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RECIP.NAME RECIPIENT AFFILIATION
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SUBJECT: Part 21 rept re power supply output transistors Q15 & Q16 on GE model 169C8805P002 power supply under rated for operating voltage.Replacement of transistors required.Replacement transistors & possible circuitry changes being evaluated.

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NOTES:Application for permit renewal filed. 05000440

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PRIORITY 1 DOCUMENT

IA-1

INTEGRATED RESOURCES, INC.

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

March 27, 1995

Dear Sirs,

Pursuant to the requirements of Title 10 Code Of Federal Regulations Part 21, (10CFR21) and the Integrated Resources, Inc., Quality Assurance Manual, Integrated Resources, Inc., is reporting a component defect in General Electric, Co., Model Number 169C8805P002, which can cause failure of the power supply.

This defect was verbally reported to the NRC Operations Center on March 24, 1995. Integrated Resources, Inc., also provided Niagara Mohawk Power Corporation and Cleveland Electric Illuminating advanced verbal notification of this report on 3/24/95 and will provide each company with a Fax of this letter.

1) Name and address of the individual or individuals informing the commission.

John F. Brosemer, President
Integrated Resources, Inc.
113 South 9th Street
Nebraska City, NE 68410
(402) 873-5859

2) Identification of the facitlity, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

Power Supply, Switching, General Electric Model Number 169C8805P002. This power supply was purchased by General Electric, Co., from Kepco, Inc., and was built by TDK of Japan for Kepco, Inc. The Kepco, Inc. model number is RMX 24-D-20804.

Facilities known to be affected: Niagara Mohawk Power Corporation, Nine Mile Point Unit 2, Cleveland Electric Illuminating, Perry Nuclear Power Plant.

3) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains the defect.

General Electric Co.
Nuclear Energy Group
San Jose, CA

4) Nature of the defect and the safety hazard which is created or could be created by such defect or failure to comply.

Power supply output transistors Q15 and Q16 are under rated for the operating voltage.

Q15 and Q16 are identified by Kepco, Inc. part number 519-0037 as Shindengen 2SC2507 transistors. The specifications of these Transistors are as follows:

I_C - DC collector current, Rated Maximum - 20 A.
$V_{(BR)CEO}$ - Breakdown Voltage, collector to emitter with base open - 400 V.
h_{FE} - Static forward current transfer ratio, common-emitter - Minimum=15, Maximum=20.
Physical Package - TO-3var.
P_D - Power Dissipation, rated maximum - 200 W.

Kepco, Inc., has informed IRI that transistors Q15 and Q16 will have a maximum working voltage of approximately 428 V at 3.5 A. This clearly exceeds the recommended operating voltages of transistors Q15 and Q16.

Both IRI and Kepco, Inc. have observed a high rate of failure of transistors Q15 and Q16. Failure of transistors Q15 or Q16 make the power supply inoperable. This would result in any "Nuclear Safety Related" circuitry dependent on this power supply also inoperable.

5) Date on which the information of such defect or failure to comply was obtained.

March 24, 1995

6) Number and location of all components in use at, supplied for, or being supplied for one or more facitlities or activities.

The number of units, all facilities, and which systems with each facility, which were supplied these power supplies is unknown to IRI, since IRI is not the OEM nor the distributor. However, Perry Nuclear Power Plant and Nine Mile Point each use these power supplies in the Average Power Range Monitoing (APRM) System.

7) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

IRI and Kepco, Inc. have evaluated the power supplies and determined that replacement of transistors Q15 and Q16 is required.

8) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

Failure of Q15 and Q16 causes failure of the power supply. Integrated Resources, Inc., with assistance from KEPCO, Inc., is continuing to evaluate replacement transistors and possible circuitry changes necessary to implement a permanent solution to this defect.

Sincerely,

John F Brosemer

John F. Brosemer
President
Integrated Resources, Inc.