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**LICENSEE EVENT REPORT (LER)**

(See reverse for required number of digits/characters for each block)

|   |                                |                    |
|---|--------------------------------|--------------------|
| FACILITY NAME (1)<br>Peach Bottom Atomic Power Station Unit 3 | DOCKET NUMBER (2)<br>05000 278 | PAGE (3)<br>1 OF 4 |
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TITLE (4)  
Engineered Safety Feature actuation of the Reactor Water Cleanup system due to a high flow signal during system restoration

| EVENT DATE (5) |     |      | LER NUMBER (6) |                   |                 | REPORT DATE (7) |     |      | OTHER FACILITIES INVOLVED (8) |                        |
|----------------|-----|------|----------------|-------------------|-----------------|-----------------|-----|------|-------------------------------|------------------------|
| MONTH          | DAY | YEAR | YEAR           | SEQUENTIAL NUMBER | REVISION NUMBER | MONTH           | DAY | YEAR | FACILITY NAME                 | DOCKET NUMBER          |
| 08             | 20  | 98   | 98             | 004               | 00              | 09              | 18  | 98   | FACILITY NAME                 | DOCKET NUMBER<br>05000 |
|                |     |      |                |                   |                 |                 |     |      | FACILITY NAME                 | DOCKET NUMBER<br>05000 |

|                  |      |   |                   |                   |                   |  |  |  |  |   |
|------------------|------|---|-------------------|-------------------|-------------------|--|--|--|--|---|
| OPERATING        | 1    | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11) |                   |                   |                   |  |  |  |  |   |
| POWER LOWER (10) | 99.4 | 20.2201(b)  | 20.2203(a)(2)(v)  | 50.73(a)(2)(i)    | 50.73(a)(2)(viii) |  |  |  |  |   |
|                  |      | 20.2203(a)(1)   | 20.2203(a)(3)(i)  | 50.73(a)(2)(ii)   | 50.73(a)(2)(x)    |  |  |  |  |   |
|                  |      | 20.2203(a)(2)(i)  | 20.2203(a)(3)(ii) | 50.73(a)(2)(iii)  | 73.71             |  |  |  |  |   |
|                  |      | 20.2203(a)(2)(ii)   | 20.2203(a)(4)     | X 50.73(a)(2)(iv) | OTHER             |  |  |  |  |   |
|                  |      | 20.2203(a)(2)(iii)  | 50.36(c)(1)       | 50.73(a)(2)(v)    |                   |  |  |  |  | Specify in Abstract below or in NRC Form 336A |
|                  |      | 20.2203(a)(2)(iv)   | 50.36(c)(2)       | 50.73(a)(2)(vii)  |                   |  |  |  |  |   |

|                                    |  |
|------------------------------------|--|
| LICENSEE CONTACT FOR THIS LER (12) |  |
| NAME<br>George Lengyel             | TELEPHONE NUMBER (Include Area Code)<br>717 456-4115 |

| COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13) |        |           |              |                    |       |        |           |              |                    |
|--|--------|-----------|--------------|--------------------|-------|--------|-----------|--------------|--------------------|
| CAUSE  | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX |
|  |        |           |              |                    |       |        |           |              |                    |
|  |        |           |              |                    |       |        |           |              |                    |

|   |   |    |  |          |       |     |      |
|---|---|----|--|----------|-------|-----|------|
| SUPPLEMENTAL REPORT EXPECTED (14)                   |   |    |  | EXPECTED | MONTH | DAY | YEAR |
| YES<br>(If yes, complete EXPECTED SUBMISSION DATE). | X | NO |  |          |       |     |      |

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On August 20, 1998, an automatic RWCU isolation occurred while placing the 'B' reactor water cleanup (RWCU) system demineralizer in service. The 'A' demineralizer had been placed in service successfully and operations personnel were attempting to restore the 'B' demineralizer to service. The RWCU isolation occurred from a 'Cleanup Suction Line Break' signal when the inlet valve to the 'B' demineralizer was opened and a surge of water unexpectedly repressurized the demineralizer vessel. The unexpected repressurization is due to less-than-adequate control of equipment during post-maintenance testing. The RWCU isolation completion was confirmed utilizing operating procedures and the isolation was reset. The 'B' demineralizer was isolated using the manual isolation valves and the RWCU system was returned to service.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

Requirements of the Report

This LER is being submitted in accordance with 10CFR50.73(a)(2)(iv) as a result of an automatic Engineered Safety Features (ESF) Reactor Water Cleanup system (RWCU) isolation.

Unit Conditions at Time of Discovery

Unit 3 was operating at 99.4 percent thermal reactor power (EIIIS:RCT) in preparation for placing the RWCU (EIIIS:CE) system back in service. The 'A' demineralizer was in service with the RWCU system flow path by-passed to the condenser. There were no other inoperable systems, structures or components that contributed to the event.

Description of the Event

On August 16, 1998, the RWCU system was removed from service per procedure SO 12.2.A-3, *Reactor Water Cleanup System Shutdown*, in preparation for a maintenance outage. Following maintenance, post-maintenance testing (PMT) was performed on solenoid valve SV-3-36B-030B, B filter demineralizer plenum vent valve, to ensure function of the valve. The PMT did not specify valve lineups or direct equipment manipulation to accomplish the test. Personnel involved in the test determined that two valves, AO-3-12-14B (service inlet valve) and CV-016B (service outlet valve) had to be closed to satisfy the logic to stroke the plenum vent valve. Following satisfactory PMT of the plenum vent valve, personnel believed they returned AO-3-12-14B to the open position and left CV-016B in the as-found, closed position.

The RWCU system clearance was removed on August 18, 1998. Operators proceeded to place the system in service per SO 12.1.A-3, *RWCU System Startup for Normal Operation or Reactor Vessel Level Control*.

On August 20, 1998, at 0148 hours, the RWCU system warm-up evolution was completed and the system was placed in service with the 'A' pump and 'A' demineralizer per SO 12.1.A-3. With the 'A' demineralizer in service, the procedure then restores the 'B' demineralizer to service by opening service inlet valve AO-3-12-014B. At 0200 hours when the valve was opened, a surge of water entered the 'B' demineralizer and the RWCU system isolated on a 'Cleanup Suction Line Break' signal due to a high flow condition in the system.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

The 'B' demineralizer was isolated using the manual isolation valves. After verifying the isolation was complete and checking RWCU system integrity, operators reset the isolation at 0300 hours. The RWCU system was returned to service at 0435 hours.

Cause of the Event

The cause of the event was the PMT did not specify as-found/as-left positions for AO-3-12-14B and CV-016B. At the start of the PMT, AO-3-12-14B was in the open position and CV-016B was in the closed position following securing of the system. Both valves were required to be in the closed position to satisfy circuit logic and then the AO-3-12-14B had to be reopened to satisfy initial conditions. As a result of no specific direction in the PMT, AO-3-12-014B remained closed, and during RWCU system restoration, the system was not properly repressurized as expected. An opportunity to identify AO-3-12-14B out-of-position was missed when the operator found the valve closed at a step in the restoration procedure where the required action was to close the valve. At a later step, when AO-3-12-014B was opened, the demineralizer repressurized in a rapid manner, satisfying the logic for the isolation.

Analysis of Event

No actual safety consequences resulted from the RWCU Isolation. The system had been out of service for a planned system maintenance outage and the isolation occurred during system restoration. The high flow signal is provided to detect a line break in the RWCU system; however a line break did not occur in this event. The RWCU Suction Line Break Isolation is an engineered safety feature to mitigate the consequences of a line break to ensure Off-site Dose Limits will not be exceeded. The isolation was reset and the RWCU system was returned to service.

Corrective Actions

Completed corrective actions include the following:

Proper valve alignments were re-established and the RWCU system was successfully returned to service on August 20, 1998.

Operations management communicated the expectation that any component found in a position other than expected by procedure or other controlling document is a mispositioning. The expectation requires personnel to stop and determine why the component is in that configuration prior to continuing the task or evolution.

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Future corrective actions include the following:

The Post-Maintenance Testing process will be reviewed to ensure correct valve/equipment positioning following maintenance activities.

Previous Similar Events

There have been no similar occurrences of RWCU isolation due to unexpected repressurization of the demineralizer vessels.