

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Peach Bottom Atomic Power Station - Unit 2 DOCKET NUMBER (2) 050002777 PAGE (3) 1 OF 014

TITLE (4) Primary Containment Isolation System Actuation Resulting from a Fuse Being Pulled in Accordance with an Inadequately Reviewed Blocking Permit

Table with columns for EVENT DATE (5), LER NUMBER (6), REPORT DATE (7), and OTHER FACILITIES INVOLVED (8). Includes sub-columns for MONTH, DAY, YEAR and SEQUENTIAL NUMBER, REVISION NUMBER.

Table for regulatory requirements (11) with columns for OPERATING MODE (9), POWER LEVEL (10), and various CFR sections (20.402, 20.406, 50.36, 50.73, 73.71).

LICENSEE CONTACT FOR THIS LER (12) NAME: W. C. Birely, Senior Engineer - Licensing Section TELEPHONE NUMBER: 215 841-5048

Table for component failure descriptions (13) with columns for CAUSE, SYSTEM, COMPONENT, MANUFACTURER, and REPORTABLE TO NPDOS.

SUPPLEMENTAL REPORT EXPECTED (14) YES (if yes, complete EXPECTED SUBMISSION DATE) NO

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (15)

Abstract: On May 6, 1988 at 1627 hours with the unit in Cold Shutdown, a Primary Containment Isolation System (PCIS) Group II isolation signal was actuated. A Group II isolation involves the Reactor Water Cleanup (RWCU) System. The isolation signal resulted when the shift blocker removed a fuse while applying a blocking permit. At the time of the event the RWCU system was blocked, and consequently there was no valve movement or pump trips associated with the event. At approximately 1630 hours, after a consultation between the operating crew and the shift blocker and a brief review of the permit, the fuse was replaced. The isolation signal was reset 47 minutes following its actuation. Both the actual and potential consequences of the event are considered minimal. The cause of the event was an inadequate review of a blocking permit which was a combination of errors by both the author and reviewer of the permit and a procedural inadequacy. The appropriate procedure was revised and made effective May 10, 1988. The details of this event were discussed with the primary authors of blocking permits. This event concerns an unexpected Engineered Safety Features actuation, and is reportable under 50.73(a)(2)(iv).

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TEXT (if more space is required, use additional NRC Form 366A's) (17)

Unit Conditions Prior to the Event:

Unit 2: Cold Shutdown
Reactor Water Cleanup System blocked

Description of the Event:

On May 6, 1988 at 1627 hours a Primary Containment Isolation System (PCIS) Group II isolation signal was actuated. A Group II isolation involves the Reactor Water Cleanup (RWCU) System. The event was detected by annunciators in the main control room. The isolation signal resulted when the shift blocker, a non-licensed employee, removed fuse 12A-F1 in panel 20C062 per blocking permit 2-12-M88-01156. This fuse is part of the power supply to the following four temperature indicating switches (TIS):

TIS-2-12-89A 'A' cleanup recirc pump cooling water temperature
TIS-2-12-89B 'B' cleanup recirc pump cooling water temperature
TIS-2-12-89C 'C' cleanup recirc pump cooling water temperature
TIS-2-12-99 non-regenerative heat exchanger outlet temperature

The first three TIS's sense the temperature of the Reactor Building Closed Cooling Water (RBCCW) System inlet to the RWCU recirculation pumps. A loss of power to TIS-2-12-89A, B and C caused relays 12A-K1A, B and C to deenergize which initiated a trip signal to the RWCU pumps 2APO49, 2BPO49 and 2CPO49. Temperature indicating switch TIS-2-12-99 senses high temperature at the discharge of the non-regenerative heat exchanger in the RWCU System. A loss of power to this TIS deenergized relay 16A-K25 which resulted in a PCIS Group II isolation signal. The following alarms were received in the main control room.

"Group II/III Inboard Isolation Relays Not Reset"
"Group II/III Outboard Isolation Relays Not Reset"
"A Cleanup Recirc Pump Cooling Water Hi Temp"
"B Cleanup Recirc Pump Cooling Water Hi Temp"
"C Cleanup Recirc Pump Cooling Water Hi Temp"

The Shift Supervisor was immediately informed of the isolation signal. The operating personnel were cognizant of the ongoing blocking permit application. At approximately 1630 hours, after a consultation between the operating crew and the shift blocker and a brief review of the permit, the shift blocker was instructed to replace fuse 12A-F1 and to halt further application of the permit. At 1714 hours, the Group II isolation signal was

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reset in accordance with General Procedure GP-8.B "PCIS Isolation-Groups II and III".

Consequences of the Event:

There were no adverse consequences as a result of this event. Since the RWCU system was blocked, the PCIS Group II isolation signal did not result in any valve movement or the tripping of any pumps. If this event had occurred during normal operation, the primary coolant system water chemistry would not have been adversely affected by the brief RWCU isolation; consequently, the safety significance of this event would have been minimal.

Cause of the Event:

The cause of the event is an inadequate review of a blocking permit and how its application affects Engineered Safety Features (ESF) logic systems. The inadequate review is a result of a combination of errors by the author and reviewer of the permit and a deficiency in Administrative Procedure A-41 "Procedure for Control of Safety Related Equipment". The associated electrical prints were reviewed for clarity and accuracy, and were determined to be sufficient and not to be a contributor to the cause.

Corrective Actions:

The cause of the isolation was promptly confirmed by the operating crew through consultations with the shift blocker and a brief review of the blocking permit. The PCIS Group II was reset 47 minutes following its actuation.

Actions Taken to Prevent Recurrence:

To address the procedural deficiency, Revision 5 to A-41 was developed and became effective May 10, 1988. This revision adds an Appendix which includes information and guidance for

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performing a review of safety related blocking permits. The Appendix requires the author of the permit to prepare a review package which includes suggested blocking and other pertinent information. The package is then reviewed by Operations Support or the Shift Technical Advisor. The Shift Supervisor is responsible for the final review of the permit. This revision to A-41 was also discussed as a proposed corrective action for LERs 2-87-17 and 2-88-06. Approval and implementation of this revision were delayed because the scope of the revision was larger than was originally foreseen.

To address the personal errors, a meeting was held on May 10, 1988 with the members of the Work Control Center, the primary authors of blocking permits. The agenda included a review of the event described in this LER and also guidance on the implementation of Revision 5 to A-41.

EIIS Codes:

The EIIS codes for the affected systems are: JM-Containment Isolation Control System, CE-Reactor Water Cleanup System, IB-Annunciator System and CC-Closed/Component Cooling Water System. The EIIS codes for the affected components are: ALM-alarm, TA-temperature alarm, BLK-block, CBD-control board, FU-fuse, ISV-isolation valve, PL-panel, P-pump, RLY-relay and TIS-temperature indicating switch

Previous Similar Occurrences:

The following Peach Bottom LERs were caused by inadequately reviewed blocking permits: 2-84-09, 3-84-10, 2-85-05, 2-85-26, 3-85-16, 3-85-24, 2-87-03, 2-87-10, 2-87-17, 2-87-18 and 2-88-06.

Cause Codes: All - Failure to properly assess consequences of actions
D99 - Other procedural deficiency

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10 CFR 50.73

June 3, 1988

Docket No. 50-277

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Licensee Event Report
Peach Bottom Atomic Power Station - Unit 2

This LER concerns a Primary Containment Isolation System Group II isolation which occurred as a result of an inadequately reviewed blocking permit.

Reference: Docket No. 50-277
Report Number: 2-88-10
Revision Number: 00
Event Date: May 6, 1988
Report Date: June 3, 1988
Facility: Peach Bottom Atomic Power Station
RD 1, Box 208, Delta, PA 17314

This LER is being submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(iv).

Very truly yours,



R. H. Logue
Assistant to the Manager
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cc: W. T. Russell, Administrator, Region I, USNRC
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