



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

February 13, 1992

Docket No. 99901065

Mr. Peter R. Holroyd  
Manager  
NEI Peebles Limited,  
Peebles Electrical Machines  
East Pilton  
Edinburgh, Scotland EH5 2XT  
United Kingdom

Dear Mr. Holroyd:

SUBJECT: INSPECTION OF A SAFETY-RELATED POWER GENERATOR  
SUPPLIED TO DIABLO CANYON NUCLEAR POWER PLANT UNIT 2  
(NOTICE OF NONCONFORMANCE AND INSPECTION REPORT  
NO. 99901065/91-01)

We are transmitting herewith the report of the U.S. Nuclear Regulatory Commission (NRC) inspection, conducted September 23 through 27, 1991, at Peebles Electrical Machines (PEM) located at its Pilton Works in Edinburgh, Scotland. Messrs. Steven M. Matthews, Stephen D. Alexander, and Gregory C. Cwalina of the NRC's Office of Nuclear Reactor Regulation evaluated PEM's activities associated with its manufacture of an emergency ac power generator for PEM's sister company, NEI Peebles - Electric Products, Incorporated (P-EP), of Cleveland, Ohio (both are subsidiaries of NEI Peebles Limited). P-EP procured the generator from PEM for an NRC licensee, Pacific Gas and Electric Company (PG&E). The generator is to be used for the new (no. 2-3) emergency diesel generator set for PG&E's Diablo Canyon Nuclear Power Plant Unit 2 (DCNPP2). At the conclusion of this inspection, the NRC inspection team discussed the inspection findings with you and other members of your staff.

In its acceptance of the purchase order from PG&E for this safety-related (Class 1E) generator for DCNPP2, P-EP accepted the responsibility to assure overall compliance with all the applicable provisions of the quality requirements of Appendix B to Title 10 of the Code of Federal Regulations, Part 50 (10 CFR Part 50) and the reporting requirements of 10 CFR Part 21. P-EP audited PEM's quality program and determined that, although it was not based on Appendix B to 10 CFR Part 50, it nevertheless met those requirements. P-EP believed that it could impose PG&E's requirements on PEM by invoking the PEM quality program. Upon delivery, P-EP provided PG&E with a certificate of

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conformance that certified that the generator was produced in compliance with Appendix B to 10 CFR Part 50. This certification was based largely on P-EP's audit and determination regarding the equivalence of PEM's quality program to Appendix B to 10 CFR Part 50.

As part of the NRC's independent evaluation of this procurement and of the ultimate acceptability of the new DCNPP2 generator, the NRC team assessed the degree to which PEM's quality program and activities (1) were in compliance with the requirements imposed in P-EP's purchase order to PEM, (2) met the requirements of PG&E's purchase order to P-EP, and (3) ultimately met the applicable NRC requirements. Accordingly, the NRC team evaluated PEM's quality program and its implementation in selected areas such as the (1) control of design processes and interfaces, (2) selection and review for suitability of application of certain parts that were identified in the PG&E purchase order as essential to the generator's ability to perform its safety-related function (critical items), and (3) control of purchased materials, parts, equipment and services, including verification that the critical items met their specifications.

This inspection consisted of an examination of procedures and representative records, interviews with PEM staff, and observations by the NRC team. As a result of the inspection, a notice of nonconformance (Enclosure 1) has been issued to PEM. The inspection report (Enclosure 2) contains a detailed discussion of the areas examined during the inspection and our findings.

The most significant inspection finding was that PEM's documented evidence did not demonstrate reasonable assurance that certain critical items (1) met all of PEM's procurement specifications to its suppliers of commercial grade material, (2) met all of P-EP's procurement specifications to PEM, (3) met all PG&E's requirements imposed on P-EP, and (4) met all the applicable NRC quality and technical requirements. Specifically, there was inadequate documented evidence that all the critical characteristics of such items were identified and adequately verified to ensure the items are capable of performing their safety-related functions. Examples of the critical items that were found not to be adequately dedicated include (1) the rotor pole magnet wire wrapped with varnished insulation tape that was specified to be unvarnished, (2) the Bakelite electrical separation ring that was used as a load-bearing component part of the rotor shaft support assembly without an engineering basis for the design, and (3) certain other commercial grade materials, parts, and equipment described in the report that were accepted on the basis of unvalidated certificates of conformance from PEM's commercial suppliers.

The team also identified other elements of PEM's quality program and its implementation that did not meet NRC requirements. For example, PEM had not established adequate measures for, nor implemented adequate control of, its external design interface with P-EP.



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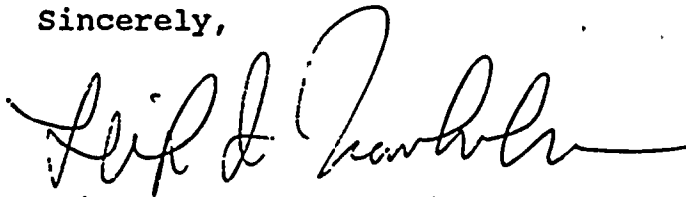
During this inspection, PEM was also fabricating and assembling a safety-related emergency ac power generator for Washington Public Power Supply System's Nuclear Project 2 (WNP2). Although the team focused its inspection activities on the completed generator for PG&E's DCNPP2, the concerns discussed in this report may have generic implications for WNP2's generator and any similar generators, or spare and replacement parts, built by PEM and supplied by P-EP to other licensees.

Please provide a written statement or explanation within 30 days from the date of this letter for the items in the Notice of Nonconformance containing (1) a description of steps that have been or will be taken to correct these items, (2) a description of steps that have been or will be taken to prevent recurrence, and (3) the dates your corrective actions and preventive measures were or will be completed. This reply should be clearly marked as a "Reply to Notice of Nonconformance" and submitted to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555, with a copy to the Chief, Vendor Inspection Branch, Division of Reactor Inspection and Safeguards, Office of Nuclear Reactor Regulation. We will consider extending the response time if you can show good cause.

The response requested by this letter is not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511. In accordance with 10 CFR 2.790(a), a copy of this letter and its enclosures will be placed in the NRC's Public Document Room.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you. Thank you for your cooperation during this inspection.

Sincerely,



Leif J. Norrholm, Chief  
Vendor Inspection Branch  
Division of Reactor Inspection  
and Safeguards  
Office of Nuclear Reactor Regulation

Enclosures:

1. Notice of Nonconformance
2. Inspection Report 99901065/91-01

cc w/enclosures:

Mr. Ron B. Politi  
Vice President and General Manager  
NEI Peebles - Electric Products, Inc.  
17045 Euclid Avenue  
Cleveland, Ohio 44112

