

QA18/REN/dg
Serial: E095

July 23, 1985

United States Nuclear Regulatory Commission
Washington, D. C. 20555

Attn: Mr. Gary G. Zech, Chief
Vendor Program Branch
Division of Quality Assurance
Office of Inspection & Enforcement

Reference (a) NRC ltr. of 7 March 1985,
Docket #99900279/84-01
(b) TE ltr. of 15 May 1985

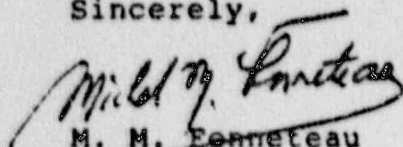
Gentlemen:

This letter amplifies the response made in reference (b) to the concerns addressed in reference (a).

For NRC Inspection Finding C, corrective action response for audit QAL-82-0223 conducted by Gould Westminster Operation (now Telemecanique Inc.) at Gould Bellefontaine Operation (now I-T-E Siemens Allis) has been received and found adequate. The finding has now been closed.

Should you have any further questions concerning this response or the responses presented in reference (b), we shall be pleased to review them with you.

Sincerely,



M. M. Fenneteau
Quality Manager
By direction of
J. V. Erhardt, Vice President
Engineered Controls Operation

cc: Michael C. Veysey, Gould, Business Section Legal Counsel
Robert L. Harris, Telemecanique Inc., President

TELEMECANIQUE INC., 2002 BETHEL ROAD, WESTMINSTER, MD 21157, (301) 876-2214

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NTIVE SOLUTIONS TO CONTROL PROBLEMS



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September 14, 1989

Freedom of Information Officer
United States Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: FOIA Request

FREEDOM OF INFORMATION
ACT REQUEST

FOIA-89-404
Rec'd 9-20-89

Re: Freedom of Information Act Request

Dear Sir or Madam:

Under the provisions of the Freedom of Information Act, 5 U.S.C. § 552, I am hereby requesting access to the documents and materials identified in Exhibit "A" attached hereto.

If fees, if any, for searching for or copying the records I have requested will exceed \$1,000.00, please inform me before you fill the request.

If all or any part of this request is denied, please cite the specific exemption(s) or reason(s) that you contend justifies your refusal to release the information or materials and inform me of the appeal procedures available to me under the law.

I would appreciate your handling this request as quickly as possible and look forward to hearing from you within the 10-day period which the Act requires.

If you have any questions, please contact me at the address or telephone number listed above.

Very truly yours,

Donald R. Pepperman

DONALD R. PEPPERMAN

DRP/dc
Enc.

~~8912140030~~ JJP

EXHIBIT "A"

DEFINITIONS AND INSTRUCTIONS

1. The term "document" shall mean all written, printed, typed, recorded or graphic matter, however produced or reproduced, of every kind and description, in whatever form (e.g., final and draft versions) in your actual or constructive possession, custody, care or control, including without limitation, all writings, correspondence, letters, telegrams, notes, mailgrams, agenda, memoranda, inter-office communications, reports, forecasts, projects, analyses, working papers, charts, requests for authorization, expense account reports, charge or credit account vouchers, calendars, appointment books, diaries, drawings, graphs, photographs, sound reproduction tapes, data compilations from which information can be obtained or can be translated through detection devices into reasonably usable form, computer inputs or outputs. The term "documents" shall include not only originals but also any copies or reproductions of all such written, printed, typed, recorded or graphic matter upon which notations in writing, print or otherwise have been made which do not appear in the originals.

2. The term "NEMA" shall mean and refer to the National Electrical Manufacturers Association, its merged or acquired predecessors, its entities, its subsidiaries, its affiliates, its divisions, its members, and all of its present or former officers, directors, employees, lawyers, agents,

investigators, representatives or other persons acting or purporting to act on its behalf.

3. The term "GE" shall mean and refer to General Electric Company, its merged or acquired predecessors, its entities, its subsidiaries, its affiliates, its divisions, including but not limited to its GESCO Division, and all of its present and former officers, directors, employees, lawyers, agents, investigators, representatives or other persons acting or purporting to act on its behalf.

4. The term "Westinghouse" shall mean and refer to Westinghouse Electric Corporation, its merged or acquired predecessors, entities, its subsidiaries, its affiliates, its divisions, including, but not limited to its WESCO Division, and all of its present and former officers, directors, employees, lawyers, agents, investigators, representatives or other persons acting or purporting to act on its behalf.

5. The term "Square D" shall mean and refer to Square D Company, its merged or acquired predecessors, entities, its subsidiaries, its affiliates, its divisions, and all of its present and former officers, directors, employees, lawyers, agents, investigators, representatives or other persons acting or purporting to act on its behalf.

6. The term "UL" shall mean and refer to Underwriters Laboratories, Inc., its merged or acquired predecessors, entities, its subsidiaries, its affiliates, its divisions, and all of its

present and former officers, directors, employees, lawyers, agents, investigators, representatives or other persons acting or purporting to act on its behalf.

7. The term "Romac" shall mean and refer to Romac Supply Company located in Commerce, California, its merged or acquired predecessors, entities, its subsidiaries, its affiliates, its divisions, and all of its present and former officers, directors, employees, lawyers, agents, investigators, representatives or other persons acting or purporting to act on its behalf.

8. The term "General Circuit Breaker" shall mean and refer to General Circuit Breaker and Electric Supply, Inc. located in Arcadia, California, its merged or acquired predecessors, entities, its subsidiaries, its affiliates, its divisions, and all of its present and former officers, directors, employees, lawyers, agents, investigators, representatives or other persons acting or purporting to act on its behalf.

9. The term "U. S. Navy" shall mean and refer to the United States Department of Navy.

10. The term "NAED" shall mean and refer to the National Association of Electrical Distributors.

11. The term "NRC" shall mean and refer to the United States Nuclear Regulatory Commission.

12. The term "DOE" shall mean and refer to the United States Department of Energy.

13. The term "NASA" shall mean and refer to the National Aeronautics and Space Administration.

14. The term "NUMARC" shall mean and refer to the Nuclear Management and Resources Council.

15. The term "circuit breaker" shall be construed to mean any molded case circuit breaker designed for residential, commercial or governmental use, and shall include any circuit breaker components or circuit breaker parts separately offered for sale or sold by a manufacturer.

16. As used herein the term "obsolete circuit breaker" is a circuit breaker that the manufacturer is no longer producing as new.

17. As used herein the term "recondition" shall mean opening the case of a circuit breaker, removing the backshield of a circuit breaker, modifying the external configuration of a circuit breaker, making internal modifications to the circuit breaker, repairing or replacing component parts of a circuit breaker, or adjusting the calibration of a circuit breaker.

18. The term "person" means any natural person, corporation, partnership, association, business trust or other form of legal entity.

19. The term "communication" shall include but is not limited to oral communications, correspondence, memoranda, reports and records of telephone calls and reports of meetings.

20. Each of the definitions above and each of the instructions below is hereby incorporated into each of the requests to which it may pertain.

21. In producing these documents, you are requested to furnish all documents known or available to you regardless of whether these documents are possessed directly by you or your agents, employees, partners, representatives, investigators, or by your attorneys or their agents, employees, representatives or investigators.

22. If any of these documents cannot be produced in full, produce them to the fullest extent possible, specifying clearly the reasons for your inability to produce the remainder and stating whatever information, knowledge or belief you do have concerning the unproduced portion.

23. If any documents or things required were at one time in existence, but are no longer in existence, please so state specifying for each document or thing, (a) the type of document or thing, (b) the types of information contained thereon, (c) the date upon which it ceased to exist, (e) the identity of all persons having knowledge of the circumstances under which it ceased to exist, and (f) the identity of all persons having knowledge of who had knowledge of the contents thereof.

24. With respect to any documents called for by this Request but withheld due to any claim of privilege, list for each such document:

- a. The document request to which the document is otherwise responsive;
- b. Its title and general subject matter;
- c. Its date;
- d. The name(s) and title(s) of its authors or preparer;
- e. The name(s) and title(s) of the person(s) for whom it was prepared and all persons to whom it was sent or shown; and
- f. The nature of the privilege claimed.

25. If you assert a privilege as to a portion of any category of the materials described, please produce the remainder of that category as to which you do not assert a privilege.

26. The terms "and" and "or" shall be construed either disjunctively or conjunctively so as to bring within the scope of this Request all documents which might otherwise be construed to be outside its scope.

27. The specificity of any request herein should not be construed to limit the generality or reach of any other request herein.

28. Unless otherwise specified, the relevant time period for purposes of this document request shall be from January 1, 1983 to the present.

DOCUMENTS REQUESTED

DOCUMENT REQUEST NO. 1:

All documents which discuss, refer or relate to the purchase, sale, distribution, labeling, testing or manufacture of reconditioned, surplus, obsolete, used, refurbished, counterfeit, defective, rebuilt, substandard or misrepresented circuit breakers.

DOCUMENT REQUEST NO. 2:

All documents which constitute, refer or relate to correspondence or communications between the NRC and any representative of the following entities concerning reconditioned, surplus, obsolete, used, refurbished, counterfeit, defective, rebuilt, substandard or misrepresented circuit breakers:

- a) Any nuclear power plant or utility;
- b) NUMARC;
- c) NAED;
- d) DOE;
- e) NASA;
- f) Westinghouse;
- g) GE;
- h) Square D;
- i) UL;
- j) Romac;
- k) U. S. Navy; and

1) NEMA.

DOCUMENT REQUEST NO. 3:

All documents which discuss, refer or relate to any investigation, probe, inquiry or vendor inspection concerning circuit breakers purchased for nuclear power plant structures, systems and components.

DOCUMENT REQUEST NO. 4:

All documents, including but not limited to articles, videotapes, photographs, test results and circuit breakers reviewed, analyzed or seized by the NRC as part of any investigation, probe, inquiry or vendor inspection concerning circuit breakers.

DOCUMENT REQUEST NO. 5:

All documents which constitute, refer or relate to correspondence or communications between the NRC and any governmental department or agency, federal, state or otherwise, concerning reconditioned, surplus, obsolete, used, refurbished, counterfeit, defective, rebuilt, substandard or misrepresented circuit breakers.

DOCUMENT REQUEST NO. 6:

All documents which constitute, refer or relate to any complaints or petitions submitted to the NRC concerning circuit breakers manufactured by Westinghouse, GE or Square D.

DOCUMENT REQUEST NO. 7:

All documents which discuss, refer, relate or relate to

General Circuit Breaker, its officers, including Xavier Contreras, its employees, its products or its facilities.

DOCUMENT REQUEST NO. 8:

All documents which reflect, constitute, refer or relate to any communication or correspondence between any representative of the NRC and any representative of the law firm of Munger, Tolles & Olson, Los Angeles, California, concerning circuit breakers or any actual or proposed investigation or litigation concerning circuit breakers.

DOCUMENT REQUEST NO. 9:

All documents which identify or list persons or entities believed to be engaged in the practice of purchasing, manufacturing, distributing or selling suspect, counterfeit, misrepresented, reconditioned or rebuilt circuit breakers.

DOCUMENT REQUEST NO. 10:

All NRC Advance Notices of Proposed Rulemaking ("ANPR's") which discuss, refer or relate to circuit breakers.

DOCUMENT REQUEST NO. 11:

All NRC Information Notices which discuss, refer or relate to circuit breakers, including, but not limited to Notice Nos. 88-19 and 88-36 through 88-46.

DOCUMENT REQUEST NO. 12:

All NRC Bulletins which discuss, refer or relate to circuit breakers, including, but not limited to Bulletin Nos. 88-05 and 88-10.

DOCUMENT REQUEST NO. 13:

All documents which constitute, refer or relate to construction, performance or test standards or specifications for circuit breakers.

DOCUMENT REQUEST NO. 14:

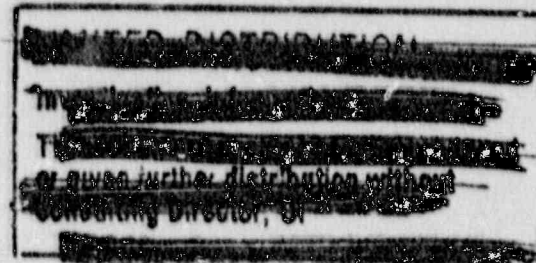
All documents in the files of the following NRC representatives which discuss, refer or relate to circuit breakers:

- a) Victor Stello, Jr.;
- b) Max J. Clausen, NRR;
- c) Donald S. Brinkman, NRR;
- d) Charles E. Rossi, NRR;
- e) J. T. Conway, NRR;
- f) Edward T. Baker, NRR;
- g) Ray Cilimberg, NRR;
- h) Thomas T. Martin, NRR;
- i) Paul Gill, NRR;
- j) Jaime Guillen, NRR;
- k) Joseph J. Petrosino, NRR; and
- l) K. R. Naidu, NRR.



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

Docket No.: 99901011/88-01



Mr. M. Fenneteau
Quality Assurance Manager
Telemecanique, Inc.
2002 Bethel Road
Westminster, Maryland 21157

Dear Mr. Fenneteau:

This letter addresses the inspection of your facility at Westminster, Maryland conducted by Mr. J. B. Jacobson of this office on December 14-15, 1988, and the discussion of his findings with you and other members of your staff at the conclusion of the inspection.

The inspection was conducted to review activities relative to your supply of replacement molded case circuit breakers to the nuclear industry.

Areas examined during the NRC inspection and our findings are discussed in the enclosed report. The inspection consisted of an examination of procedures and representative records, interviews with personnel, and observations by the inspector.

During this inspection it was found that the implementation of your QA program failed to meet certain NRC requirements. The specific findings and references to the pertinent requirements are identified in the enclosures to this letter.

Please provide us within 30 days from the date of this letter a written statement 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. We will consider extending the response time if you can show good cause for us to do so.

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 of the Commission's regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room.

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Mr. M. Fenneteau

- 2 -

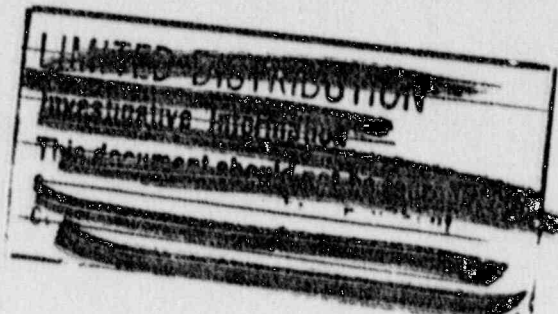
Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

E. William Brach, Chief
Vendor Inspection Branch
Division of Reactor Inspection and Safeguards
Office of Nuclear Reactor Regulation

Enclosures:

1. Appendix A, Notice of Nonconformance
2. Appendix B, Inspection Report 99901011/88-01



NOTICE OF NONCONFORMANCE

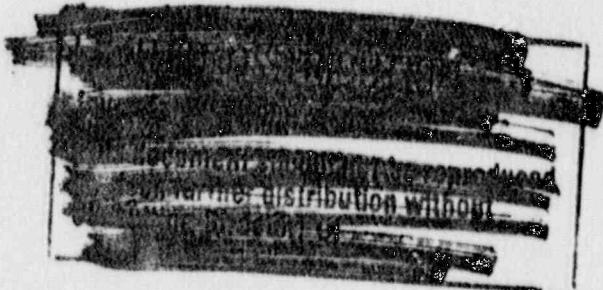
Based upon the results of an NRC inspection conducted December 14-15, 1988, it appears that certain of your activities were not conducted in accordance with NRC requirements.

Criterion V of Appendix B to 10 CFR 50 states:

"Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

Contrary to the above, Telemecanique has not implemented procedures as necessary to ensure that Certificates of Conformance are received from subvendors before material is dedicated and released by Telemecanique.

Additionally, the originator of the Certificates of Conformance has not been audited by Telemecanique as necessary to verify the validity of the Certificates of Conformance. (88-01-01)



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ORGANIZATION: TELEMECANIQUE, INC.
WESTMINSTER, MARYLAND

REPORT NO.: 99901011/88-01	INSPECTION DATE: 12/14-15/88	INSPECTION ON-SITE HOURS: 14
CORRESPONDENCE ADDRESS: Mr. M. Fenneteau Quality Assurance Manager Telemecanique, Inc. 2002 Bethel Road Westminster, Maryland 21157		
ORGANIZATIONAL CONTACT: Joe Destefano TELEPHONE NUMBER: 301 876-2214		
NUCLEAR INDUSTRY ACTIVITY: Telemecanique, Inc., manufactures and provides replacement components for motor control centers used in nuclear power plants.		
ASSIGNED INSPECTOR: <u>Udis Potapovs</u> for J. B. Jacobson, Reactive Inspection Section No. 2 (RIS-2)		2-24-89 Date
OTHER INSPECTOR(S):		
APPROVED BY: <u>Udis Potapovs</u> Udis Potapovs, Section Chief, RIS-2, Vendor Inspection Branch		2-29-89 Date
INSPECTION BASES AND SCOPE: A. <u>BASES</u> : Appendix B to 10 CFR Part 50 and 10 CFR Part 21. B. <u>SCOPE</u> : The inspection was conducted to review activities relative to Telemecanique's supply of replacement molded case circuit breakers to the nuclear industry.		
PLANT SITE APPLICABILITY: All nuclear plants using Telemecanique motor control centers.		

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REPORT NO.: 99901011/88-01	INSPECTION RESULTS:	PAGE 2 of 6
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A. VIOLATIONS:

None

B. NONCONFORMANCES:

Contrary to Criterion V of Appendix B to 10 CFR Part 50 and Telemecanique's Quality Assurance procedures 4.0, Telemecanique has not implemented measures as necessary to ensure that certificates of conformance (C of C's) are received from subvendors before material is dedicated and released by Telemecanique. Additionally the originator of the C of C's has not been audited by Telemecanique as necessary to verify the validity of the C of C's. (88-01-01)

C. STATUS OF PREVIOUS INSPECTION FINDINGS:

Not reviewed during this inspection.

D. OTHER FINDINGS AND COMMENTS:

1. During the inspection, a review was conducted of Telemecanique's supply of molded case circuit breakers to the nuclear industry. All circuit breakers sold by Telemecanique to the nuclear industry are procured commercial grade from Siemens Energy and Automation, Inc. (Siemens) and then dedicated by Telemecanique for safety-related service. All breakers are procured direct from Siemens and are supplied from Siemens' Belle Fontaine, Ohio distribution facility. No instance of Telemecanique procuring breakers from distributors or from other than Siemens was noted during the inspection.

Quality Assurance Procedure (QAP) 4.0 delineates the purchase procedures to be used for procurement of all nuclear grade material. QAP 4.0, also includes a table which lists the particular industry standards to be invoked for particular types of components (i.e., NEMA AB1, UL 489 for molded case breakers). Breakers are normally ordered from Siemens on a per job basis and generally are not stocked at Telemecanique. A C of C is required from Siemens for all breakers to be dedicated for safety-related applications.

Upon receipt at Telemecanique the breakers undergo a receipt inspection in accordance with QAP 10.0 which requires a visual inspection and documentation review. This inspection is performed

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~~WESTMINSTER, MARYLAND~~
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on samples only, in accordance with Military Standard 105D. After receipt inspection, all breakers to be dedicated for safety-related applications are tested in accordance with QAP 11.0. QAP 11.0 requires an overload test at 300% of rated current and also an instantaneous check as described in NEMA AB2. In addition, a continuity and a five cycle mechanical check are performed.

2. Supplier Review

In order to determine whether Telemecanique might have procured any breakers from companies other than original manufacturers, a computer generated list of all Telemecanique suppliers dating back to 1985 was requested. This list was reviewed and was not found to contain any companies suspected of supplying potentially defective refurbished equipment.

3. Purchase Order Review

In order to confirm the implementation of the Telemecanique procurement process, purchase order (PO) RS 0005437 from Houston Power and Light to Telemecanique for 3 ITE Gould HE3B090 molded case circuit breakers was reviewed. The PO invoked 10 CFR Part 21, 10 CFR 50 Appendix B, and Telemecanique's quality assurance program and procedures. Telemecanique procured the subject breakers from Siemens via PO 27735. Telemecanique ordered the breakers commercial grade and specified that the breakers must meet design and test requirements of NEMA AB1. The Telemecanique purchase order also asked for a C of C. Upon receipt at Telemecanique the breaker was receipt inspected and subjected to an overload test in accordance with NEMA AB2. A thermal trip test was performed at 300% current (270 amps) and an instantaneous trip test was performed at approximately 900% - 1000% current (812 - 1000 amps). The breaker trip times were found to be within the limits established by NEMA AB2.

During review of this documentation it was noted that a C of C had not been received from Siemens for these breakers. Furthermore, the receipt inspection sheet for this order did not indicate that the C of C was missing even though this was supposed to be checked for in accordance with QAP 10.3. Upon interviewing the receipt inspection personnel it was discovered that the C of C's often do not accompany the circuit breakers received from Siemens and therefore, this was not an unusual occurrence. Upon further review it could not be determined at what point in the

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Investigative Director

ORGANIZATION: TELEMECANIQUE, INC.
WESTMINSTER, MARYLAND

REPORT
NO.: 99901011/88-01

INSPECTION
RESULTS:

PAGE 4 of 6

Telemecanique process documentation is checked. As evidenced by this order, it does not appear a method exists at Telemecanique for holding material until all required documentation is received and reviewed. Nonconformance 88-01-01 is cited in Section B of this report as a result of this finding.

In addition to the above order, PO 514834 from Kansas Gas and Electric to Telemecanique for 2 ITE Gould HE3B100 molded case circuit breakers was reviewed. The PO invoked IEEE 323, Bechtel specification 10466-E-018, 10 CFR Part 50, Appendix B, and 10 CFR Part 21. In addition the PO required the instantaneous trip setting to be 1000 amps minimum. This setting would allow even a greater margin than the published trip curves for this breaker which indicated a 1200 amp minimum setting.

Telemecanique ordered the subject breakers from Siemens via PO S22428 and also asked for the 1000 amp minimum trip. Upon receipt at Telemecanique the breakers were tested and found not to be in accordance with the 1000 amp trip requirement. Additional breakers were ordered and these also would not meet the 1000 amp requirement. The breakers exhibited trip values in the 900 amp range below the 1000 amp minimum requirement. Upon discovering that the breakers would not meet the 1000 amp requirement, Telemecanique informed Kansas Gas and Electric who in turn revised their purchase order deleting the 1000 amp requirements.

It is unclear why the breakers tested did not meet the published trip curves which would indicate a minimum trip value of 1200 amps. Additionally, it is unclear why Kansas Gas and Electric invoked and then deleted a seemingly important performance characteristic. Following completion of the inspection, Kansas Gas and Electric was contacted concerning this issue and it was determined that an engineering evaluation had been performed on the subject breakers.

4. Subvendor Audits

A review was conducted of a commercial audit of the Siemens' Spartanburg facility performed jointly by Telemecanique and United Engineers on November 20, 1985. The results of the audit indicated Siemens had a quality assurance program in place, but several deficiencies were noted in the areas of procurement sources, training/qualification, control of measuring and test equipment, and QC inspection.

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It should be noted that in June of 1988 Siemens moved their manufacturing facility from Spartanburg, South Carolina to Wilmington, North Carolina. The Wilmington facility has not been audited by Telemecanique. Failure to perform sufficient audits to the verify validity of C of C's was cited in nonconformance 88-01-01.

5. Design Control

A review was conducted of Telemecanique's program for maintaining design control of breakers supplied as replacements for those originally seismically and environmentally qualified as part of Telemecanique provided motor control centers. Although Telemecanique does not concur or approve design changes made by Siemens, Telemecanique has asked for and receives information pertaining to all significant design changes. This information is provided annually by Siemens to Telemecanique. QAP 3.5 requires that Telemecanique annually send letters requesting design change information to all vendors that supply components used in Telemecanique qualified equipment. Although the large majority of changes made to Siemens breakers have been reported to Telemecanique, information pertaining to changes made on several specific breaker styles is still outstanding. Information pertaining to changes made on the following breaker styles has been requested by Telemecanique, but has yet to have been provided by Siemens:

<u>TYPE</u>	<u>YEARS</u>
BQ Frame Panel Breaker	71-83
EE,EH,EF, Frame; One, and Two Pole Only	71-84
QJ (255 amp) Frame	82-85

Telemecanique has instituted a policy not to sell any of the above type breakers for qualified applications until the missing design change information is received.

The design control file for type HE molded case breakers was reviewed during the inspection. The file contained information describing all changes that had been made by Siemens to this type of breaker from 1971 through June of 1988. Information in the file indicated that numerous changes had been made to several parts of the breaker. The changes included material changes, dimensional changes, and other potentially significant changes. All changes were evaluated by a Telemecanique qualification

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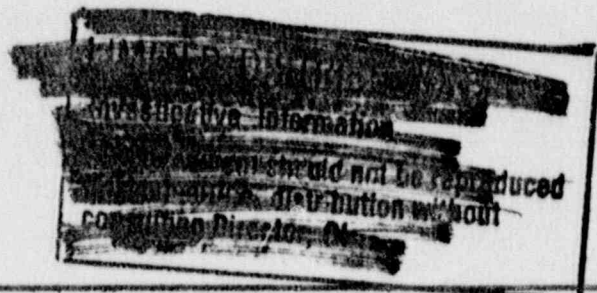
engineer for their effect on seismic or environmental qualification. New materials were analyzed for radiation effects and found to have radiation degradation thresholds well above the qualification levels of the breakers. Materials were also analyzed for aging effects using Arrhenius methodology. All changes were found by Telemecanique not to have adversely affected either seismic or environmental qualification. In summary, the Telemecanique evaluations were found to be thorough, well documented, and of sound engineering basis.

In addition to the HE breaker file, a review was conducted of Telemecanique's analysis of a change made to A20, A22, A82 and A83 motor starters supplied by Telemecanique's sister plant in Westminster, Maryland. The change concerned the addition of a trip indicator which could be degraded if exposed to radiation levels in excess of 1×10^7 rads. As a result of this change, a letter was written from engineering to quality assurance restricting the use of this device in any application qualified for in excess of 1×10^6 rads.

V. EXIT MEETING:

Following completion of the inspection an exit meeting was held. The following people were in attendance:

<u>NAME</u>	<u>AFFILIATION</u>
Jeff Jacobson,	U.S.N.R.C.
Joe Destefano, Quality Assurance Engineer	Telemecanique, Inc.
Micheal Fennteau, Quality Assurance Manager	Telemecanique, Inc.



APR 15 1985

Docket No. 99900278/84-01

Gould Inc.
ATTN: Mr. W. K. Ylvisaker
President
10 Gould Center
Rolling Meadows, Illinois 60008

Gentlemen:

The enclosed report documents the inspection performed at your facility at Finksburg, Maryland. We note that you sold this facility to Telemechanique in March 1985. We request that you review the findings documented in this report and inform us of the corrective action you intend to take to satisfy your corporate responsibility. Please provide this response within 30 days from the date of this letter.

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 of the Commission's regulations, a copy of this letter and the enclosed inspection report 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.

If no corrective action is planned please explain why you feel that this response is appropriate.

ORIGINAL SIGNED BY:
GARY G. ZECH

Gary G. Zech, Chief
Vendor Program Branch
Division of Quality Assurance, Vendor
and Technical Training Center Programs
Office of Inspection and Enforcement

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EXHIBIT 1
PAGE 4 OF 6 PAGE(S)



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20545

March 7, 1985

Docket No. 99900279/84-01

Gould Inc.
Industrial Controls Division
ATTN: Mr. J. V. Erhardt
Vice President Operations
2002 Bethel Road
Finksburg, Maryland 21048

Gentlemen:

This refers to the inspection conducted by Mr. K. R. Naidu and Mr. J. J. Petrosino of this office on November 1, 2, 8, and 9, 1984, of your facility at Finksburg, Maryland, and on November 6 and 7, 1984, at your subvendor Siemens-Allis, Bellefontaine, Ohio, and to the discussions of our findings with Mr. J. V. Erhardt and members of your staff at the conclusion of the inspection.

This inspection was made to verify that the motor control centers manufactured by you and the circuit breakers purchased by you from Siemens-Allis Bellefontaine, Ohio, for assembly in the motor control centers are manufactured under a Quality Assurance Program which meets the requirements of Appendix B to 10 CFR 50 Appendix B and ANSI N45.2. Areas examined during the inspection and our findings are discussed in the enclosed report. Within these areas, the inspection consisted of an examination of procedures and representative records, interviews with personnel, and observations by the inspector.

During this inspection it was determined that the implementation of your QA program failed to meet Criteria VII, X, and XVIII of Appendix B to 10 CFR 50. These criteria require you to assure that purchased material conforms to procurement documents, to establish a program to test circuit breakers received as commercial grade items from your vendor, and to pursue followup action on adverse vendor audit findings. The specific findings and references to the pertinent requirements are identified in the enclosures to this letter.

Please provide us within 30 days from the date of this letter a written statement 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. Consideration may be given to extending your response time for good cause shown.

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 of the Commission's regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room.

EXHIBIT 1
PAGE 5 OF 4 PAGE(S)

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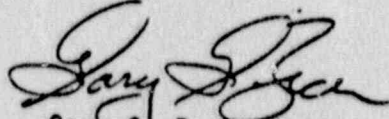
Gould Inc.

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March 7, 1985

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,



Gary G. Zech, Chief
Vendor Program Branch
Division of Quality Assurance, Vendor
and Technical Training Center Programs
Office of Inspection and Enforcement

Enclosures:

1. Appendix A-Notice of Nonconformance
2. Appendix B-Inspection Report No. 99900279/84-01
3. Appendix C-Inspection Data Sheets (5 pages)

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APPENDIX A

Gould Inc.
Docket No. 99900279/84-01

NOTICE OF NONCONFORMANCE

Based on the results of an NRC inspection conducted on November 1-9, 1984, it appears that certain of your activities were not conducted in accordance with NRC requirements.

- A. Criterion VII of Appendix B to 10 CFR 50 states "Measures shall be established to assure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents."

Gould Inc. failed to assure that their subvendor, Siemens-Allis, located at Bellefontaine, Ohio, developed and implemented a quality assurance program to meet the requirements of 10 CFR 50 Appendix B, as required in Gould's purchase orders to Siemens-Allis for the supply of 480 volt circuit breakers.

- B. Criterion X of Appendix B to 10 CFR 50 states "A program for inspection of activities affecting quality shall be established and executed by or for the organization performing the activity to verify conformance with the documented instructions, procedures and drawings for accomplishing the activity."

Contrary to the above, Gould Inc. failed to establish a program to test circuit breakers received from Siemens-Allis as commercial grade items prior to dedicating them as safety related Class 1E components for installation in Nuclear Power Plants.

- C. Criterion XVIII of Appendix B to 10 CFR 50 states in part "A comprehensive system of planned and periodic audits shall be carried out ... Followup action, including reaudit of deficient areas, shall be taken where indicated."

Contrary to the above, there was lack of documentation that Gould Inc. pursued followup action on the adverse audit findings identified in their letter QAL-82-0223 dated February 23, 1982 to Siemens-Allis, Bellefontaine, Ohio, their subvendor for the supply of 480 volt circuit breakers.

ORGANIZATION: GOULD INCORPORATED
INDUSTRIAL CONTROLS DIVISION
FINKSBURG, MARYLAND


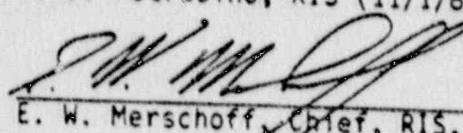
REPORT NO.: 99900279/84-01	INSPECTION DATE(S): 11/1-9/84	INSPECTION ON-SITE HOURS: 50
CORRESPONDENCE ADDRESS: Gould Inc. Industrial Controls Division 2002 Bethel Road Finksburg, Maryland 21048		
ORGANIZATIONAL CONTACT: M. Fenneteau TELEPHONE NUMBER: (301) 876-2214		
PRINCIPAL PRODUCT: Motor Control Centers		
NUCLEAR INDUSTRY ACTIVITY: Approximately 25% of Gould's work is devoted to domestic and foreign nuclear power plant orders.		
ASSIGNED INSPECTOR:	 K. R. Naidu, Reactive Inspection Section (RIS)	<u>3/6/85</u> Date
OTHER INSPECTOR(S):	J. J. Petrosino, RIS (11/1/84 only)	
APPROVED BY:	 E. W. Merschoff, Chief, RIS, VPB	<u>3/6/85</u> Date
INSPECTION BASES AND SCOPE:		
A. <u>BASES</u> : 10 CFR 50 Appendix B, 10 CFR Part 21.		
B. <u>SCOPE</u> : (1) Status of previous inspection findings; (2) to verify implementation of Criteria VII, X, and XVIII of Appendix B to 10 CFR at Gould, Finksburg, and by their subvendor Siemens Allis, Bellefonte, Ohio, who manufactures circuit breakers under the trade name ITE.		
PLANT SITE APPLICABILITY: Seabrook (50-443, 50-444) and Millstone 2 (50-336) Nuclear Power Stations.		

EXHIBIT 2
PAGE 1 OF 10 PAGE(S)

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ORGANIZATION: GOULD INC
INDUSTRIAL CONTROLS DIVISION
FINKSBURG, MARYLAND

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A. VIOLATIONS:

None.

B. NONCONFORMANCES:

1. Contrary to Criterion VII of 10 CFR 50 Appendix B and paragraph 2 of Section 7 of the Gould Quality Assurance Manual which states "The procurement of items or services shall be controlled to assure conformance by vendors to the specified requirements of the Purchase Orders." Gould did not ensure that Siemens-Allis, located at Bellefontaine, Ohio, developed and implemented a quality assurance program to meet the requirements of 10 CFR 50 Appendix B as stated in Gould's purchase orders (POs). One of the Gould PO requirements to Siemens-Allis Bellefontaine, Ohio, for the supply of 480V circuit breakers (CB) intended for assembly in motor control centers for installation in Nuclear Power Plants, requires the CBs to be manufactured under a Quality Assurance Program which meets the requirements of Appendix B to 10 CFR 50 and American Nuclear Standards Institute (ANSI) 45.2. Specifically:
 - a. The training requirements for QC inspectors at Siemens Allis was under preparation and, hence, incomplete.
 - b. ANSI 45.2.5 requirements for QC inspectors relative to visual acuity tests were not established or implemented.
 - c. Test records were not generated for time-dependent overcurrent trip devices mounted in CBs.
 - d. Final electrical tests were not performed on CBs intended for Nuclear Power Plants.
 - e. Inprocess inspections were performed on subassemblies and documented on inspection records. However, provisions were not established for traceability and retrievability.
2. Contrary to Criterion X of Appendix B to 10 CFR 50 and paragraph 2 of Section 10 of the QA manual, a test program was not established for the process of dedicating components received as commercial grade items from subvendors for use as safety related Class 1E components intended for installation in Nuclear Power Plants.

EXHIBIT 2

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INDUSTRIAL CONTROLS DIVISION
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3. Contrary to Criterion XVIII of Appendix B to 10 CFR 50, and paragraph 3C of section 1B of the QA manual, there was lack of documentation to show that Gould, Finksburg, pursued the resolution of adverse audit findings identified in letter QAL-820223 dated February 23, 1982, to Siemens Allis, Bellefontaine, Ohio.

C. UNRESOLVED ITEMS:

None.

D. STATUS OF PREVIOUS INSPECTION FINDINGS:

1. (Closed) Violation (81-01): Section 206 of the Energy Reorganization Act of 1974 and 10 CFR 50 Part 21 were not posted at the Westminister Operation. The inspector reviewed a letter dated February 6, 1982, from Gould to Region IV which stated that Gould Westminister supplied commercial grade items to Gould, Finksburg, which in turn dedicated the components as Class 1E at the point of receipt and that this was acceptable per paragraph 21.6 of 10 CFR Part 21. In response to this letter, RIV accepted the explanation and inquired whether Finksburg imposed additional design or specification requirements on Westminister. In a letter dated May 10, 1982, Gould, Finksburg, confirmed that additional design or specification requirements were not being imposed on the Westminister plant with respect to starters and contactors for nuclear safety-related equipment.

E. OTHER FINDINGS OR COMMENTS:

1. Introduction

Gould Inc., Finksburg, Maryland, currently assembles various components into motor control centers (MCCs). A sister plant, located in Westminister, Maryland, manufactures and supplies contactors for installation in the MCCs by the Finksburg facility. In 1976, Gould Inc. purchased ITE/Imperial (ITE). ITE manufactured a complete line of 480V and 4160V switchgear including accessories such as disconnect switches, relays and fuses. After a brief joint venture with Brown Boveri Corporation (BBC) in 1978/79, Gould separated from the joint venture, and BBC appears to have sold their interests to Siemens-Allis. Siemens-Allis (SA) now manufactures circuit breakers and switchgear components under the brand name of ITE Corporation and supplies them to Gould. Basically, the design of the breakers remained unchanged over the years during the transfers of ownership described above.

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2. Control of Purchased Material

The NRC inspector reviewed the process of the control of purchased material to determine compliance to 10 CFR 50 Appendix B Criterion VII. The inspector reviewed one purchase order each for spare circuit breakers and for a MCC. Purchase Order (PO) 13081-3-E007A from Bechtel to Gould requested the following 480 volt circuit breakers (CBs) for installation in Korean Nuclear Units 7 and 8:

- 5 circuit breakers type HS-3-M050
- 2 circuit breakers type HE-3-M015
- 6 circuit breakers type HE-3-W100
- 6 circuit breakers type BQ-1-M030

These POs were reviewed by the Contract Administrator (CA) because no engineering activity was involved. CA ascertains whether those CBs are in stock, and if not in stock, he initiates an Internal Requisition (IR) to ITE, Landover, Maryland. Quality Assurance (QA) reviews the IR to impose the necessary QA requirements by checking the appropriate boxes on the IR (e.g., industry standards, Certification of Conformance, compliance to 10 CFR 50 Appendix B, IEEE 323, IEEE 344, and 10 CFR Part 21). For this particular PO, all but three CBs type JL-3-W100 had to be purchased. A PO was prepared with the same requirements as the IR and forwarded to the central office of ITE Electrical Products, Landover, Maryland 20785. ITE forwards copies of the PO to the appropriate factory which manufactures the CB. In this specific instance, the PO was forwarded to Siemens-Allis Small Air Circuit Breaker (SACB) Division located in Philadelphia, Pennsylvania, which manufactures the breaker to the original ITE design. The Certificate of Conformance is issued on Gould letterhead stating that the CB meets the NEMA Standards.

The NRC inspector reviewed PO-827792 from Northeast Utilities (NU) dated October 25, 1983, to Brown Boveri Electric sales office in Connecticut, for the supply of two 480 MCCs designated as 2-7 and 2A-7. NU drawings SK 90183 MT S1 and SK 90183 MT S2 specified the MCC layout. Normal and abnormal environmental operating conditions were specified. The NRC inspector selected the following components used in the assembly of MCCs which were procured by Gould:

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4 CBs type FJ3-B125L
Starter Subassembly Size 1
Starter Subassembly Size 2
Cable Size #10 AWG
Cable Size #8 AWG

Gould POs S04366 and S06690 dated August 4 and January 5, 1984, respectively, to Okonite ordered several quantities each of #2, #4, #8 and #10 AWG, 480 volt black Okolon type Okonite cable. The POs specified that the cable should conform to IEEE-383 (fire-retardancy), IEEE-323 (environmental qualification), 10 CFR 50 Appendix B and 10 CFR Part 21. The inspector reviewed the Okonite Certification of Conformance, compared it with the actual cable being used and determined it acceptable.

PO S07034 dated January 26, 1984, was placed with SA SACB Philadelphia for the supply of 4 FJ3-B125L type CBs without specifying any quality requirements. Of the four CBs received at Gould, the QC receipt inspector rejected two of them and initiated a Nonconformance Report 1-2771 on August 6, 1984 identifying that the CBs were an incorrect type. The CBs received were FJ3-B125 type without the suffix L and do not have a vent on one side. Furthermore, the CBs with suffix "L" are rated for 22 kiloamperes interrupting capacity at 480 volts; without the suffix "L," the interrupting capacity of the CB is only 18 kiloamperes. The MCCs are in the Gould plant pending receipt and installation of the correct type of CBs. The NRC inspector determined that there was no requirement to perform electrical tests on these breakers prior to shipment. Nonconformance B.1.C was identified in this area.

3. Testing of MCCs

The inspector ascertained whether Gould tested the 480 volt MCCs intended for installation in Seabrook Nuclear Power Station to the requirements specified in United Engineer (UE&C) Specification 9763-006-143-1 by reviewing the Quality Assurance (QA) records and observing similar tests being performed in the plant on completed MCCs. The typical QA records consisted of:

Seismic qualification reports
Flame test reports from wire manufacturers
Environmental qualification certification to IEEE 323
Final inspection and test report
Statement of conformance
UE&C quality shipment
Storage and handling procedure

Electrical tests are performed on components such as CBs and contactors to verify that they function electrically under no-load conditions. Dielectric tests are performed on the completed MCCs. These tests are performed to Gould's documented procedures QAP 10 and 11, "Inspection of MCCs and Functional Testing of Components." The inspector observed identical electrical tests being performed in the plant on other MCCs. Individual load tests to verify the instantaneous overcurrent set points are not performed by Gould or their subvendors. The CBs are received as commercial grade items and are dedicated as Class 1E without additional tests. Nonconformance B.2 was identified in this area.

4. Review of Sub-vendor Audits

The inspector reviewed audits performed by Gould on their subvendor Siemens-Allis, Bellefontaine, Ohio, who manufactures and supplies circuit breakers (CB). Gould, Finksburg, conducted an audit of the ITE, Bellefontaine (now known as Siemens-Allis) QA program on February 17-18, 1982, and documented the following adverse findings in a letter (QAL-820223) dated February 23, 1982. For the sake of continuity, SA shall be used instead of ITE.

- a. Original drawings were not all approved by a management signature although there is a block for such a signature on each drawing.
- b. In the area of process and test documentation there is a lack of objective evidence of acceptance. It appeared that SA Bellefontaine was depending on Underwriter Laboratories (UL) records rather than those produced by SA personnel. The UL records were not available for review as a means of providing objective evidence of product or process acceptance.
- c. The auditors were unable to resolve questions regarding defects identified in the breakers. The NRC inspector reviewed several documents which indicated that Exxon Company, Saddle Brook, New Jersey, identified three HE 4 circuit breakers assembled in MCCs which malfunctioned. The 3-pole breakers intermittently single-phased (all three poles do not open or close simultaneously as required).

Gould, Finksburg, requested ITE Bellefontaine to respond to these problems by February 26, 1982. The NRC inspector could not find a formal response to this audit finding. An internal SA Bellefontaine memo dated March 3, 1982, stated that all three

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HE 4 CBs were examined and determined that only two of the three poles showed continuity. It appeared that the breakers functioned properly for a while and then developed problems. This occurred because the mechanism in one of the poles is not "togging-over" the movable contact blade. This was a production defect traced to a change in tooling. Gould, Finksburg, initiated a 10 CFR Part 21 report on this and notified several nuclear power plants. Gould, Finksburg, could not readily furnish the NRC inspector with a formal response to the audit finding from SA Bellefontaine.

The inspector informed the Gould representatives that the above is contrary to Criteria XVIII of 10 CFR 50 Appendix B and to paragraph 3.c of Section 18 of the Gould QA manual which states in part "Audit results shall be documented by auditing personnel and submitted to the Operations Manager, with action copy to responsible Department Managers. Cognizant managerial personnel shall investigate any adverse findings, schedule corrective action, including measures to prevent recurrence, and notify Operations Manager in writing of action planned or taken. The QA Manager shall advise the Operations Manager of the adequacy of audit responses and conduct follow-up action to verify implemented corrective action."

Nonconformance B.3 was identified in this area of the inspection.

5. Review of Siemens-Allis QA Program

Siemens-Allis (SA) located in Bellefontaine, Ohio, currently manufactures a line of 480 circuit breakers originally designed by ITE/ Gould and supplies them to Gould, Finksburg, Maryland. As stated in previous paragraphs, Gould POs to SA require compliance to a QA program which meets Appendix B to 10 CFR 50 and ANSI N45.2. The NRC inspector reviewed selected portions of the SA QA manual and determined the following.

- a. Visual Acuity Examination for QC Inspectors - The SA QA manual is under preparation and is incomplete in the area of training of QC inspectors. There was no requirement (ANSI 45.2.2) for visual acuity tests for QC inspectors.
- b. In-process Inspections - QC inspectors perform in-process inspections on subassemblies to ascertain whether the subassemblies meet the various attributes specified on the relevant drawings. The NRC inspector observed inspections

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made on a Load Terminal Assembly for an "E" frame circuit breaker (CB). The attributes were specified on drawing L-56414 dated December 5, 1983. One destructively tested specimen was available demonstrating that the weld process was acceptable. Inspection records were available at the work station. However, there were no provisions to retrieve these records after the work was completed and trace them to a CB series after the CBs were shipped.

Nonconformance B.1.e was identified in this area.

- c. Calibration - Review of calibration records of instruments selected during in-process inspections and observation of calibration stickers on individual measuring devices indicates that the control of measuring and test equipment was adequate and that the backup calibration records are traceable to the National Bureau of Standards.

No nonconformances were identified in this area.

- d. Testing of Overload Trip Devices - Overload devices were tested at various settings and some were stamped with a date code after the test. However, test certificates were not initiated for the devices.

Nonconformance B.1.c was identified in this area.

- e. Final Electrical Tests - Final electrical tests are not performed on the circuit breakers (CB) prior to shipment. The CBs are manufactured to meet the Underwriters Laboratories (UL) requirements; as such, the facilities are subjected to inspection by UL inspectors. SA personnel informed the inspector that a CB selected by UL is tested once in three months and test results are retained by UL. One of the adverse findings identified by Gould, Finksburg, in their 1982 audit of SA Bellefontaine was that SA does not have the UL test results.

Nonconformance B.1.d was identified in this area.

- f. Receipt Inspections - QC inspectors performed receipt inspections on incoming components from vendors. For components received from other Siemens-Allis manufacturing facilities located in Urbana and Marrysville, Ohio, no receipt inspections were being performed because the components were inspected prior to shipment. The QC inspection personnel located in Urbana and

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Marysville, report to the QA supervisor in SA Bellefontaine. The NRC inspector reviewed the documentation on the receipt inspections performed on handle rods used to operate circuit breakers. The receiving inspection sheet for inspecting handle rods indicates that the handle rods are manufactured and supplied by Quality Fabrication, East Lake, Ohio. The QC inspectors verified that the various quality attributes met those specified in the latest revision (Rev. G) of drawing L-56477. No unacceptable findings were identified. The checklist indicates the various purchase orders, date and quantity of pieces received, the sampling plan size and the results. The NRC inspector observed a receipt inspection in progress. The receipt inspector was inspecting a lot size of 12,000 pieces of contact pressure springs used in the assembly of single mechanical "E" frame circuit breakers. The attributes to inspect the spring were specified in drawing L-63927. Twist Inc. manufactured and supplied the springs. A "SATEC" Systems Inc. model ST-WCO was used to test the characteristics of the springs. The NRC inspector reviewed the various calibration records of the measuring devices and determined them acceptable. Starrett provided a certificate of inspection dated February 6, 1984, that the Jo blocks (used by ITE to calibrate their gauges) were calibrated to standards which were traceable to the National Bureau of Standards.

No nonconformances were identified in this area of the inspection.

INSPECTOR DeTosino - Alardo
 SCOPE _____

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DOCUMENTS EXAMINED

ITEM NO.	TYPE OF DOCUMENT	DOCUMENT NO.	REV.	DATE	TITLE / SUBJECT
1	SPEC	143-1 976.3-006	9	9/17/84	IEEE Spec for 460 Volt DMC for Public Service Corp. of New Hampshire - Seabrook
2	QAM	N/A	6	9/14/83	Gould - Industrial Control Division System Operation - Westborough, MA (Seabrook)
3	SPEC	1063-031			
4	PR	1063-031		11/17/84	
5	PR	1063-031	4	11/17/84	Connections per Annex A-B1
6	P.O.	S 10510	NA	8/24/84	Gould To ITE Electrical Products - Andover, MA
7	P.R.	R 102193	NA	8/23/84	For PO 10510 Connected
8	PO	S 10246	NA	8/15/84	Gould To ITE Elcat - Nuclear IE
9	P.R.	R 111793	NA	8/14/84	For PO 10246 - Nuclear IE
10	SPEC	111793			
11	PR	111793	13		See comments for 111793 - Nuclear IE
12	PO	S 10661	NA	9/7/84	WEP's I need a Gould To IE Nuclear IE S-2A3-T150
13	PR	R 112310	NA	8/30/84	For PO 10661
14	P.O.	S 10864	NA	9/14/84	Gould To ITE Nuclear IE for 10864 "BQ3B015" (open order)
15	PR	R 112320	NA	9/14/84	For PO 10864

TYPE OF DOC:
 DWG - DRAWING
 SPEC - SPECIFICATION
 PRO - PROCEDURE
 QAM - QA MANUAL
 QCD - QC DOCUMENT
 P.O. - PURCHASE ORDER

LTR - LETTER
 PR - Per Letter Request

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INSPECTOR Nilda Perkins

SCOPE _____

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TYPE OF DOCUMENT	DOCUMENT NO.	REV.	DATE	TITLE / SUBJECT
PO	S 10895	74	9/22/84	Guid To ITC Electrical Products Nuclear 1E
PR	R 112436	74	9/10/84	For PO 10895 Nuclear 1E For 1 FJ3-8080 DR
PO	S 11391	74	9/17/84	Guid To ITC Nuclear 1E G EF3-A010 DR
PR	R 112982	74	10/10/84	For PO 11391 Nuclear 1E
PO	S 11482	74	10/14/84	Guid To ITC - Nuclear 1E - 2 Sw. E 22-5100
PR	R 113157	74	10/20/84	For 11482 " " 2 Sw. FJ2-5225
PO	S 11399	74	10/17/84	" " Nuclear 1E 5-802-8090
PR	R 112981	74	10/14/84	For 11399 Nuclear 1E
PR		5		
PR		5		
Test Repl	SNH-175 9163-08-1007			TEST Reports for MCCs 1-EDE-MCC-515 MCC-615
GH				
	11135			

TYPE OF DOC :

- DWG - DRAWING
- SPEC - SPECIFICATION
- PRO - PROCEDURE
- QA - QA MANUAL
- QC - QC DOCUMENT
- P.O. - PURCHASE ORDER

- LYR - LETTER
- PR - Purchase Requisition
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-
-

INSPECTOR R. A. ...

Bellevue Plant

DOCKET NO. 999-00-279

SCOPE 6 hrs. ...

DOCUMENTS EXAMINED AT

SIEMENS-ALLIS, Bellefontaine OHIO

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ITEM NO.	TYPE OF DOCUMENT	DOCUMENT NO.	REV.	DATE	TITLE / SUBJECT
1	QA	00		8/14/84	Supply of ...
2	QAP	001		8/14/84	...
3	QAP	002		8/14/84	...
4	QAP	003		8/14/84	...
5	QAP	400		8/14/84	...
6	QAP	004		8/14/84	...
7	QAP	005		8/14/84	...
8	QAP	500		8/14/84	...
9	QAP	006		8/14/84	...
10	QAP	007		8/14/84	...
11	QAP	008		8/14/84	...
12	QC	100		8/14/84	...

TYPE OF DOC:

DWG - DRAWING

SPEC - SPECIFICATION

PRO - PROCEDURE

QAM - QA MANUAL

QCD - QC DOCUMENT

LTR - LETTER



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

December 31, 1985

Docket No. 99901011/84-01

Telemecanique, Incorporated
ATTN: Mr. J. V. Erhardt
Vice President
Engineering Control Operation
2002 Bethel Road
Westminister, Maryland 21157

Gentlemen:

Thank you for your letters dated May 15, 1985 and July 23, 1985, responding to the noncompliances identified in our Inspection Report 99900279/84-01. Please note that we assigned a new docket number to correspond with your recent change of name and ownership.

Your response to the nonconformances is unacceptable. Owners of nuclear power plants and their representatives audit you for compliance with 10 CFR 50 Appendix B to assure that the Motor Control Centers supplied by you meet all applicable technical and quality requirements. During these audits, they assess the effectiveness of your control of contractors and subcontractors by reviewing purchase orders issued to your subvendors for compliance with all the technical and quality requirements imposed on you. We disagree with your interpretation of the applicability of 10 CFR Part 21 and 10 CFR 50 Appendix B requirements to your subvendors. You have failed to convey the quality requirements imposed on you to your subcontractors. Please note that the definition in 10 CFR Part 21, Section 21.3, of a commercial grade item states that it is not part of a basic component until after dedication. Dedication involves adequate evaluation of the item for safety-related purposes which includes a determination that it will meet appropriate technical and seismic requirements. Also, the quality program of suppliers of commercial grade or off-the-shelf items for use in safety-related applications must meet the intent of pertinent requirements of 10 CFR 50 Appendix B in order to maintain the qualification of previously tested equipment or you, as the purchaser and dedicator, must test and inspect each item to assure that each item will meet the technical and seismic requirements. Although you have stated that "Siemens-Allis chose to maintain a quality assurance program considered adequate to assure compliance to the industry standards for their products," the following examples would indicate that this method of assuring quality has been ineffective.

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1. Problems Noted at Nuclear Power Plants

- a. Seabrook Nuclear Power Station (SNPS) informed the NRC in a letter dated May 17, 1982, that all three poles of molded case, 100 ampere Frames, E2, E4, F6, HE4 and HE6 circuit breakers, manufactured by Siemens-Allis, Bellefontaine, Ohio, failed to simultaneously close when switched from "OFF" to "ON" position.
- b. During an inspection conducted at SNPS in November 1984, our inspectors determined that SNPS identified several nonconforming conditions in Motor Control Centers (MCCs) manufactured by you. These inspection results substantiate our position that the tests performed by you on the assembled MCCs are inadequate.
- c. Shearon Harris Nuclear Power Plant (SHNPP) reported to the NRC on January 22, 1985, that binding was experienced in the two-speed starter mechanical interlocks which prevent low speed operation of fan coolers. It was stated that due to variations in tolerance, the vertical interlock installed between the tie contactor and the corresponding starter was binding, preventing the full transfer between the high and low speed. In an attempt to go from high speed to low speed the low speed contactor would be prevented from closing, and would prevent the motors from performing their safety function of driving fan cooler units that are needed to provide de-humidification and air-mixing of the containment atmosphere.

Callaway Nuclear Power Plant reported similar problems in size 5, two-speed starters for Containment Cooling Fan Motors on April 10, 1984.

- d. Recently, NRC inspectors reviewed a purchase order N-29326, dated March 18, 1985, issued by Portland General Electric Company (PGE) for the supply of 4 class 1E JL-3-T225 circuit breaker trip units. The ITE catalogue indicates that the JL-3-T225 unit is equipped with both 225 ampere thermal overloads and 2000 ampere instantaneous overcurrent elements. Even though the purchase order was addressed to ITE, you supplied the trip units along with a certificate of conformance (COC) stating that the trip units meet the published technical trip data. When PGE tested these trip units, they discovered that the thermal overcurrent trip elements were not installed in the trip units. It appears that your dedication process for upgrading commercial grade items to nuclear grade is inadequate or nonexistent.

December 31, 1985

2. Problems Noted at the Vendor Facilities

- a. ITE - Imperial, who originally manufactured molded case circuit breakers and qualified one of the circuit breakers in the early 1970s, implemented a quality assurance program complying with 10 CFR 50 Appendix B to assure that all subsequent circuit breakers produced would meet or exceed the performance and quality of the original circuit breakers. The circuit breaker manufacturing facility has changed ownership twice since then.

However, as stated in your letter dated May 15, 1985, Siemens-Allis does not implement a quality assurance program complying to 10 CFR 50 Appendix B and, therefore, cannot assure that the performance and quality of the circuit breakers will meet or exceed the original requirements.

- b. The molded case circuit breakers, installed in the motor control centers supplied by you, are required to trip when instantaneous overcurrents are sensed within the time published in the time-current curves. Power plants are required to periodically verify that the circuit breakers meet the time-current characteristics to assure the integrity of the relay coordination necessary to meet General Design Criteria 18 and 21 of 10 CFR 50 Appendix A. Single failure criteria may be jeopardized if circuit breakers installed in MCCs fail to trip within the stipulated time.
- c. The published data indicate that the circuit breakers are capable of interrupting current in the magnitude of 12,000 amperes which is much more than the maximum instantaneous magnetic trip of 1000 amperes for sizes 40-100 ampere frame breakers. It therefore does not appear that circuit breakers would be damaged during an upper instantaneous trip limit verification.

In view of the above examples, we do not agree with your stated position that the quality control measures you have implemented are adequate.

Please notify us, in writing, of the steps you intend to take to correct the nonconformances identified in our report 85-01.

Sincerely,



Gary G. Zech, Chief
Vendor Program Branch
Division of Quality Assurance, Vendor and
Technical Training Center Programs
Office of Inspection and Enforcement

December 31, 1985

*Zech - should we
send this to the
Regions & to
affected plants?
BJ*

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May 15, 1985

Mr. Ron Houghton

RECEIVED

MAY 23 1985

United States Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. Gary G. Zech, Chief
Vendor Program Branch
Division of Quality Assurance, Vendor
and Technical Training Center Programs
Office of Inspection and Enforcement

Reference: Your letter of March 7, 1985
Docket No. 99900279/84-01

Gentlemen:

Find as Attachment #1, our answer to the three (3) nonconformances listed in Appendix A of your letter of March 7, 1985.

Should you have any questions concerning these answers, we will be pleased to review them with you.

Sincerely,

J. V. Erhardt
J. V. Erhardt
Vice President, Engineered Controls Operation

JVE/nd

cc: Michael C. Veysey, Gould, Business Section Legal Counsel
Robert L. Harris, Telemecanique Inc., President

Attachments

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JH

ATTACHMENT #1

- A. Compliance to 10CFR50 APP B requirements was contractual invoked in Gould, Inc., ICD, Systems Operation purchase orders for the procurement of all NUCLEAR IE designed and manufactured items. Suppliers of COMMERCIAL GRADE items were required to meet applicable 10CFR50 APP B requirements only to the extent of assuring that the items provided met the design and test requirements of the cited industry standards.

This procedure was based upon a just interpretation of this federal regulation's applicability. Since Siemens-Allis (formerly Gould) Bellefontaine, is a supplier of only COMMERCIAL GRADE items, this facility was and is exempted from compliance to 10CFR50 APP B. Gould Corporate did not choose to require any Gould facility to comply with 10CFR50 APP B except those providing BASIC COMPONENTS to nuclear facilities. Thereafter, Siemens-Allis chose to maintain a Quality Program considered adequate to assure compliance to the industry standards for their products.

Violation of federal requirements is not acknowledged.

- B. As recommended by NEMA AB1 (1981), paragraph 2.38 titled "Field Tests", molded case circuit breakers are checked to determine that they will perform their intended function using the following procedures for new circuit breakers:

- /1/ Inspect the breaker visually for physical damage.
- /2/ Perform several mechanical ON-OFF operations.
- /3/ Make a circuit continuity check on each pole with the circuit breaker in the closed position.

Additionally, circuit breakers are subjected to dielectric withstand test per NEMA ICS 1-109 after installation in a BASIC COMPONENT and are qualified seismically and environmentally prior to use in any nuclear application.

Circuit breakers are not overload tested after installation in a BASIC COMPONENT fundamentally because overload tests are Design Tests and not Production Tests.

NEMA AB1-2.38 Field Tests (NEMA AB-1 1981) states "On occasion, molded case circuit breakers of the time - delay/instantaneous type are checked to determine that they will perform their intended function of protecting electrical conductors against overloads. For this purpose, the following procedure is recommended:

1. New Circuit Breakers (A check for possible damage during shipment or storage.)
 - a. Inspect the breaker visually for physical damage.
 - b. Perform several mechanical ON-OFF operations.
 - c. Make a circuit continuity check on each pole with the circuit breaker in the closed position.
 - d. If desired, apply 300 percent of breaker rated continuous current to each pole to determine that the circuit breaker will trip on an overload. See Table 2-8, Page 22.

B. Continued....

No where does NEMA recommend that breakers be 100% tested to verify their performance under overload. In addition, NEMA AB1-2.38 does not recommend that the instantaneous magnetic portion of the breaker be tested.

Testing the breaker in the current level areas of the instantaneous magnetic trip will subject the circuit breaker to low fault level short circuits. NEMA Publication ICS.2.3 Section 11 Page 13 (1983) indicates, "If it is suspected that the circuit breaker has opened several short circuits or if there are signs of possible deterioration, replace the breaker or subject it to the test described in paragraph AB1-2.38.... before restoring it to service."

Subjecting circuit breakers to repeated low level short circuits will introduce the above cited conditions and thereby introducing repeated testing of the circuit breakers, therefore will create an uncertainty relative to the operation of the circuit breaker.

Telemecanique Inc. will continue to perform the overload test and instantaneous trip verification test when the end user specifically requires such test. Telemecanique Inc. does not believe it is in the best interest to have circuit breakers tested above and beyond the testing performed by the user in the field and will continue to abide by the current NEMA standard.

TE sees no violation of 10CFR50 APP B in relation to past or current procedures in regard to inspection and test.

- C. Correspondence has been initiated to Operations Manager, ITE Electrical Products, Bellefontaine, Ohio requesting response to corrective action requested in Audit Report 820203, AFR#1, initially requested by letter QAL-820223 for 23 February 1982.