Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

February 15, 1983

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
Waterhammer Prevention
NRC Docket Nos. 50-454/455 and 50-456/457

References (a): September 9, 1982 letter from . R. Tramm to H. R. Denton

(b): February 10, 1983 letter from V. G. Copeland to the Byron ASLB

Dear Mr. Denton:

This is to provide information regarding the prevention of steam generator waterhammer at Byron and Braidwood stations. This supplements the information which was provided to the NRC in reference (a).

In reference (a), we indicated that constant feedwater flow through the upper steam generator nozzles would preclude the need for temperature monitoring of this piping. We then believed that waterhammer could effectively be prevented without installation of that additional instrumentation.

Recently, we have identified certain circumstances during plant startup and shutdown in which continuous feedwater addition is impractical. Therefore, temperature monitoring instrumentation will be installed on the feedwater bypass piping close to the auxiliary nozzle. This will alert the operator to potential waterhammer situations so that feedwater flow can be reinitiated without inducing waterhammer. This has been discussed in the affidavit of Kenneth A. Ainger which was attached to reference (b).

Mr. Ainger's affidavit also noted that check valves in the auxiliary nozzle piping were being removed to assure the effectiveness of controlled-closure check valves farther upstream. A typical diagram of this piping was provided in Figure 6 attached to reference (a). The check valves being removed are the ones closest to the steam generators, identified in the typical diagram (Figure 6) as valve FW037A.

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Removal of these check valves necessitates the addition of other check valves to provide redundant back flow protection in certain piping. Without additional check valves in the auxiliary feedwater pump discharge piping, there is only one check valve in the piping connecting the upper steam generator nozzles and the condensate storage tank via the auxiliary feedwater pump miniflow lines. An additional check valve will therefore be installed in the discharge piping of each auxiliary feedwater pump to minimize back-leakage through this path. A revised version of Figure 6 is attached to document the location of these new valves.

Please address further questions regarding this matter to this office.

One signed original and fifteen copies of this letter and the attached figure are provided for your review.

Very truly yours,

T. R. Tramm

T. R. Tramm
Nuclear Licensing Administrator

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Attachment

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Revised

FIGURE 6

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BYRON AFW SYSTEM