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965 Chesterbrook Boulevard
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Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

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

Subject: Peach Bottom Atomic Power Station, Units 2 and 3
Submittal of Relief Request No. 33-VRR-1, Revision 0 to the Second Ten Year Interval of the
Inservice Testing (IST) Program

Dear Sir:

Attached for your review and approval is Relief Request No. 33-VRR-1 for the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3 Second Ten Year Interval Inservice Testing Program (IST). PECO Energy requests that this Relief Request be approved by June 7, 1996 in order to avoid performing the quarterly test which is scheduled to be performed by June 28, 1996.

The purpose of this Relief Request is to defer quarterly stroke time/exercise testing to a once per year test when the river is less than or equal to 53 degrees F. As discussed in the attached Relief Request, the function of valve MO-0-33-0498 is to isolate the Emergency Service Water (ESW) System discharge to create a closed loop system for emergency heat sink operation. MO-0-33-0498 is the only power operated valve in the ESW system single discharge line to the Conowingo Pond. When the valve is in the full open position, the ESW System is aligned in its normal configuration and is operable. When MO-0-33-0498 is closed, an ESW pump and a booster pump are started to provide the required flows to all safety-related equipment served by ESW. However, credit cannot be taken for booster pump operation and booster pump operation cannot be relied upon to support the ESW pumps in maintaining system design flow rates to safety-related equipment served by the ESW System in the event of a design basis accident. Failure of MO-0-33-0498 in the closed position, which could occur during the quarterly testing when the temperature is above 53 degrees F, would result in flow rates to components served by ESW to fall below their design values. As a result of implementing the Improved Technical Specifications at PBAPS, Units 2 and 3, Technical Specifications Section 3.7.2 ("Emergency Service Water (ESW) System and Normal Heat Sink") now requires that the ESW System be declared inoperable during the testing, and a 12 hour dual unit shutdown action statement be entered.

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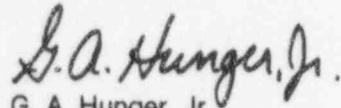
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This Relief Request is consistent with the position set forth in NUREG 1182, Paragraph 3.1.1(1). MO-0-33-0498 is a non-redundant valve in a single discharge line. As stated in the NUREG, "valves whose failure in a non-conservative position during the cycling test would cause a loss of system function" are candidates for deferred testing. While the discussion is directed at cold shutdown and refueling outage valve testing, this valve is common to both units and does not lend itself to testing during cold shutdown or refueling outages. Rather, as described above, the time for testing of MO-0-33-0498, which maintains ESW system operability, is dictated by the river temperature.

This Relief Request primarily addresses the deferral of testing of MO-0-33-0498. However, the frequency of testing for the ESW Booster Pumps 0A(B)P163, ECW Pump 00P186, and the Booster Pump Discharge Check Valves CHK-0-48-504A(B) will also be deferred. MO-0-33-0498 must be closed to test these components. Because the pumps and discharge check valves are augmented IST components, a relief request for frequency extension is not required. They have been included in this Relief Request for completeness and to maintain IST Program configuration control.

If you have any questions, please contact us.

Very truly yours,



G. A. Hunger, Jr.
Director - Licensing

Enclosure

cc: T. T. Martin, Administrator, Region I, USNRC
W. L. Schmidt, USNRC Senior Resident Inspector, PBAPS

RELIEF REQUEST NO. 33-VRR-1, REVISION 0

System: Emergency Service Water/Emergency Cooling Water (ESW/ECW, 33/48)

Component(s): MO-0-33-0498 - ESW Return To Discharge Pond
CHK-0-48-504A(B) - ESW Booster Pump Discharge Check Valves
0A(B)P163 - ESW Booster Pumps, 00P186 - ECW Pump

Category: MO-0-33-0498 - Cat. B, CHK-0-33-504A(B) - Cat. C augmented IST valves,
0A(B)P163 and 00P186 - augmented IST pumps

Function: To provide an emergency heat sink for the PBAPS special event "Loss of the Conowingo Pond" due to a dam failure or a flood.

Deferred Testing: Quarterly stroke time/exercise testing in the closed direction for MO-0-33-0498; quarterly exercise testing in the forward and reverse direction for CHK-0-33-504A(B); quarterly pump testing for 0A(B)P163 and 00P186.

Basis For Relief: The Emergency Service Water (ESW) System is a standby system which is shared between PBAPS, Units 2 and 3. It is designed to automatically provide cooling water for the removal of heat from equipment, such as the Diesel Generators (DGs) and room coolers for Emergency Core Cooling System equipment, required for safe reactor shut down following a Design Basis Accident (DBA) or transient. Upon receipt of a LOCA signal, or whenever any Diesel Generator is in operation, the ESW System will provide cooling water to its required loads. Cooling water is pumped from the normal heat sink (Conowingo Pond) via the pump structure bay by the ESW pumps to the essential components. After removing heat from the components, the water is discharged to the discharge pond through valve MO-0-33-0498, which is common to both units. An alternate suction supply and discharge path (from the emergency heat sink) is available in the unlikely event the Conowingo dam fails or the pond floods. This system configuration requires manual component manipulation.

The function of the emergency heat sink is to provide heat removal capability so that the PBAPS, Units 2 and 3 reactors can be safely shut down in the event of the unavailability of the normal heat sink (Conowingo Pond). The emergency heat sink supports the dissipation of sensible and decay heat so that the two reactors can be shut down when the normal heat sink is unavailable due to flooding or failure of the Conowingo dam. This function is provided via the ESW System and the High Pressure Service Water (HPSW) system. When the normal heat sink (Conowingo Pond) is lost or when flooding occurs, sluice gates in the pump structure housing the ESW pumps and HPSW pumps are manually closed and valve MO-0-33-0498 is manually closed. Water is then provided through two gravity fed lines from the emergency heat sink reservoir into the pump structure pump bays. The ESW and HPSW pumps then pump cooling water to heat exchangers required to bring the Unit 2 and 3 reactors to safe shut down conditions. Return water from the HPSW System flows directly to two of the three cells of the emergency cooling tower. Return water from the ESW System flows through one of the two ESW booster pumps 0A(B)P163, and is pumped into one of the emergency cooling tower cells used by the HPSW System. ESW discharge check valves CHK-0-48-504A(B) open to provide flow from the ESW booster pumps to the emergency cooling towers and close to prevent backflow through the idle

booster pump. This configuration allows for closed cycle operation of the ESW and HPSW Systems.

The emergency heat sink function is not credited in any analyzed design basis accidents or transients at PBAPS. It functions solely to support the special event "Loss of Conowingo Pond." In addition, the ESW booster pumps do not meet separation criteria requirements; they cannot be relied upon to support the ESW pumps in maintaining system design flow rates to safety-related equipment served by the ESW system in the event of a design basis accident. For these reasons, the system is classified as "Augmented" (i.e., non-safety related with special QA requirements).

The function of valve MO-0-33-0498 is to isolate the ESW System discharge to create a closed loop system for emergency heat sink operation. MO-0-33-0498 is the only power operated valve in the ESW system single discharge line to the Conowingo Pond. When the valve is in the full open position, the ESW System is aligned in its normal configuration and is OPERABLE. When MO-0-33-0498 is closed, an ESW pump and a booster pump are started providing the required flows to all safety-related equipment served by ESW. However, as stated above, since credit cannot be taken for booster pump operation, failure of MO-0-33-0498 in the closed position would result in flow rates to components served by ESW to fall below their design values.

PECO calculation PM-0989 was performed to determine the maximum river temperature at which IST testing of MO-0-33-0498 may be performed while maintaining ESW operable. This calculation determines ESW system flow rates to each of the Diesel Generators, ECCS/Reactor Core Isolation Cooling room coolers, and Core Spray Pump Motor oil coolers with a single ESW pump supplying flow to the Emergency Cooling Tower without the aid of a booster pump. Since the ESW pumps do not provide sufficient head to pump at rated capacity to the Emergency Cooling Towers without the booster pumps, each component served by ESW will receive degraded flow rates. These predicted degraded flow rates were then evaluated at different river temperatures to determine the river temperature at which design required cooling is provided. The required river temperature was calculated to be 53 degrees F. This temperature will be the upper limit at which IST will be performed in the closed loop mode.

If MO-0-33-0498 were to fail closed, operators would not have sufficient time to manually (using the valve handwheel) open the valve within the required 3 minutes to support continued Diesel Generator operation.

This Relief Request is consistent with the position set forth in NUREG 1482, Paragraph 3.1.1(1). MO-0-33-0498 is a non-redundant valve in a single discharge line. As stated in the NUREG, "valves whose failure in a non-conservative position during the cycling test would cause a loss of system function" are candidates for deferred testing. While the discussion is directed at cold shutdown and refueling outage valve testing, this valve is common to both units and does not lend itself to testing during cold shutdown or refueling outages. Rather, as described above, the time for testing of MO-0-33-0498 which maintains ESW system operability is dictated by the river temperature.

NUREG 1482, Section 3.1.1 also states that situations may exist where the benefits of performing quarterly testing do not outweigh the risks associated with the test. For the reasons stated above, this is the case with MO-0-33-0498. Capability of MO-0-33-0498 to close under design basis conditions has been proven through testing performed as part of the PBAPS Generic Letter 89-10 Program. Future capability of this valve will be ensured in accordance with ASME Code requirements for periodic verification of motor operated valves.

This Relief Request primarily addresses the deferral of testing of MO-0-33-0498. However, the frequency of testing for the ESW Booster Pumps 0A(B)P163, ECW Pump 00P186, and the Booster Pump Discharge Check Valves CHK-0-48-504A(B) will also be deferred; MO-0-33-0498 must be closed to test these components. Because the pumps and discharge check valves are augmented IST components, a relief request for frequency extension is not required. They have been included in this Relief Request for completeness and to maintain IST Program configuration control.

Quarterly Partial Stroke Testing:

Partial stroke testing will not be performed for the same reasons stated in "Basis For Relief" above.

Test Frequency:

Testing will be performed once/year when the river temperature is less than or equal to 53 degrees F.