

PART 21 IDENTIFICATION NO. 80-211-000 COMPANY NAME Power Systems  
DATE OF LETTER 4/7/80 DOCKET NO. Hartsville, Phillips Bend  
DATE DISTRIBUTED 4/17/80 ORIGINAL REPORT  SUPPLEMENTARY

DISTRIBUTION:

REACTOR(R)  FUEL CYCLE &  SAFEGUARDS(S)

MATERIALS(M)

- |                       |                      |                       |
|-----------------------|----------------------|-----------------------|
| NRR/DOR, DIRECTOR     | AD/FFMSI             | AD/SG-IE              |
| NRR/DPM DIRECTOR      | NMSS/FCMS            | AD/ROI                |
| AD/ROI (2)            | REGIONS              | REGIONS               |
| AD/RCI                | IE FILES             | NRR/DOR, DIRECTOR     |
| REGIONS               | PDR                  | NMSS/SG SS-881        |
| IE FILES (2)          | LPDR                 | PDR                   |
| CENTRAL FILES         | CENTRAL FILES-SS-396 | LPDR                  |
| CENTRAL FILES (CHRON) | CENTRAL FILES(CHRON) | TERA                  |
| PDR                   | (016)                | IE FILES (2)          |
| LPDR                  | TERA                 | CENTRAL FILES 016     |
| TERA ✓                | LOEB/MPA MNB 5715    | CENTRAL FILES (CHRON) |
| LOEB/MPA MNB 5715     |                      | CENTRAL FILES - SS-3  |

ACTION:

PRELIMINARY EVALUATION OF THE ATTACHED REPORT INDICATES LEAD RESPONSIBILITY FOR FOLLOW-UP AS SHOWN BELOW:

IE  NRR  NMSS  OTHER

- RCI
- ROI
- SG
- FFMSI

RETURN TO CANTRELL

CREATORS OF ELECTRICAL  
POWER SUPPLY SYSTEMS



POWER SYSTEMS  
A MORRISON-KNUDSEN DIVISION

101 BELMONT ROAD / POST OFFICE BOX 1925  
ROCKY MOUNT, NORTH CAROLINA 27801  
PHONE (919) 877-2722 / TWX (510) 979-0725

APR 11 1980 12:33

April 7, 1980

80-211-000

Nuclear Regulatory Commission  
Region II Office  
101 Marietta St. N.W.  
Suite 3100  
Atlanta, Georgia 30333

Reference: Reportable Deficiency, 10CFR21

Gentlemen:

In response to General Electric's letter, subject, AG895/6005, TVA X17-X20, Control Panel Discrepancies, we wish to take this opportunity to notify you of our findings and actions in accordance with 10CFR21.

Power Systems Division of Morrison-Knudsen Company, Inc. has conducted an in-depth inspection of the generator control panels for the emergency diesel generators located at the Phipps Bend and Hartsville Nuclear Plants. The generator control panels were manufactured by the International Control and Switchgear Company of P.O. Box 4847, Rocky Mount, North Carolina 27801.

The results of the inspection have been reviewed by Power Systems Division to determine if the defects found are reportable as required by 10CFR21.

It has been determined that the control panel defects found could degrade the emergency diesel generator unit to the extent that it may not perform its intended safety function.

Since defects were found at the two sites mentioned above, similar defects may also exist in generator panels manufactured by the International Control and Switchgear Company which were furnished to other domestic nuclear facilities as follows:

- \*1. Grand Gulf I & II (NRC Docket No. 50-416/50-417)
- \*2. St. Lucie II (NRC Docket No. 50-389)
- \*3. Skagit (NRC Docket No. 50-522/50-523)
- \*4. Black Fox (NRC Docket No. 50-556)

\*These facilities are not in operation at this time.

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Corrective action has been essentially completed at the Phipps Bend and Hartsville Nuclear Plants. The corrective action consisted of:

1. In-depth inspection by Power Systems Division.
2. Repairs by TVA personnel under the supervision of Power Systems Division, and General Electric Company Hartsville Nuclear Plant Quality Control Engineer.

The identified defects are as follows:

1. A small percentage of wire lugs were not crimped correctly. The potential result could be a poor electrical connection which may result in the loss of an essential circuit.
2. There were instances in which 600 volt lugs were used on 4160 volt and 6900 volt cables. This could contribute to a degradation after a long period of time due to possible corona damage.
3. AC rated fuses were found in DC circuits. An AC fuse may not adequately clear a DC fault due to the shorter gap in the AC fuse.
4. Some of the bolts used in the electrical connections of the magnetics showed evidence of corrosion. These bolts should be replaced with silicon bronze bolts.
5. Three wire lugs per panel were modified by drilling the bolt hole to a larger size to fit onto a stud. The enlargement of the bolt hold degraded the strength of the lug.

Corrective action shall be implemented by Power Systems Division to prevent recurrence of these defects. The corrective action includes:

1. In-depth inspection utilizing Power Systems Division Quality Control personnel during manufacturing process at International Control and Switchgear facility.
2. Have revised our engineering control panel specifications to prevent recurrence of defects.
3. Implementation of training program to cover revisions in engineering control panel specifications.

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The action required for the other installations is to schedule and perform an inspection of the generator control panels to determine if those panels have similar defects. Should defects be found, necessary corrective action will be initiated.

Very truly yours,

POWER SYSTEMS  
A MORRISON-KNUDSEN DIVISION



Harry W. Falter  
Division Engineer

HWF:sjw

Attachment

# GENERAL ELECTRIC

NUCLEAR ENERGY  
ENGINEERING  
DIVISION

GENERAL ELECTRIC COMPANY, 175 CURTNER AVE., SAN JOSE, CALIFORNIA 95125

February 11, 1980

Morrison & Knudsen  
Power Systems Division  
Post Office Box 1928  
Rocky Mount, No. Carolina 27801

ATTENTION: G. C. HUGHES

<sup>6005</sup>  
SUBJECT: AG895, 204, TVA X17-X20 PANEL DISCREPANCIES

REFERENCES: TVA X17, FDDR #LG1-504, REV. 0 SHEETS 1-7  
TVA X18, FDDR #LG2-502, REV. 0 SHEETS 1-6  
TVA X19, FDDR #LG3,501, REV. 0 SHEETS 1-6  
TVA X20, FDDR #LG4-502, REV. 0 SHEETS 1-6

The B/M for TVA X17 is the same for X18, X19, & X20 (sheets 4,5,&6).

As the comments are lengthy, your response is not requested until 2/22/80.

Your response must be accurate to allow updating of the panels at the sites. These discrepancies have been reported to the NRC by TVA and a complete report and action plan has been requested by the NRC.

Again, I urge your prompt reply as indicated and urge that you contact the undersigned should you have any question.

Very truly yours,

GENERAL ELECTRIC COMPANY

*R. F. Pariani*  
R. F. Pariani, Buyer  
Electrical & Control Procurement  
Group II - Mail Code 719

/mam

cc: F. Jones, M&K w/ref.  
E. Ziebell  
P. Garber  
O. Terrell

cc: Neal Henry - A

**RECEIVED**

FEB 14 1980

POWER SYSTEMS DIVISION  
MORRISON-KNUDSEN CO., INC.