



Science and Technology for a Safer World

SCIENTECH, Inc., is a worldwide technology and services company offering utilities, government and industry the products and skills of highly experienced personnel, focused to benefit customers through the use of network technology.

SCIENTECH prides itself on assured performance, employee expertise, ethics, and continuous performance improvement. The Company is fully committed to providing its customers with the services and technology to allow them to excel in a fast-changing and challenging world.

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TELEFAX TRANSMITTAL

Date: February 15, 2003

FROM: Martin R. Booska

TO: Document Control Desk

Organization: US Nuclear Regulatory Commission

City/State: Washington DC, 20555

Fax No.: 21-03-01-02

Total Pages 9 (Including this page)

COMMENTS: Follow-up Report, Reference Event # 39516

This is the follow-up fax report to the USNRC of a potential defect under the provisions of 10 CFR Part 21. The preliminary report was filed on January 16, 2003. Potentially affected clients are being provided a copy of this report as indicated below.

The following Fax addressees are requested to forward this information to the appropriate internal organizations where shown in the attached list.

Analysis and Measurement Services, QA Manager, Dan Beverly, Fax # 865-691-9344
Carolina Power and Light (Progress Energy) Buyer, Fax # 919-546-6750
Constellation – Nine Mile Point, Procurement QA Supervisor Fax # 315-349-7957
Dominion – Millstone, Manager – Nuclear Safety Engineering, Fax # 860-437-5802 Procurement
Entergy – James A. Fitzpatrick, Attn. Dan Doherty – Purchasing. Fax # 315-349-6059
Entergy – Indian Point 2 & 3, Purchasing, Fax # 914-736-8138
Entergy – Pilgrim, Purchasing Fax # 508-830-8880
First Energy - Beaver Valley Power Station, Purchasing, Fax # 724-682-7850
Public Service Electric and Gas, Procurement Assessment Manager, Fax # 856-339-7707
Rochester Gas and Electric, Quality Assurance Manager, Purchasing Fax # 585-771-3907
NMC Kewaunee Site Procurement Engineering Organization, Buyer Fax # 920-388-8772

IE19



440 West Broadway, Idaho Falls, Idaho 83402-3638 Main Phone 208-524-9200, Fax 208-524-9282

February 15, 2003

NRC Operations Center
Document Control Desk
US Nuclear Regulatory Commission
Washington DC, 20555

Subject: Determination of Defect under 10CFR Part 21
Reference: Event # 39516

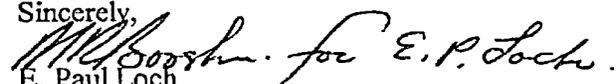
Dear Sir or Madam:

The NRC Operations Center was sent a preliminary notification by facsimile on January 16, 2003, indicating that SCIENTECH, Inc.'s subsidiary, NUS Instruments, Inc. (NUSI) had determined that a Basic Component, supplied in one safety related CMM900 module to Constellation-Nine Mile Point (P.O. #00-31440) contained a defect that was reportable under 10CFR21 (Two other modules supplied to Entergy-Fitzpatrick listed in preliminary notification were later discovered to be non-safety related). Additionally, NUSI determined that other clients had been supplied assemblies containing components that may contain similar defects. NUSI has notified all affected clients as stated in the preliminary report.

The NUSI evaluation determined that there was not a significant safety hazard to the functionality of the modules, however; the utilities were given the affected module ID numbers to determine the safety hazard specific to their application. Client feedback has indicated that there is not a significant safety hazard due to this defect, however it is utility specific.

Enclosed please find SCIENTECH Inc.'s subsidiary NUS Instruments, Inc. (NUSI) formal report as a follow up to the preliminary notice.

If you have questions or comments, please feel free to contact us at the numbers listed below.

Sincerely,

E. Paul Loch
President & CEO
(407) 333-8895 (ploch@scientech.com)

Martin R. Booska 
Director of Quality Operations
(301) 334-2352 (mbooska@scientech.com)



**10 CFR PART 21 REPORTING FORM
FOR REPORTING OF DEFECTS AND NONCOMPLIANCE
NOTIFICATION #21-03-01 EVENT # 39516**

NAME AND ADDRESS OF REPORTING INDIVIDUAL(S) OR ORGANIZATIONS.

Paul Loch, President SCIENTECH, Inc.
SCIENTECH, Inc.-Presidents Office
2124 Silver Leaf Court
Longwood, FL 32779-2757

Phone: 407-333-8895
Fax: 407-333-0735
E-mail: ploch@scientech.com

FACILITY, COMPONENT AND/OR PRODUCT THAT IS NONCOMPLIANT.

The facility is Constellation – Nine Mile Point (Formerly Niagara Mohawk).

The component is a CMM900 module, P/N: NUS-A004PA-1, Revision 0, containing Texas Instruments operational amplifier, P/N: OPA2111.

SUPPLYING FIRM IDENTIFICATION (NAME, ADDRESS).

NUS Instruments
440 West Broadway
Idaho Falls, Idaho 83402

NATURE OF THE DEFECT, ASSOCIATED SAFETY HAZARD, AND THE DATE THIS INFORMATION WAS OBTAINED.

Three modules containing Texas Instruments (TI) OPA2111 operational amplifiers were returned to NUSI after suffering premature failures in the field. The components were supplied in two non-safety related CMM900 modules to Entergy-Fitzpatrick (P.O. #4500510231) and one safety related CMM900 module to Constellation-Nine Mile Point (P.O. #00-31440). The components were sent to TI for failure analysis and TI concluded that a manufacturing process defect existed in the amplifier that could result in a premature failure. After NUSI Engineering performed an analysis of the TI information and determined that the condition was potentially reportable for the safety related module, a 10 CFR Part 21 file was logged and numbered 21-03-01 on January 9.

Based on information received from Texas Instruments regarding the operational amplifier manufacturing process problems, the date codes of the potentially defective amplifiers are between January of 2000 and October of 2002. Based on detailed evaluations, NUSI and Texas Instruments have determined that the components are unlikely to fail if they have been in operation beyond two weeks. After two weeks the failure rate is no greater than that of a random failure. Since the one Safety related module supplied to Constellation-Nine Mile Point had been in operation for over seven weeks, it is considered to be in a random failure category and therefore, does not create a substantial safety hazard. No other failures of safety related class 1E modules containing the potentially defective amplifier have been reported to NUSI.

Three other components (part numbers OPA111 OPA404, and 3656) have been identified by Texas Instruments as utilizing the same manufacturing process as the OPA2111 component.

However, NUSI clients have not reported any failures of modules containing those amplifier part numbers.

NUSI's detailed evaluation determined that because the failure of the safety related CMM900 module supplied to Constellation-Nine Mile Point was a random failure (module had been in operation for over seven weeks) there was not a significant safety hazard to the functionality of the modules. However the utilities that had been supplied IE modules containing the potentially defective amplifiers were given the affected module ID numbers to enable them to determine the safety hazard specific to their application. Client feedback as of this date has indicated that there is not a significant safety hazard due to this defect.

THE NUMBER AND LOCATION OF ALL SUCH COMPONENTS IN USE AT, SUPPLIED FOR, OR BEING SUPPLIED TO ONE OR MORE FACILITIES SUBJECT TO 10 CFR 21.

NUSI determined that there were approximately 300 modules at 9 utilities that have the one of the three above listed amplifiers installed. A list of affected IE modules was faxed to the applicable points of contact at each of the utilities.

CORRECTIVE ACTION, WHICH HAS BEEN, IS BEING, OR SHOULD BE TAKEN, INCLUDING RESPONSIBLE PARTIES AND AN ESTIMATE OF TIME INVOLVED.

Corrective Action:

- The suspect components located within NUSI that contain the January of 2000 through October of 2002 date codes have been tagged with a conditional release. If the components are installed, the assembly will have a mandatory two-week burn-in to induce any failures that may be premature. For induced failures, the component will be replaced with one previously tested by the supplier, or with a component from a known good lot.
- TI has performed an over voltage stress test (OVST) on 350 of the OPA2111 components with the January 2000 through October 2002 date codes and will continue to provide OVST components from this lot as they become available. This testing is equivalent to a two-week burn-in and will be installed by NUSI as available until inventory can be replaced with known good date codes.
- Clients have been advised that applicable IE modules that have not been installed longer than two weeks may be returned to NUSI for an additional two-week burn-in or the utility may elect to perform the bench burn-in on site.
- Technical Bulletin, Volume 04, was issued January 21, 2003 to all IE affected clients to the attention of the technical point of contact to provide awareness of the component issue and details of client actions to be taken.

Corrective Action to Prevent Recurrence:

A statement will be added to all future purchase orders to TI and TI suppliers, indicating that components, OPA2111, OPA404, OPA111, and 3656 that were manufactured between January of 2000 and October of 2002 are not to be sent to NUSI. This will be validated at the receipt inspection process.

COMMENTS OR ADVICE THAT SHOULD BE GIVEN TO OTHER PURCHASERS OR LICENSEES.

See attached Technical Bulletin supplied to utilities.

POTENTIALLY AFFECTED CLIENTS FOR 10CFR PART 21 REPORTABILITY

#21-03-01

Page 1 of 2

Analysis and Measurement ServicesContact: QA Manager, Dan Beverly
Fax #865-691-9344**Carolina Power and Light (Progress Energy)**Progress Energy
Manager – Nuclear Licensing
Box 1551
Raleigh, North Carolina 27602Progress Energy
Department Manager
Brunswick Nuclear Project
NC Highway 87, Box 10429
Southport, North Carolina 28461Progress Energy
Department Manager
Harris Nuclear Project
State Road 1134, Box 165
New Hill, North Carolina 27562
Fax # 919-546-6750 (Buyer Fax #)Progress Energy
Department Manager
Robinson Nuclear Project
SC HWY. 151 & 23, Box 790
Hartsville, South Carolina 29550Progress Energy
Department Manager
Crystal River 3 Nuclear Project
15760 W Power Line St
Crystal River, Florida 34228**Constellation – Nine Mile Point (Formerly Niagara Mohawk)**Procurement Quality Assurance Supervisor
PO Box 63
Lycoming, NY 13093
Fax # (315-349-7957 Procurement)**Dominion – Millstone**Dominion Nuclear Connecticut
Millstone Power Station
PO Box 128
Waterford, CT 06385
Attn: Manager – Nuclear Safety Engineering, (860-437-5802 Procurement Fax #)**Entergy – James A. Fitzpatrick**P.O. Box 110
268 Lake Road East
Lycoming, NY 13093
Attn. Dan Doherty – Purchasing. (Fax # 315-349-6059 Purchasing)**Entergy – Indian Point 2 & 3**Indian Point Energy Center
P.O. Box 308
295 Broadway, Suite 1
Buchanan, NY 10511
IP3 Fax #914-736-8138 (Purchasing)

POTENTIALLY AFFECTED CLIENTS FOR 10CFR PART 21 REPORTABILITY
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Entergy – Pilgrim
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, MA 02360
Fax # 508-830-8880 (Purchasing)

First Energy
Beaver Valley Power Station
P.O. Box 4
Shippingport, PA 15077
Attn:
Fax # 724-682-7850 (Purchasing)
Please Forward to Manager of Nuclear Services and Manager of Licensing

Public Service Electric and Gas
Procurement Assessment Manager, Fax #856-339-7707
PSE&G
P.O. Box 236
Hancocks Bridge, NJ 08038
Mail Code W04

Rochester Gas and Electric
Quality Assurance Manager
Rochester Gas and Electric Corporation
1503 Lake Road
Ontario, New York 14519
Fax # 585-771-3907 (Purchasing)

NMC (Formerly Wisconsin Public Service Corporation)
Sites Procurement Engineering Organization
NMC Kewaunee
Kewaunee Nuclear Power Plant
North 490, Hwy 42
Kewaunee, WI 54216-9510
Fax #920-388-8772 (Buyer)

NUS Instruments

TECHNICAL BULLETIN

Volume 04

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Attachment to Final Report 21-03-01 Event # 39516

Component Advisory

January 21, 2003

TO: All Affected Clients

FROM: NUS Instruments, Inc.
440 W. Broadway
Idaho Falls, ID 83402

SUBJECT: Notice of premature failure of OPA2111KP and related Burr
Brown Amplifiers (Texas Instruments (TI)):
p/n: *OPA2111KP, OPA404AG, OPA111BM, 3656BG*

NUSI TECHNICAL POINT OF CONTACT: Jim Siedelmann (208) 529-1000
Senior Engineer

INFORMATION PROVIDED IN THIS BULLETIN:

- Summary of the technical issue
- Recommended Customer Actions for modules on-site
- Affected customers, model numbers/serial numbers for affected NUSI modules
- Technical Background to the nature and statistics related to this issue to assist customers in assessing the impact of this issue in their module

SUMMARY:

A vendor process fabrication problem has been identified in components (listed above) used by NUSI Instruments (NUSI) in the manufacture of some instruments. This bulletin is intended to notify both 1E and non-1E NUSI customers of the implications of this process problem on modules supplied by NUSI. Customers need to determine the extent of any safety hazard based upon their specific applications.

NUSI has reported this issue using the 10CFR Part 21 notification process and is preparing a final report (February 9, 2003). All information included in this bulletin is released as preliminary and subject to revision in the final report.

There are three known failures of the OPA2111KP chip contained in NUSI instruments. No other known failures have been reported using any of the other listed components (OPA404AG, OPA111BM, 3656BG).

RECOMMENDED CUSTOMER ACTIONS:

Because the potential failure mode is associated with voltage applied and time in operation, it has been determined by NUSI and TI that an extended burn-in period of 2 weeks would screen premature failure and shift the possibility of failure into a random category with the same failure probability as an unaffected part.

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Attachment to Final Report 21-03-01 Event # 39516

RECOMMENDED CUSTOMER ACTIONS: (continued)

NUSI recommends the following customer action.

- **Modules in operation for periods greater than 2 weeks:**
If all modes of module operation have been verified as functional during plant calibration checks, NUSI in conjunction with TI recommends customers take no further action.
- **Modules not in operation for periods greater than 2 weeks:**
Perform bench burn-in per the instructions provided in Attachment 2.

AFFECTED PURCHASE PERIOD: January 1, 2000 to December 31, 2002**AFFECTED CUSTOMERS:** See Attachment 1**AFFECTED NUSI MODULES: KNOWN FAILURES**

(contains OPA2111KP only) The following list includes safety related equipment.

- CMM900 Module, Part Number NUS-A004PA-1

POTENTIALLY AFFECTED NUSI MODULES: NO KNOWN FAILURES

(contains both OPA2111KP and 3656BG). The following list includes safety related equipment.

- Lead/Lag Modules: TMD500, TMD900
- Simple Math Modules: MTH500, MTH800, MTH801, MTH9000
- Complex Math Modules: CMM500, CMM801, CMM900
- Function Generators: GFN801, GEN900
- Selector: HLM801, HLS500

POTENTIALLY AFFECTED NUSI MODULES: NO KNOWN FAILURES

(contains 3656BG only). The following list includes safety related equipment.

- Dual Alarm modules: DAM502, DAM503, DAM800, DAM801
- Single Alarm modules: SAM801
- Isolators: ECA600, FCA300, FCA501, FCA502, FIA351, OCA801, SCA100
- Repeaters: PIR500

POTENTIALLY AFFECTED NUSI MODULES: NO KNOWN FAILURES

(contains OPA2111KP only). The following list includes non-safety related equipment.

- AMS700
- PIDA700
- PID900-540-01
- PID900-543-04

Information Available:Attachment 1: Affected Customers and Model and Serial numbers for Affected Modules
Attachment 2: NUSI Letter NUS-JS-03-002