE APPLICABILITY: Shoreham (50-322), Hope Creek (50-354), WNP-3 (50-508), Callaway (50-483), Wolf Creek (50-482)		

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A. Inspection Issues

1. On March 6, 1985, Louis Allis, Milwaukee, Wisconsin notified Region I of the NRC of a potential Part 21 defect discovered at the Shoreham Nuclear Power Plant (Shoreham). Personnel observed that the welds which attach the conical baffles to the coil guards in the electrical generators were cracked. These generators are coupled to the emergency diesel engines. Louis Allis requested the owners of Callaway 1, Wolf Creek, Hope Creek and WNP-3, where electrical generators of similar design were supplied, to inspect these welds. Welds on the generators at the Shoreham and Hope Creek Nuclear Power Plants have been inspected and will be repaired. Callaway intends to inspect the welds at the next available opportunity. Louis Allis had not yet received replies from the other nuclear stations. During this inspection, the inspector reviewed the action taken by Louis Allis.
2. Louis Allis notified Region I on April 1, 1985, of a potential Part 21 item regarding a long term problem with current transformers supplied as part of the voltage regulating equipment for the Hope Creek Emergency Diesel Generators. Initially, Basler Electric, the supplier of this equipment as a subvendor to Louis Allis, notified Region III on March 18, 1985 of this potential Part 21 problem, stating that the current transformers may not have been rated for operation at higher ambient temperatures. Basler Electric stated at that time, that this problem was confined to the units installed in foreign countries. Meetings have been scheduled with the cognizant Architect Engineers, Colt Industries, Fairbanks Morse Division (who package these electrical generators with diesel engines manufactured by them) and Louis Allis to complete a joint analysis. During this inspection, the inspector reviewed the action taken by Louis Allis.

B. Background Information

Beloit Power Systems (BPS) located in Beloit, Wisconsin manufactured electrical generators and associated control panels for use with diesel engines manufactured by Colt Industries, Fairbank Morse Division (CI). CI packages and markets complete emergency diesel generator systems. Tang Industries purchased BPS in 1973 and continued the manufacture of electrical generators up to 1980. In 1980, Louis Allis (then a division of Litton Industries) purchased BPS from Tang Industries and retained the manufacturing facilities in Beloit. In 1984, Louis Allis, now a division MagneTeck Incorporated, moved the generator manufacturing facilities to Milwaukee, Wisconsin, and the control panel manufacturing facility

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to New Berlin, Wisconsin. Louis Allis (Milwaukee) manufactures electrical motors and generators. The Louis Allis manager of customer services maintains a list of electrical generators that have been manufactured by BPS and supplied to various nuclear power plants. The quality assurance records have been transferred to the Milwaukee office.

C. Inspection Findings and Other Comments

1. Status of the Welds at Shoreham

Louis Allis supplied three 4430 kilowatt, 514 revolution per minute (RPM), 4160 volt generators to the Shoreham Nuclear Power Plant (Shoreham) as a subvendor to the Colt Industries. The design drawing shows that the welds in question attach the conical baffles to the coil guards (located at both ends of the generator) and are specified to be 1/8" fillet welds, 1" long, spaced at 4" intervals. The results of the inspection of the welds on the three generators at Shoreham are as follows:

- a. Serial # 700512-R1: Two broken welds on the drive end.
- b. Serial # 700513-R2: Four broken welds on the pedestal end.
- c. Serial # 700513-R3: One broken weld on the drive end.

Catalytic, the mechanical contractor at Shoreham, submitted the Weld Procedure Specification (WPS) proposed to be used to repair the welds to Louis Allis for approval. The corrective action for these welds is expected to be completed shortly.

2. Corrective Action Taken by Louis Allis

The inspector reviewed the corrective action taken by Louis Allis pursuant to the Part 21 report and determined that Louis Allis notified the owner of WNP-3, Hope Creek No. 1, Callaway, Wolf Creek and Marble Hill Units 1 & 2 of the potential problem. Applicable drawings were sent to them requesting they inspect the subject welds. The welds on the electrical generators supplied to Hope Creek, owned by Public Service Electric & Gas Company, were inspected and some broken welds were identified. Union Electric, the owner of Callaway, responded that since they were operating they would take administrative precautions prior to conducting the inspection.

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Louis Allis is awaiting replies from the other owners.

3. Review of the Welding Inspection Procedure

Louis Allis procedure P4-9209 dated February 27, 1985, will be used to inspect welds on generators which will be manufactured at Milwaukee in the future. This procedure meets the Military Standard Specifications (MIL) 278, 248, 271, 418, MIL-E-14499, and Navy Ships 0900-003-8000. The procedure is being revised to meet AWS D1.1-1980 requirements. Currently, there are no generators being manufactured for nuclear power plants in this facility.

4. Shop Tour

The inspector, along with the manager of Quality Control, toured the plant. Travellers were examined to determine that in-process QC inspections were being performed as required. In the receipt inspection area, nonconforming material was segregated and tagged. Calibrated inspection tools were being used. The temperature in the calibration room was controlled to preserve the accuracy of the secondaries used to calibrate the inspection tools. The calibration records were selectively examined and determined to have appropriate certificates that were traceable to the National Bureau of Standards.

5. Review of QA Records

The inspector reviewed the QA records pertaining to the generators supplied to Shoreham. These records were transferred from Beloit Power Systems, Beloit to Louis Allis, Milwaukee. No deficiencies had been identified on the subject welds. Colt Industries performed the final inspection on the generator. Unrelated to the subject welds, CI generated a Supplier Deficiency Report (SDR) # 103 dated 12/2/83 documenting that the welds attaching an angle iron to the top plate were spaced 5" center to center (CTC) instead of 4" as indicated on drawing 00885158. Louis Allis, Beloit, generated Nonconformance Report (NCR) 7455 on 12/12/83 confirming that 1" long, 1/8" fillet welds were placed 5" CTC instead of 4" CTC. Manufacturing recommended "use-as-is." Engineering concurred and stated that the welds were designed to secure the cover to the cross member to prevent rattling from vibration. It also stated that the seismic capability of the generator was not affected. Corrective action taken to preclude repetition was to reprimand the welder and the welding inspector.

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6. Review of Welder Qualification Records

The Quality Control department maintains weekly logs of each department where welding activities are performed. The logs identify the welders by their clock numbers and the welding process they performed during that week. In this manner, they ensure that the welder maintains his qualifications current. The qualifications of the welders are being updated to reflect the requirements of AWS D1.1-1980.

D. Exit Interview

The inspector met with individuals identified in paragraph E, discussed the scope of the inspection and the results.

E. Persons Contacted

H. Leusink, Vice President Engineering  
H. A. Schreiber, Manager Product and Customer Service  
J. G. Borman, Quality Control Manager