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Quad-Cities Generating Station  
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NJK-74-29

April 9, 1974

Mr. John F. O'Leary, Director  
Directorate of Licensing  
Regulation  
U. S. Atomic Energy Commission  
Washington, D. C. 20545

Reference: Quad-Cities Nuclear Power Station, Unit 1  
Docket No. 50-254, DPR-29, Appendix A  
Sections 1.0.A.2, 3.5.F.2, and 6.6.B.1.a

Dear Mr. O'Leary:

On April 5, 1974 with the Unit 1 reactor in the cold shutdown condition and the low pressure core and containment cooling systems inoperable, the reactor mode switch was transferred from the shutdown mode to the refueling mode. This action was contrary to Technical Specification 3.5.F.2 and was reported to you as an abnormal occurrence on April 5, 1974.

#### PROBLEM AND INVESTIGATION

On the morning of April 5, 1974 Unit 1 was in cold shutdown with the reactor vessel head, steam separator and dryer removed prior to refueling. Preparations were underway for the beginning of in core sipping of the irradiated core to locate potential leaking assemblies. At 0305 a.m. the reactor mode switch was changed to the refueling mode in order to perform refueling interlock checks. The Unit 1 suppression chamber water level had been lowered for inspection of the interior painted surface since 1330 on April 3, rendering the low pressure core and containment cooling systems inoperable. At approximately 0800 a.m. the mode switch was returned to shutdown mode. During the interim 5 hour period no work was performed which had the potential to drain water from the vessel.

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EVALUATION AND CORRECTIVE ACTIONSAFETY IMPLICATIONS

The intent of Technical Specification 3.5.F.2 is clearly described in the Bases for Emergency Cooling Availability (pg. 109): "It is during refueling outages that major maintenance is performed and during such time that all low pressure core cooling systems may be out of service. This specification provides that should this occur, no work will be performed on the primary system. This work would include work on certain control rod drive components and recirculation system." The emphasis is clearly on precluding events which could require core cooling. Since no such work was performed or even planned for at least the next 15 days, the safety significance is minimal. The only effective difference between the shutdown and refueling modes is the ability to withdraw one control rod in refuel.

A Technical Specification change has been requested (Feb. 27, 1974 letter Abel to O'Leary) which would allow one rod withdrawn for maintenance with the head off and the torus drained providing the spent fuel pool gate is open and the level is greater than 33 feet. This change has been approved and in effect for Dresden Units 2 and 3 since March 17, 1972. Since the fuel pool gates had been removed at 0130 a.m. on April 5, 1974, the combined cavity and pool inventory of approximately 700,000 gallons would have been available even if one control rod drive had been removed. The analysis provided for the proposed change is therefore valid in this case.

DETERMINATION OF CAUSE AND CORRECTIVE ACTION

The immediate action to prevent recurrence was the return of the mode switch key to the locked cabinet in the Shift Engineers office. A Caution Tag was placed on the mode switch with the warning "Do not move from shutdown with the torus empty (< -2")." Based on approval of the proposed Tech Spec change, no further action is planned.

CUMULATIVE EXPERIENCE

An occurrence similar to this one took place in August 1973. At that time, the mode switch was placed to the refuel position for the purpose of performing prior to start-up checks.

Mr. J. F. O'Leary

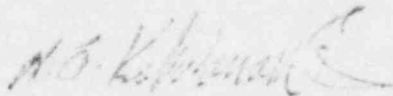
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A change in the definition of cold shutdown to allow the mode switch to be placed to the refuel position has been discussed with Mr. John Riesland on the staff of the Directorate of Licensing and will be included in a future proposed change to our Technical Specifications.

Very truly yours,

COMMONWEALTH EDISON COMPANY  
QUAD-CITIES NUCLEAR POWER STATION



N. J. Kalivianakis  
Station Superintendent

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cc: Region III, Directorate of Regulatory Operations  
J. S. Abel