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

JUL 18 1980

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:

The enclosed IE Supplement No. 1 to Bulletin No. 80-17 is forwarded to you for information. No written response is required. If you desire additional information regarding this matter, please contact this office.

Sincerely,

James G. Keppler
Director

Enclosure: IE Supplement No. 1
to Bulletin No. 80-17

cc w/encl:
Central Files
Director, NRR/DPM
Director, NRR/DOR
PDR
Local PDR
NSIC
TIC
Mr. Dean Hansell, Office of
Assistant Attorney General
Mr. Gary N. Wright, Chief
Division of Nuclear Safety

SSINS No.: 6820
Accession No.:
8006190027 dup

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

July 18, 1980

IE Bulletin No. 80-17
Supplement No. 1

FAILURE OF 76 OF 185 CONTROL RODS TO FULLY INSERT DURING A SCRAM AT A BWR

Description of Circumstances:

Please refer to IE Bulletin 80-17, issued July 3, 1980, for complete details of the initiating event.

Although we are essentially confident that the event was caused by water in the Scram Discharge Volume (SDV) system, we do not yet have a complete explanation as to why the water was present. The best estimate is that some type of blockage existed in the vent and/or drainage system for the SDV, precluding adequate drainage. To ensure that the SDV is empty, Browns Ferry (BF-3) has installed instrumentation to continuously monitor the water level in the scram discharge volume. Such instrumentation is being considered by other plants.

Since issuance of IE Bulletin 80-17, additional information has been identified. Specifically:

a) At Browns Ferry a discrepancy was found between the "as-built" scram discharge system and the "as-designed" system. An unused one-inch (1") instrument line was found uncapped on the four-inch (4") drain header on the west side (the side whose rods scrammed) scram discharge volume vent system of Unit No. 3. It is believed that this line improved the venting, and therefore the drain time for that system.

b) It has been determined that the vent systems on some scram discharge volumes interconnect with vent headers that are also common with and are connected to other systems. The interconnected "vent" systems may contain water drained or being drained from those other systems. This water could potentially affect performance of the SDV. Also, both the vent and drain systems for the scram discharge system may contain long lengths of relatively small bore piping. Designs specify a very gradual slope, such that small errors in the "as-installed" piping could result in degraded performance (for example, due to loop seals).

c) Concerns have been expressed within the NRC Staff regarding potential delays that may occur before start of injection of boron into the BWR system from the Standby Liquid Control System (SLCS) when this manual operator action is required. The potential delays could be caused by

unavailability of the SLCS key which is required to initiate this system, and/or administrative delays which require supervisory approval before the SLCS can be manually initiated by the control room licensed operator.

In view of the above items, the following actions in addition to those specified in IE Bulletin 80-17 are to be taken by BWR licensees.

A. Actions to be Taken by BWR Licensees Upon Receipt and to be Reported Within 20 Days of the Date of This Letter:

1) Provide to the NRC Regional Office an analysis of the adequacy of the "as-built" SDV system and associated vent and drain systems, including any identified design deficiencies. Include copies of verified "as-built" isometric drawings of the SDV and detailed descriptions of the remainder of the system, verified to be correct, as part of this analysis.

2) Revise and implement Operating Procedures as necessary to provide clear guidance to the licensed operator in the control room regarding when he should initiate the SLCS without obtaining prior supervisory approval. Provide a description of the implemented procedural requirements.

3) Assure that procedures exist and are implemented for specifying remedial action to be taken if water is found in the SDV system at times when it should be free of water. Provide a description of the implemented procedural requirements.

4) Revise and implement administrative procedures as necessary to ensure that the SLCS key shall be readily available to the licensed operator in the control room. Provide a description of the implemented procedural requirements.

5) Continue daily monitoring of water levels in all scram discharge volumes until continuous monitoring system(s) (discussed in B.1 below) is (are) installed and operational (this requirement supersedes the requirements of Item 5 of IE Bulletin 80-17 which required daily surveillance for only 6 days).

B. Actions to be Taken by BWR Licensees and Completed by September 1, 1980:

1) Install a system to continuously monitor water levels in all scram discharge volumes. Continuous recording and alarm features must be included in the design. Consideration should be given to use of diverse level sensors in this (these) system(s). The design installed should represent the design with the highest level of reliability compatible with completion of installation by September 1, 1980. Provide a written description of the system design to the NRC Regional Office.

If installation by September 1, 1980 is not possible, by August 15, 1980, submit to the NRC Regional Office:

1) Documentation in detail why the installation cannot be completed by 9/1/80.

2) A commitment to a firm schedule for installation.

3) A commitment to equipment changes and/or surveillance requirements in addition to those now in effect that will provide adequate assurance of SDV operability in the interim until installation is completed.

2) Perform a study of potential designs for improving the venting system for the scram discharge volumes and submit a description to NRC by September 1, 1980. Improvements such as providing a redundant, independent vent for each significant volume in the system or locally installing vacuum breakers close to each such volume should be considered (some plants already include a design which vents locally to atmosphere). Include an estimate of the time that would be required to accomplish these modifications in your report to be submitted to the NRC Regional Office. We have been told that meetings have already been scheduled by GE to discuss their proposals in this area with licensees.

Additional requirements are under consideration and will be the subject of further communication from NRC.

Licensees of all operating BWRs shall submit the information requested within the specified allowable times. This information is requested under the provisions of 10 CFR 50.54 (f). Accordingly, you are requested to provide within the time periods specified above, written statements of the above information signed under oath or affirmation. Reports shall be submitted to the Director of the appropriate NRC Regional Office and a copy forwarded to the Director, Division of Reactor Operations Inspection, NRC. Office of Inspection and Enforcement, Washington DC 20555.

Approved by GAO, B180225 (R0071); clearance expires 7-31-80. Approval was given under a blanket clearance specifically for identified generic problems.

IE Bulletin No. 80-17
Supplement No. 1

Enclosure
July 18, 1980

RECENTLY ISSUED
IE BULLETINS

Bulletin No.	Subject	Date Issued	Issued To
80-17	Failure Of Control Rods To Insert During A Scram At A BWR	7/3/80	All BWR power reactor facilities holding OLs
80-16	Potential Misapplication of Rosemount Inc., Models 1151 and 1152 Pressure Transmitters with Either "A" or "D" Output Codes	6/27/80	All Power Reactor Facilities with an OL or a CP
80-15	Possible Loss Of Hotline With Loss Of Off-Site Power	6/18/80	All nuclear facilities holding OLs
80-14	Degradation of Scram Discharge Volume Capability	6/12/80	All BWR's with an OL
80-13	Cracking In Core Spray Spargers	5/12/80	All BWR's with an OL
80-12	Decay Heat Removal System Operability	5/9/80	Each PWR with an OL
80-11	Masonry Wall Design	5/8/80	All power reactor facilities with an OL, except Trojan
80-10	Contamination of Nonradioactive System and Resulting Potential for Unmonitored, Uncontrolled Release to Environment	5/6/80	All power reactor facilities with an OL or CP
80-09	Hydramotor Actuator Deficiencies	4/17/80	All power reactor operating facilities and holders of power reactor construction permits
80-08	Examination of Containment Liner Penetration Welds	4/7/80	All power reactors with a CP and/or OL no later than April 7, 1980