

NOV 05 1979

Docket No. 50-320

Metropolitan Edison Company
ATTN: R. C. Arnold
Senior Vice President
P.O. Box 480
Middletown, Pennsylvania 17057

Gentlemen:

SUBJECT: NATURAL CIRCULATION

On or about October 12, 1979 it was observed that reactor coolant system (RCS) and steam plant parameters deviated from expected natural circulation behavior in conjunction with the discovery of erroneous once through steam generator (OTSG) level measurements. During the transient and since then, the following items were noted:

- (1) The average primary loop "A" differential temperatures have risen and are approximately higher by 10° than previously recorded. This trend continues, thus the differential temperature is close to one criterion, indicating loss of stable natural circulation.
- (2) Loop "A" parameters experience frequent oscillations on a regular basis.
- (3) An apparent correlation exists between the water level in the OTSG and thermal driving head in RCS and therefore, it has an effect on loop flow and differential temperatures.
- (4) It appears uncertain as to what was actual steam generator level ("A" and "B") in the six months prior to the subject event.

In light of the above, we request that an engineering evaluation be done to determine the effect on RCS loop flow and differential temperature and the available head for natural circulation with changing water level in the OTSG "A". Assumptions and calculations used in the evaluation should be provided. In addition, please provide best estimate of "A" and "B" OTSG actual level for the period six months prior to the subject events to support your evaluation. Your conclusions should include the necessity to revise the loss of stable natural circulation criteria (per Emergency Procedure, EP-34).

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