Commonwealth Edison
Quad-Cities Nuclear Power Station
Post Office Box 216
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BBS-73-23

2/21/73
No DOR

February 16, 1973

Mr. A. Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D.C. 20545

SUBJECT: Quad-Cities Nuclear Power Station
License DPR-29, Docket No. 50-254,
Section 6.6.C

Dear Mr. Giambusso:

The purpose of this letter is to inform you of a condition relating to the operation of the station which took place on January 16, 1973. On that date Unit 1 was being brought up in power with recirculation flow for 100 per cent testing purposes. With the unit at a core thermal power level of 2300 MWt and generator output of 770 MWe, a noise and relatively high frequency vibration were heard in the Unit 1 reactor building in the vicinity of the pressure suppression chamber. These vibrations persisted between recirculation pump speeds from 84 per cent to 87 per cent.

An effort was made to pinpoint the vibration, and it was determined that the vibration was greatest at the point where the "B" LPCI pipe penetrates the drywell. On January 17, following a One-Recirculation Pump trip test, the unit was brought up in power to duplicate the plant conditions of the previous day. A drywell entry was made and excessive vibrations were noticed on the "B" recirculation loop piping. The "A" recirculation loop piping and the "B" recirculation pump motor did not appear to have any abnormal vibration.

After the Two-Recirculation Pump trip test on January 18, reactor power was decreased and the unit was placed in the hot-standby condition. A thorough inspection of the Unit 1 Drywell was conducted by Quad-Cities, General Electric, and Sargent & Lundy personnel. No evidence of any damage or

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abnormal conditions was detected on the recirculation or RHRS piping. The recirculation pumps, pump motors, and piping supports were also examined and no defective conditions were observed.

A vibration detector with a recorder was installed on LPCI valve 1-1001-29B over the pressure suppression chamber for the purpose of monitoring vibration during power increases. On January 20, the unit was placed in the RUN mode and load was increased at the rate of 10 MWe/hr. On January 21, when the power level and pump speed conditions were again duplicated, no abnormal vibrations or noise occurred. Recirculation pump speed tests were run between 80 and 90 per cent, and the vibration recorder on valve 1001-29B showed no abnormalities. Reactor pressure was also varied with no effect. Following a load decrease to 70 per cent, vibrations were again monitored in the 80 -90% pump speed range on January 22. No excessive vibrations were observed.

Further vibration monitoring has been discontinued for the present time. The Commonwealth Edison Company Mechanical and Structural Engineering Department has been consulted on this problem and has been requested to design and install a permanent monitoring system. This installation will include a permanent vibration detector with indication in the control room, and associated annunciator. Any information obtained in the future on this subject will be reported to you.

Very truly yours,

COMMONWEALTH EDISON COMPANY
QUAD-CITIES NUCLEAR POWER STATION

B. B. Stephenson
Station Superintendent

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