UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

TIC

DEC 26 1979

Docket No. 50-461
Docket No. 50-462

Illinois Power Company
ATTN: Mr. W. C. Gerstner
Executive Vice President
500 South 27th Street
Decatur, IL 62525

Gentlemen:

This Information Notice is provided as an early notification of a possibly significant matter. No specific action or response is requested at this time. However, we anticipate that further NRC evaluations will result in issuance of an IE Circular, Bulletin, or NRR Generic Letter in the near future which will recommend or request specific applicant or licensee actions. If you have questions regarding the matter, please contact the Director of the appropriate NRC Regional Office.

Sincerely,

James G. Keppler
James G. Keppler
Director

Enclosure: IE Information
Notice No. 79-32

cc w/encl:
Central Files
Director, NRR/DPM
Director, NRR/DOR
PDR
Local PDR
NSIC
TIC
Mr. Dean Hansell, Office of
Assistant Attorney General

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

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DUPLICATE

December 21, 1979

IE Information Notice No. 79-32

SEPARATION OF ELECTRICAL CABLES FOR HPCI AND ADS

This notice contains information on boiling water reactors (BWR's) regarding the routing of high pressure coolant injection (HPCI) system and automatic depressurization system (ADS) cables in the same cable tray. Such routing violates design criteria for separation of these safety systems. This potential cable separation problem for BWR's is highlighted as a result of our review of recent Licensee Event Reports (LER's): Hatch Units 1 & 2, Brunswick Unit 1, and James A. FitzPatrick (See references for LER identification).

Description of Circumstances:

The Hatch LER's state that the NSSS supplier (General Electric) contacted plant management about possible irregularities in cable separation between HPCI and ADS. Plant engineering personnel subsequently confirmed that separation criteria per design notes were not met because HPCI system inboard steam supply isolation valve cables were routed with ADS control cables. The architect-engineer (AE) was notified of the HPIC/ADS cable separation problem and they are formulating a design change to provide for proper cable separation. Other, immediate corrective action was not provided in the LER.

The Brunswick LER states that cables for the HPCI system steam supply inboard isolation valve are located in sections of cable tray containing ADS cables. Also, their analysis of those cables revealed that if the isolation valve were in the wrong position, then a failure at a tray section containing these cables might result in a combination of cable failures which could impair the operability of both the HPCI and ADS systems. The problem is common to both units at Brunswick. The AE, United Engineers and Constructors, is said to be preparing plant modifications to provide sufficient isolation of HPCI and ADS cables. The licensee stated that a review of emergency core cooling systems (ECCS) and their primary containment isolation valves is being performed to verify that no other cable separation problems exist. Also, the cable separation criterion for HPCI and ADS systems is to be redefined in the cable separation specifications to prevent future recurrences of this event.

The FitzPatrick plant staff was informed of the HPCI/ADS cable routing problem by the AE, Stone and Webster, following a fire hazard analysis conducted by the AE. Six cables which could affect the control of the steam supply inboard isolation valve for the HPCI system are located in the same cable trays as some ADS cables. Initial corrective action by the licensee to preclude spurious closure of the HPCI system inboard steam supply isolation valve was to de-energize the valve by racking out the breaker. In addition, for purposes of primary containment isolation, the outboard valve was maintained in its normal, closed position

and checked daily. However, re-evaluation of the initial corrective action indicated the preferred method of assuring operability of both the ECCS and primary containment isolation functions would be to provide additional protection against a fire which might involve cables of both the HPCI and ADS, and to restore the inboard isolation valve to a fully operable condition. Accordingly, FitzPatrick initiated an hourly patrolling fire watch and restored the inboard isolation valve to a fully operable condition. The hourly patrolling fire watch parallels that required by Technical Specifications when early warning protection against a potential fire must be taken due to inadequate or inoperable fixed detection systems.

The FitzPatrick plant staff was also informed by Stone and Webster that other (third party) cables (not identified in the LER) could affect the operation of the inboard isolation valve for the HPCI steam supply due to their proximity to both HPCI and ADS cables. The licensee has decided to re-route the cables of concern to correct both problems, and states that a preliminary design modification has been completed.

Conclusions

Our review indicates that lack of separation of HPCI and ADS cables is a possible generic problem for all BWR4's and that earlier designs may also be affected. Permanent resolution of this problem, corrective action in the meanwhile, and separation from other systems such as RCIC or isolation condenser are under consideration by the NRC. It is anticipated that further NRC evaluations will result in issuance of an IE Circular, Bulletin, or NRR generic letter in the near future which will recommend or request specific applicant or licensee actions.

This Information Notice is provided to inform licensees of a possible significant matter. If you have questions regarding this matter, please contact the Director of the appropriate NRC Regional Office.

No written response to this Information Notice is required.

References:

1. Hatch 1, LER #79-056/0IT-0, dated September 11, 1979
2. Hatch 2, LER #79-098/0IT-0, dated September 11, 1979
3. Brunswick 1, LER #79-068/0IT-0, dated October 9, 1979
4. FitzPatrick, LER #79-056/0IT-0, dated October 9, 1979
5. FitzPatrick, LER #79-056/0IT-1, dated November 19, 1979

Enclosure: Recently Issued
IE Information Notices