

General Information or Other (PAR)

Event # 36627

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|--|--------------------------------------|---|--|
| Rep Org: SOLIDSTATE CONTROLS, INC. | | Notification Date / Time: 01/26/2000 16:11 (EST) | |
| Supplier: SOLIDSTATE CONTROLS, INC. | | Event Date / Time: 01/21/2000 (EST) | |
| Last Modification: 01/26/2000 | | | |
| Region: 3 | Docket #: | | |
| City: COLUMBUS | Agreement State: Yes | | |
| County: | License #: | | |
| State: OH | | | |
| NRC Notified by: W. G. HAMPTON | Notifications: MONTE PHILLIPS | R3 | |
| HQ Ops Officer: FANGIE JONES | JOHN ROGGE | R1 | |
| Emergency Class: NON EMERGENCY | CAUDLE JULIAN | R2 | |
| 10 CFR Section: | GAIL GOOD | R4 | |
| 21.21 UNSPECIFIED PARAGRAPH | VERN HODGE (fax) | NRR | |

10 CFR 21 - POTENTIAL DEFECT INVOLVING STATIC SWITCH CONTROL ASSEMBLY AND REGULATED RECTIFIER CONTROL ASSEMBLY USED IN AN UNINTERRUPTIBLE POWER SYSTEM

This reports a potential for a defect in Static Switch Control assemblies and Regulated Rectifier Control assemblies used in Uninterruptible Power Systems manufactured under the Solidstate Controls, Inc., 10CFR50 Appendix B Program.

Each of the plants has been notified of this report and requested to return the affected assemblies for replacement. The following plants have affected components: Indian Point 2, Catawba, Oconee, Arkansas Nuclear One, Waterford 3, Crystal River, Diablo Canyon, Sequoyah, and Surry.

The problem is associated with a component part - Unijunction Transistor, part number 03-650007-00, that has been found to sometimes cause random, sporadic transfers of the static switch due to a higher level of sensitivity to noise spikes on the input line or cause the regulated rectifier to output a higher DC voltage. This increase in sensitivity will not cause the system to drop power to the load, if the alternate source is not available the static switch will not transfer, continuing to protect the load.

IE19



**SOLIDSTATE
CONTROLS, INC.**

The Power to Keep Businesses in Business

January 26, 2000

VIA FAX 301-816-5151
(7 pages total)

US Nuclear Regulatory Commission
Document Control Desk
Washington DC 20555

Subject: 10 CFR 21 NOTIFICATION – POTENTIAL DEFECT INVOLVING STATIC
SWITCH CONTROL ASSEMBLY AND REGULATED RECTIFIER
CONTROL ASSEMBLY USED IN AN UNINTERRUPTABLE POWER
SYSTEM

The attached 10CFR21.21 record, Attachment A, is submitted to report a potential for a defect in Static Switch Control assemblies and Regulated Rectifier Control assemblies used in Uninterruptable Power Systems manufactured under the Solidstate Controls, Inc., 10CFR50 Appendix B Program.

Each of the plants, as indicated in the attached reporting, has been notified of this report and requested to return the affected assemblies for replacement. Attachment B is a typical notification letter that has been provided to our clients.

Sincerely,
SOLIDSTATE CONTROLS, INC.

W. G. Hampton
Director Quality Assurance

WGH/UJT NRC 10CFR21 NOTIFICATION



The Power to Keep Businesses in Business

Attachment A
January 26, 2000

10 CFR 21 NOTIFICATION – POTENTIAL DEFECT INVOLVING STATIC SWITCH CONTROL ASSEMBLY AND REGULATED RECTIFIER CONTROL ASSEMBLY USED IN UNINTERRUPTABLE POWER SYSTEM

1. Identification of the individual and firm informing the commission:

William G. Hampton
Director, Quality Assurance

Solidstate Controls, Inc.
875 Dearborn Drive
Columbus OH 43085

2. Identification of the facility and basic component involved:

Affected parts were manufactured between June 1998 and middle April 1999.

| <u>COMPANY - PLANT</u> | <u>PART NUMBERS</u> | <u>QTY</u> | <u>SERIAL NO.</u> |
|--|---------------------|------------|--------------------|
| Consolidated Edison – Indian Point 2 | 80-9210723-90 | 3 | 101-103 |
| Duke Energy – Catawba | 80-9212635-90 | 1 | 144 |
| – Oconnee | 80-9212637-90 | 1 | 115 |
| Entergy Operations, Inc. – Arkansas Nuclear One | 80-9212635-90 | 1 | 166 |
| – Waterford 3 | 80-9212622-90 | 1 | 37 |
| | 80-9212623-90 | 1 | 22 |
| | 80-9212642-90 | 2 | 100, 101 |
| Florida Power Corp. – Crystal River | 80-9212635-90 | 10 | 145-154 |
| Pacific Gas & Electric – Diablo Canyon | 80-9212635-90 | 1 | 164 |
| Tennessee Valley Authority – Sequoyah | 80-9210923-90 | 5 | 319-321, 325, 326 |
| Virginia Power – Surry | 80-9212635-90 | 4 | 143, 162, 163, 165 |



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Attachment A

3. Identification of the firm supplying the basic component:

Solidstate Controls, Inc.
875 Dearborn Drive
Columbus OH 43085

4. Nature of the defect:

PROBLEM SEEN: The above assembly contains a component part - Unijunction Transistor, part number 03-650007-00, that has been found to sometimes cause random, sporadic transfers of the static switch due to a higher level of sensitivity to noise spikes on the input line. Or, cause the regulated rectifier to output a higher DC voltage.

CAUSE: We have determined that one specific manufacturer lot of part number 03-650007-00 results in the higher sensitivity, namely, MicroSemiconductor Inc., lot 807. This particular lot has a lower firing threshold than other lots and manufacturers while still meeting specification requirements, resulting in a sensitivity to lower voltage levels making the circuit switch as if it is losing voltage, and activating the static switch to transfer to the alternate or bypass source. For the regulated rectifier, activation of the gate control circuit to the silicon controlled rectifiers (SCR) sooner than desired.

EFFECT ON SYSTEM PERFORMANCE: Static Switch Control Assembly - **THE INCREASED SENSITIVITY WILL NOT CAUSE THE SYSTEM TO DROP POWER TO THE LOAD.** If the alternate source or bypass source is not available the static switch will not transfer, continuing to protect the load. Regulated Rectifier Control Assembly - The increased sensitivity may result in an increased DC output voltage, increased ripple voltage in the DC output, and a reduction in the ability to adjust the output voltage below 120/240 VDC.

5. Date the defect was discovered to effect a basic component:

The determination that a defect affected a basic component resulted from a problem reported by PG&E, Diablo Canyon Plant and subsequent return, testing and verification of the problem as reported and detailed investigation on January 21, 2000.



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Attachment A

6. Number and location of all such components:

Sec # 2 above.

7. Corrective action that has been/is being taken:

a) Removed the manufacturer of the unijunction transistor, MicroSemiconductors, Inc., from our approved manufacturer list. Removed lot 807 from all points of use.

b) Notified all companies/plants that have received parts or systems with the affected parts and serial numbers to return the above circuit board assemblies to Solidstate Controls, Inc. for replacement.

8. Additional advice related to the defect:

None.



**SOLIDSTATE
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Attachment B
January 26, 2000

(Typical sample of client notification letter)

January 25, 2000

Florida Power Corp.
Attention: Purchasing/Contracting SA2F
Crystal River Energy Complex
15760 W. Power Line St.
Crystal River FL 34428-6708

Subject: Notification of Potential Defect – 10CFR21 Report.

Gentlemen:

According to our records you recently purchased a spare part for your Solidstate Controls Inverter(s) at your plants as follows:

Purchase Order No.: F773131D, and F742210D

SCI Part Number.: 80-9212635-90.

Part Description: Static Switch Control Assembly.

Quantity: 4, and 6 respectively.

Serial Numbers: 145 through 154

The attached page 3, provides a description of the situation about the above part(s). We request that you review your parts inventory and operating systems for the involved part serial number(s).

We ask that you return the above circuit board assemblies to Solidstate Controls, Inc. for replacement. If you have other circuit boards in use or in stock they are NOT affected. Only the serial numbers listed above for the part number(s) above are involved. Contact Ms. Sue Wampler for a return authorization (RMA) number to return the problem board. Upon receipt of the board(s) and verification of the serial number we will ship the replacement assembly(ies).

Additionally, the US Nuclear Regulatory Commission is also being advised of this report.



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Attachment B

We regret any inconvenience this may cause. If you have any questions you may contact Ms. Wampler or the undersigned.

Sincerely,
SOLIDSTATE CONTROLS, INC.

W. G. Hampton
Director, Quality Assurance

CC: (via E-mail)
Ms. Debbie Borland (NUPIC Representative)
Crystal River Energy Complex
15760 W. Power Line St. MACSA2D
Crystal River FL 34428-6708

E-mail: deborah.k.borland@fpc.com

File # B70987
File # B71612
File # 3995
File # 19286

WGH/FPC - CRYSTAL RIVER NOTIFICATION-PART



The Power to Keep Businesses in Business

Attachment B

SCI Part Number: 80-9212635-90

Part Description: Static Switch Control Assembly

PROBLEM YOU COULD SEE: The above assembly contains a component part - Unijunction Transistor, part number 03-650007-00, that has been found to sometimes cause random, sporadic transfers of the static switch due to a higher level of sensitivity to noise spikes on the input line.

CAUSE: We have determined that one specific manufacturer lot of part number 03-650007-00 results in the higher sensitivity, namely, MicroSemiconductor Inc., lot 807. This particular lot has a lower firing threshold than other lots and manufacturers, resulting in a sensitivity to negative voltage spikes making the circuit switch as if it is losing voltage, and activating the static switch to transfer to the alternate or bypass source.

EFFECT ON SYSTEM PERFORMANCE: The increased sensitivity will NOT cause the system to drop power to the load. In the event of the alternate source or bypass source is not available the static switch will not transfer, continuing to protect the load.

ACTION REQUIRED: Return the above circuit board assemblies to Solidstate Controls, Inc. for replacement. Contact Ms. Sue Wampler for an return authorization (RMA) number and we will ship the replacement assembly(ies). If you have other circuit boards in use or in stock they are NOT affected.

SOLIDSTATE CONTROLS CORRECTIVE ACTION: Removed the manufacturer, Semiconductors, Inc., from our approved source list. Removed lot 807 from all points of use.

US NUCLEAR PLANTS IMPACTED BY THIS ACTION:

| <u>COMPANY - PLANT</u> | <u>PART NUMBERS INVOLVED</u> |
|---|---|
| Consolidated Edison - Indian Point 2 | 80-9210723-90 |
| Duke Energy - Catawba | 80-9212635-90 |
| Oconee | 80-9212637-90 |
| Entergy Operations, Inc. - Arkansas Nuclear One | 80-9212635-90 |
| Waterford 3 Nuclear | 80-9212622-90, 80-9212623-90, 80-9212642-90 |
| Florida Power Corp. - Crystal River | 80-9212635-90 |
| Pacific Gas & Electric - Diablo Canyon | 80-9212635-90 |
| Tennessee Valley Authority - Sequoyah | 80-9210923-90 |
| Virginia Power - Surry | 80-9212635-90 |

1/25/00