



Illinois Power Company
Clinton Power Station
P.O. Box 678
Clinton, IL 61727
Tel 217 935-5623
Fax 217 935-4632

Wilfred Connell
Vice President

U-602704
4F.140

WC-123-97
February 27, 1997

Docket No. 50-461

10CFR21.21

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

Subject: 10CFR21 Final Report 21-97-004: Phoenix Power Systems Regulated
Power Transformer Supplied and Qualified by United Controls
International is Not Capable of Operating Over the Required Output Range

Dear Madam or Sir:

On January 7, 1997, Illinois Power (IP) initiated Condition Report 1-97-01-062 due to regulated power transformer 1AP75ERT tripping several times for no known reason. The transformer was installed under Plant Modification AP-028 to resolve a degraded voltage relay setting condition. The first trip occurred after the modification was released for operations. An investigation of the cause of the trips determined that the transformer tripped off with the addition of step load from a low or no load condition. IP has been advised by the manufacturer that the transformer units require a minimum load of 2 amps per phase to remain stable, contrary to the purchase specification which requires voltage control from the no load condition to unit rating. The safety-related 120-volt distribution panel fed by the transformer de-energizes when the transformer trips. This issue was identified as potentially reportable under the provisions of 10CFR, Part 21.

The regulated power transformer is model number P3C015C6/EAN Guardian Power Conditioner manufactured by Phoenix Power Systems. The transformer was qualified Class 1E and supplied to Clinton Power Station by United Controls International.

On the basis that the transformer does not meet the requirements of the procurement document, and the failure of the transformer to perform its function could result in the loss of power to safety-related equipment loads, IP has concluded that this issue is reportable under the provisions of 10CFR, Part 21.

9703060182 970227
PDR ADOCK 05000461
S PDR

IE1910

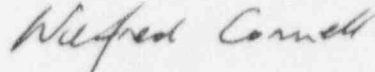


IP is providing the following information in accordance with 10CFR21.21(c)(4). Initial notification of this matter will be provided by facsimile of this letter to the NRC Operations Center in accordance with 10CFR21.21(c)(3) within two days of the date the responsible officer signs this letter.

- (i) Wilfred Connell, Vice President of IP, Clinton Power Station, Post Office Box 678, Clinton, Illinois, 61727, is the responsible officer notifying the Nuclear Regulatory Commission of a condition reportable under the provisions of 10CFR, Part 21.
- (ii) The basic component involved in this condition is a dry type regulated power transformer, Phoenix Power Systems model number P3C015C6/EAN Guardian Power Conditioner.
- (iii) The regulated power transformer was manufactured by Phoenix Power Systems, San Diego, California. The unit was qualified Class 1E and supplied to Clinton Power Station by United Controls International, Stone Mountain, Georgia.
- (iv) The purchase specification requires voltage control from the no load condition to unit rating. Contrary to this requirement, IP has found that the transformer is not stable in the no load condition and trips when lightly loaded under various plant conditions. A trip of the transformer upon addition of a safety load could cause the loss of power to all the loads fed by that transformer and result in the failure of safety related equipment to perform intended safety functions.
- (v) The repeated tripping of the regulated power transformer was identified and determined potentially reportable under the provisions of 10CFR21 on January 7, 1997.
- (vi) Clinton Power Station (CPS) has 4 of the potentially affected transformers installed in the Division 2 electrical system under Plant Modification AP-028. Only one of the four units has experienced tripping problems.
- (vii) IP is disconnecting the four potentially affected transformers from the Division 2 electrical system to remove them from service in accordance with Plant Modification AP-032. IP and representatives of United Controls are working on a network of filters/surge suppressors and minimum load resistors to eliminate the tripping problem.
- (viii) IP has no advice about this issue for other purchasers or licensees.

Additional information about this issue may be obtained by contacting A. B. Haumann, Engineering Projects, at (217) 935-8881, extension 4078.

Sincerely yours,



Wilfred Connell
Vice President

RSF/krk

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