April 24, 1996

Mr. Michael W. Lyon
Director - Licensing
Clinton Power Station
P. O. Box 678
Mail Code V920
Clinton, IL 61727

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SUBJECT: REQUEST FOR ADDITIONAL INFORMATION CONCERNING PROPOSED CHANGE ELIMINATING THE END OF CYCLE RECIRCULATION PUMP TRIP BREAKER INTERRUPTION TIME TESTING REQUIREMENTS - CLINTON POWER STATION, UNIT NO 1 (TAC NO. M94888)

Dear Mr. Lyon:

By letter dated February 22, 1996 (U-602522), Illinois Power Company proposed the elimination of the end of cycle recirculation pump trip (EOC-RPT) breaker interruption time testing requirements from the Technical Specifications (TS) for Clinton Power Station. The technical basis and methodology for the elimination of the EOC-RPT is contained in Attachment 2 of that letter. In order to facilitate the staff's review of your submittal, the attached information is requested.

If you have any questions, please contact me at (301) 415-1364.

Sincerely,

(original signed by)

Douglas V. Pickett, Senior Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-461

Enclosure: As stated

cc w/encl: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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REQUEST FOR ADDITIONAL INFORMATION

RELATED TO THE

CLINTON POWER STATION, UNIT NO. 1

ELIMINATION OF END OF CYCLE RECIRCULATION PUMP TRIP TESTING REQUIREMENTS

DOCKET NO. 50-461

1. Please identify the breaker model and manufacture. This information is not stated in the request.

2. Please provide a Failure Mode and Effects Analysis (FMEA) for the breaker for which this request is made. On page 4 of Attachment 2, second bullet, it is stated:

> The design of the breaker is such that there is seldom failure of the breaker to open within the vendor specified time limits tnat does not also result in a failure of the breaker to operate. Problems with the mechanism of the breaker would most likely cause mechanical failures, not a degradation of performance that would cause the breaker to open in a time greater than the vendor specified time limit. So while degradation of the breaker mechanism that would impact the mechanical opening time of the breaker may be possible, the breaker mechanism would be expected to fail to operate rather than fail in a manner that would be difficult for operators and maintenance personnel to recognize.

A failure which seldom occurs will, in fact, occur. Since the failure mode determination has apparently been done by Illinois Power Co. (IP), the staff would like to review the failure modes. In addition, the staff would like a more definitive, preferably numerical probability of failure to open within specified time limits without failure to operate than "seldom" or "most likely".

3. Please provide a copy of the manufacturer's recommended maintenance, including recommended maintenance intervals. In addition, please provide a copy of the Clinton Power Station required maintenance schedule. On page 2, it is stated:

> Discussions with the breaker manufacturer have confirmed that measurement of the arc suppression time is unnecessary and that actual arc suppression times are not subject to change for properly maintained breakers. The robust design of the breakers provides assurance of continued satisfactory performance. Further, any degradation of the breaker that could cause significant degradation of the arc suppression time is prevented or

Enclosure

detected by performance of recommended preventive maintenance and/or other required testing.

This information will assist the staff in ensuring proper maintenance of the breakers.

4. Please provide a copy of past arc suppression time test results. On page 3 of the IP request, it is stated:

> 1) A maximum time value of 95 milliseconds has been substantiated by IP during past surveillance testing at CPS, 2) The vendor specified breaker interruption time is 50 milliseconds, which is much less than the proposed assumed value, and 3) Testing of the circuit breaker during equipment qualification testing confirmed an actual breaker interruption time of 24 to 34 milliseconds.

This information would lead the staff to conclude that during qualification testing, times of 24 to 34 milliseconds were found, but since, during surveillance testing, times of up to 95 milliseconds were recorded. As the vendor time requirement is stated as 50 milliseconds, a test result in excess of that time would lead to doubt about the test method, the vendor limit, or the breaker maintenance.

5. Please provide an analysis of the effect of an additional 5 seconds delay in the operation of the breaker on those transients or accidents where the EOC-RPT is required to mitigate the effect of the transient or accident.