



PEACH BOTTOM—THE POWER OF EXCELLENCE

D. B. Miller, Jr.
Vice President

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PEACH BOTTOM ATOMIC POWER STATION
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October 24, 1990

10 CFR 2.201

Docket Nos. 50-277
50-278

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

SUBJECT: Peach Bottom Atomic Power Station - Units 2 & 3
Response to Notice of Violation
(Combined Inspection Report Nos. 50-277/90-14; 50-278/90-14)

Dear Sir:

In response to your letter dated September 14, 1990 which transmitted the subject Inspection Report and Notice of Violation, we submit the attached response. The subject Inspection report concerns a routine resident safety inspection conducted during the period July 3, 1990 through August 13, 1990.

If you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,

Attachment

cc: R. A. Burricelli, Public Service Electric & Gas
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J. J. Lyash, USNRC Senior Resident Inspector
T. T. Martin, Administrator, Region I, USNRC
H. C. Schwemm, Atlantic Electric
R. I. McLean, State of Maryland
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Attachment

Response to Notice of Violation 90-14-01

Restatement of Violation

- A. Technical Specification (TS) 6.8.1 requires establishing and implementing written procedures that meet the requirements of Sections 5.1 and 5.3 of ANSI N18.7-1972, and Appendix A of Regulatory Guide (RG) 1.33 (November 1972). Contrary to the above, on three occasions during the inspection period operations personnel did not adhere to established procedures for equipment monitoring and operation. Specifically:

- A.1 Appendix A of Regulatory Guide 1.33, Section G.4.A, requires procedures for mechanical vacuum pump operation. Abnormal operating procedure AO 8.2-3, "Off-Gas System Operation During Controlled Shutdown if High Off-Gas Activity Exists," Revision 0, provides the sequence of actions needed to place the mechanical vacuum pump in service.

Contrary to the above, on July 27, 1990, licensed operators deviated from the sequence contained in the procedure, by opening the vacuum breaker prior to starting the mechanical vacuum pump, which led to a small release of radioactive gas into the turbine building and later to the environment through the reactor building ventilation stacks.

- A.2 Section 5.3.3 of ANSI N18.7-1972 requires procedures for shutting down and changing modes of operation for systems related to the safety of the plant. System operating procedure SO 40D.7.A, "Restoration of Control Room Ventilation Following a High Radiation Trip," Revision 1, requires placing the control switches for the six normal supply fans to 'off' before resetting a trip of the control room ventilation supply radiation monitors.

Contrary to the above, on July 30, 1990, a licensed operator reset the 'B' control room radiation monitor before placing the fan control switches to the 'off' position. This action caused safety-related equipment to return to its normal mode following reset of an engineered safety feature actuation signal.

- A.3 Section 5.3.4.2 of ANSI 18.7-1972 requires procedures for monitoring cooldown rates. TS 4.6.A.1 requires logging both recirculation loop temperatures during cooldown. Surveillance test procedure ST 9.12, "Reactor Vessel Temperatures," Revision 15, requires logging recirculation loop temperatures every 15 minutes during cooldown until temperatures stabilize.

Contrary to the above, on July 27, 1990, licensed operators did not log the 3 'B' recirculation loop temperature during a plant cooldown for about 3 hours. This is the second recent occurrence of failure to implement procedure ST 9.12 properly.

This is a Severity Level IV Violation (Supplement 1).

Cause of the Violation (A.1)

Following the manual scram of Unit 3 due to a recombiner off-gas isolation, operations personnel concentrated their efforts on restoring main condenser vacuum and resetting the isolation. At the same time operations and shift management decided to prepare the mechanical vacuum pump (MVP) for operation in case the recombiner could not be returned to service. The normal system alignment for the MVP required that the Condenser Off-Gas to MVP valves be closed. Contrary to normal alignment, the three Condenser Off-Gas to MVP valves had been opened during power operation to increase first stage Steam Jet Air Ejector (SJAE) performance. These open valves were listed on the Abnormal Equipment Status List.

The MVP was prepared for operation utilizing Abnormal Operating Procedure (AO) 8.2-3, Revision 0, "Off-Gas System Operation During Controlled Shutdown if High Off-Gas Activity Exists". During this time, the Shift Supervisor became concerned that the MVP could become damaged if the water in the vacuum breaker seal was drawn into the MVP when started.

The Shift Supervisor deviated from procedure and directed that the vacuum breakers be opened. Opening the vacuum breakers resulted in release of seal water and non-condensable gases into the MVP room and ultimately the turbine building. The vacuum breakers were then immediately closed. It was later determined that the condenser had actually been slightly pressurized, although the condenser vacuum gauge read 0" Hg. This, in connection with the open Condenser Off-Gas to MVP valves, provided a direct flowpath to the MVP room and turbine building from the pressurized condenser. This resulted in contamination of the MVP room, the turbine building becoming radioactively airborne, and the release of non-condensable gases through the roof vents.

Corrective Actions Taken and Results Achieved

An event investigation was promptly initiated to evaluate the incident. The manufacturer of the mechanical vacuum pump, Nash Engineering was contacted about the Shift Supervisor's concerns. The manufacturer stated that the MVP utilizes seal water as a liquid compressant to draw a vacuum and that additional water from the vacuum breaker seals would not damage the MVP. During the course of this investigation, the implications of this event were discussed with the Shift Supervisor involved. This information and a summary of this incident with corrective action dispositions was included in a Licensed Operator Required Reading Package issued 10/22/90.

An evaluation was performed on AO 8.2-2(3) to determine if the procedure should be revised to clarify how the MVP is placed in service with the water seals already established. After reviewing the event and the procedure it was

determined that a revision is not required. It was concluded that if the procedure had been properly followed, the off-gas would not have been released into the turbine building.

Cause of Violation (A.2)

On July 30, 1990 after receiving a spurious control room ventilation high radiation signal, the normal control room ventilation fans tripped and the system isolated. The emergency control room ventilation then initiated. System Operating procedure (SO) 40D.7.A, "Restoration of Control Room Ventilation Following a High Radiation Trip," Revision 1, requires that the normal control room ventilation fans be placed in the off position prior to the reset of the isolation. Contrary to SO 40D.7.A, Operations personnel failed to place these fans in the off position prior to resetting the isolation. This resulted in the normal ventilation fans returning to operation after the isolation reset. Failure to use this procedure was the cause of this incident. A contributing cause was believed to have been the simplicity of the procedure and several recent occurrences of other spurious high radiation signals that created a mindset of familiarity with the procedure.

Corrective Actions Taken and Results Achieved

The importance of procedure compliance was stressed to the Operations personnel involved in this incident and expectations of job performance were reaffirmed.

Operations Management issued a letter on August 21, 1990 to Shift Operations personnel addressing the reset of control room ventilation isolations. This correspondence emphasized the necessity of performing operator functions in full compliance with appropriate procedures and having those procedures in hand.

Additionally, information was distributed to operations personnel on August 23, 1990 which further stressed the importance of having the procedure in hand and assuming an active self-checking role. This letter referenced incidents that would have been prevented if the appropriate procedures had been followed.

Cause of Violation (A.3)

On July 27, 1990 after the Unit 3 scram, a Reactor Operator began logging temperature readings for the Reactor Bottom Head Drain, "A" Recirculation Loop, and "B" Recirculation Loop as required by ST 9.12, "Reactor Vessel Temperature". The temperature readings are required to be taken at least once every 15 minutes during heatup or cooldown as directed by Technical Specification 4.6.A.1 and ST 9.12. Shift Supervision verified that logging these temperatures had been appropriately initiated after the scram. On July 28, 1990, while attempting to equalize recirculation loop temperatures, an excessive heatup of the "B" Recirculation Loop occurred. It was discovered during the heatup investigation that the temperature of the "B" Recirculation Loop was not recorded for a period of about 3 hours during the plant cooldown

on July 27, 1990. The failure to log the "B" Recirculation Loop temperature was a combination of personnel error, inadequate human factors of ST 9.12, and poor communications. Although ST 9.12 requires that the temperature readings be recorded during cooldown or heat-up conditions, Operations personnel thought it was not applicable since the "B" Recirculation Loop was not in service and they considered the temperatures to not accurately represent the coolant or vessel conditions. A note in the body of the procedure specified that temperature readings be recorded every 15 minutes during reactor heatup or cooldown, regardless of equipment status, until the temperature remains constant. This information, however was not contained on the data sheets. Most Operations personnel were also not aware that ST 9.12 had been revised in response to a previous similar event which required recording of idle recirculation loop temperatures.

Corrective Steps Taken and Results Achieved

An investigative report was immediately initiated to evaluate the causes of this incident and the corrective actions needed. These causes and corrective actions were reported in LER 3-90-09.

The individual involved with this event was counselled concerning the failure to adhere to ST 9.12, "Reactor Vessel Temperature."

The data sheets of ST 9.12 were revised on 8/30/90 to include appropriate instructions at the top of each sheet. This revision has added consistency between the procedure and the data forms and provides guidance while performing the procedure.

The information and results of this incident have been distributed to appropriate Operations Shift personnel, Operations Support personnel and Operations Management personnel for review.

Corrective Actions Taken To Avoid Future Violations

In addition to the specific corrective actions taken for each violation, the Plant Manager designated a special committee to initiate an investigation into the issue of inattention to detail. This committee was tasked to analyze and evaluate appropriate source documents and to interview plant personnel for added insight into the problem. A status update of the committee's progress was discussed at the Fall Supervisory Meeting held October 3, 1990. During this meeting the Plant Manager and other management personnel stressed the importance of procedure compliance and attention to detail. The final committee report and recommendations to resolve this issue are currently under review by the Plant Manager. Corrective actions will be taken as appropriate to address these recommendations.

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Date When Full Compliance Was Achieved

Full compliance was achieved for Violation A.1 on July 27, 1990 when the vacuum breakers were reclosed. Full compliance was achieved for Violation A.2 on July 30, 1990 when the normal ventilation was appropriately restored to service. Full compliance was achieved for Violation A.3 on July 28, 1990 when the temperature for the 3B recirculation loop was logged on ST 9.12-1 and continued to be recorded for the remainder of the cooldown.