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10CFR21.21

Docket No. 50-461

Document Control Desk
Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: 10CFR21 Interim Report 21-95-010: Elgar
Inverter PWM Drive Logic Card (J4) Failure

Dear Sir:

On March 24, 1995, a new FWM drive logic card (J4) was installed in the Division 2 Nuclear Systems Protection System (NSPS) inverter at Clinton Power Station (CPS) and failed after four to six hours of operation during calibration of the inverter. At the time of the failure, the inverter was out of service to replace the logic card with a revised card in accordance with a scheduled maintenance activity. Illinois Power (IP) does not know the cause of the card failure but has returned the logic card to the supplier for failure analysis.

On March 25, 1995, IP determined that the failure of the logic card was a condition potentially reportable under the provisions of 10CFR21. IP expects to complete the evaluation of this issue by June 30, 1995.

IP provides the following interim information in accordance with 10CFR21.21(c)(4). Initial notification of this matter will be provided by facsimile of this letter to the NRC Operations Center in accordance with 10CFR21.21(c)(3) on the date this letter is signed by the responsible officer.

- (i) J. G. Cook, Vice President of Illinois Power, Clinton Power Station, Post Office Box 678, Clinton, Illinois, 61727, is the responsible officer informing the Nuclear Regulatory Commission (NRC) of a condition reportable under the provisions of 10CFR, Part 21, by means of this report.
- (ii) The basic component involved in this condition is a PWM drive logic card, part number 642-108-40, revision F. The logic card was installed in the Division 2 NSPS inverter. The inverter provides 120 volts alternating current (AC) uninterruptible power to loads such as NSPS logic power, neutron monitoring,

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process radiation monitoring, portions of the leak detection system, nuclear steam supply shutoff system valves and loss of coolant accident bypass relays during all modes of operation including abnormal and accident conditions. The logic card provides control signals to the SCR (silicon controlled rectifier) drives. The same logic card part can be used in the Divisions 1, 2, 3, and 4 NSPS inverters but the revised card was never installed in the Divisions 3 and 4 inverters.

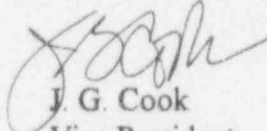
- (iii) The logic card was manufactured by Elgar Corporation and supplied to CPS by Elgar Corporation/General Electric.
- (iv) IP installed the logic card in the inverter during a scheduled maintenance activity. During calibration of the inverter, the logic card operated for four to six hours and then failed for no known reason.

The failure of the logic card causes the inverter to shut down. When this occurs, the inverter loads are transferred to the alternate AC source of power. During the failure of the logic card at CPS, the inverter was out of service for scheduled maintenance and not required to be operable. However, if the logic card had failed during a loss of offsite power (LOOP) condition, the NSPS loads would be transferred to the alternate AC power source which may not be available due to the LOOP condition and the NSPS loads would lose power.

- (v) The logic card failure was discovered on March 24, 1995. On March 25, 1995, IP determined that the failure was potentially reportable under the provisions of 10CFR, Part 21.
- (vi) IP received one other logic card part number 642-108-40, revision F. This logic card was identified as deficient when it was initially installed in the Division 1 NSPS inverter during a similar maintenance activity and the Division 1 NSPS inverter would not operate, that is, the inverter SCR drive section operation would not function. The failure of the card installed in the Division 1 NSPS inverter was obvious and could not have gone undetected since the inverter could not be declared operable if the SCR drives were inoperable. IP has no information about logic cards that may have been supplied to other purchasers.
- (vii) The logic card that failed in the Division 1 NSPS inverter has been replaced with the original logic card, part number 642-108-40, revision A. The logic card that failed in the Division 2 NSPS inverter has been replaced with a logic card part number 642-108-40, revision E. Both logic cards that failed have been returned to Elgar Corporation for failure analysis.
- (viii) IP has no advice to offer other purchasers or licensees about this issue at this time. Additional information about this issue may be obtained by contacting D. G. Lukach, system engineer, at (217) 935-8881, extension 3952.

IP will provide a final report regarding this issue following completion of the evaluation.

Sincerely yours,



J. G. Cook
Vice President

RSF/csm

cc: NRC Clinton Licensing Project Manager
NRC Resident Office, V-690
Regional Administrator, Region III, USNRC
INPO Records Center
Illinois Department of Nuclear Safety
Elgar Corporation