



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

MAR 25 1981



Illinois Department of  
Nuclear Safety  
ATTN: Mr. Gary N. Wright  
Deputy Director  
1035 Outer Park Drive  
Springfield, IL 62704

Gentlemen:

The enclosed IE Information Notice No. 81-10 titled "Inadvertent Containment Spray Due to Personnel Error" was sent to the licensees listed below on March 25, 1981:

American Electric Power Service Corporation  
Indiana and Michigan Power Company  
D. C. Cook 1, 2 (50-315, 50-316)

Cincinnati Gas and Electric Company  
Zimmer (50-358)

Cleveland Electric Illuminating Company  
Perry 1, 2 (50-440, 50-441)

Commonwealth Edison Company  
Braidwood 1, 2 (50-456, 50-457)  
Byron 1, 2 (50-454, 50-455)  
Dresden 1, 2, 3 (50-10, 50-237, 50-249)  
LaSalle 1, 2 (50-373, 50-374)  
Quad-Cities 1, 2 (50-254, 50-265)  
Zion 1, 2 (50-295, 50-304)

Consumers Power Company  
Big Rock Point (50-155)  
Palisades (50-255)  
Midland 1, 2 (50-329, 50-330)

Dairyland Power Cooperative  
LACBWR (50-409)

Detroit Edison Company  
Fermi 2 (50-452)

Illinois Power Company  
Clinton 1, 2 (50-461, 50-462)

8104280 132

Iowa Electric Light & Power Company  
Duane Arnold (50-331)

Northern Indiana Public Service Company  
Bailly (50-367)

Northern States Power Company  
Monticello (50-263)  
Prairie Island 1, 2 (50-282, 50-306)

Public Service of Indiana  
Marble Hill 1, 2 (50-546, 50-547)

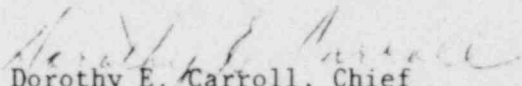
Toledo Edison Company  
Davis-Besse 1 (50-346)

Union Electric Company  
Callaway 1, 2 (50-483, 50-486)

Wisconsin Electric Power Company  
Point Beach 1, 2 (50-266, 50-301)

Wisconsin Public Service Corporation  
Kewaunee (50-305)

Sincerely,

  
Dorothy E. Carroll, Chief  
Word Processing and Document  
Control Section

Enclosure: IE Information  
Notice No. 81-10

cc w/encl:  
Mr. D. W. Kane,  
Sargent & Lundy  
Central Files  
Reproduction Unit NRC 20b  
AEOD  
Resident Inspector, RIII  
J. G. Keppler, RIII  
C. E. Norelius, RIII  
R. E. Heishman, RIII  
J. A. Hind, RIII  
P. R. Wohld, RIII  
PDR  
Local PDR  
NSIC  
TIC

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

March 25, 1981

IE Information Notice No. 81-10: INADVERTENT CONTAINMENT SPRAY DUE TO  
PERSONNEL ERROR

Description of Circumstances:

On February 11, 1981 while in mode 5 (cold shutdown), an auxiliary unit operator at Sequoyah Unit 1 misunderstood a verbal instruction and opened a single valve in the residual heat removal (RHR) system. The opened valve created a direct flow path through the RHR system from the primary coolant system to the RHR containment spray header. A rapid primary system depressurization to atmospheric pressure resulted, and a total of about 110,000 gallons of water was sprayed into the containment from the primary system and from the refueling water storage tank (RWST).

Licensees and applicants should be aware of the following aspects of this event and should take appropriate steps to prevent a recurrence at their plant.

The auxiliary unit operator did not have adequate training or orientation at the particular duty station involved. A single valve at that station is part of the primary coolant system pressure boundary when using the residual heat removal (RHR) system for shutdown cooling. Thus, personnel/ administrative problems and a plant design feature combined to cause the event.

Design of the control room annunciators contributed to prolonging the event. The panel indicating emergency core cooling system (ECCS) valve positions is designed to warn when the ECCS is not properly aligned for the injection (safety) mode. When the first valve misalignment occurs, one light comes on in an otherwise dark field of indicators, and an alarm sounds and flashes. However, in the shutdown cooling mode, several valves are not in their injection mode position. Therefore, in the event at Sequoyah, the alarm light had already been on continuously for some time, the annunciator was not supposed to operate, and one more light coming "on" in a valve-position-indicating field with several lights already "on" was easily missed. The operators thus failed to detect the presence of the inadvertently opened valve for at least 35 minutes.

Lack of an ECCS initiation procedure for use in the shutdown cooling mode did not significantly delay recovery from this event, but potentially could have done so had the primary system been at a higher pressure. To provide injection flow for pressurizer level recovery, the operators opened the RHR system suction valve from the RWST, but they neglected to close the RHR system suction valves from the reactor coolant system (RCS). A proper procedure would require those latter valves to be closed to prevent reactor pressure from seating a

check valve in the RWST suction line, which would prevent the injection mode for the low-pressure (RHR) pumps from being effective and delay recovery from the event.

A similar problem with the borated water storage tank (BWST) check valve occurred at Crystal River 3 on July 16, 1980 while the unit was in Mode 5 with the decay heat system in use for shutdown cooling. Improper valve alignment on the decay heat system heat exchangers caused a rapid cooldown of the RCS which resulted in a loss of pressurizer level. When recovery was attempted by realigning the decay heat system suction to the BWST, injection flow could not be established until RCS pressure approached atmospheric conditions since the RCS suction valves remained open.

This problem would be particularly significant under a LOCA condition with the RCS temperature above boiling (Mode 4).

The information herein is being provided as an early notification of a possibly significant matter that is still under review by the NRC staff. Recipients should review the information for possible applicability to their facilities. If NRC evaluation so indicates, further licensee actions may be requested.

No written response to this information notice is required. If you need additional information regarding this matter, contact the Director of the appropriate NRC Regional Office.

Attachment:  
Recently issued IE Information Notices.

RECENTLY ISSUED  
IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
81-09	Degradation of Residual Heat Removal (RHR) System	3/26/81	All power reactor facilities with an OL or CP
81-08	Repetitive Failures of Limitorque Operator SNB-4 Motor-to-Shaft Key	3/20/81	All power reactor facilities with an OL or CP
81-07	Potential Problem with Water-Soluble Purge Dam Materials Used During Inert Gas Welding	3/16/81	All power reactor facilities with an OL or CP
81-06	Failure of ITE Model K-600 Circuit Breaker	3/11/81	All power reactor facilities with an OL or CP
81-05	Degraded DC System at Palisades	3/13/81	All power reactor facilities with an OL or CP
81-04	Cracking in Main Steam Lines	2/27/81	All power reactor facilities with an OL
81-03	Checklist for Licensees Making Notifications of Significant Events in Accordance with 10 CFR 50.72	2/12/81	All power reactor facilities with an OL
81-02	Transportation of Radiography Devices	1/23/81	All Radiography licensees
81-01	Possible Failures of General Electric Type HFA Relays	1/16/81	All power reactor facilities with an OL or CP.
80-45	Potential Failure of BWR Backup Manual Scram Capability	12/17/80	All PWR facilities with an OL or CP
80-44	Actuation of ECCS in the Recirculation Mode While in Hot Shutdown	12/16/80	All PWR facilities with an OL or CP

OL = Operating Licenses  
CP = Construction Permits