

ATTACHMENT 2

PEACH BOTTOM ATOMIC POWER STATION  
UNITS 2 AND 3

Docket Nos. 50-277  
50-278

License Nos. DPR-44  
DPR-56

TECHNICAL SPECIFICATION CHANGES

List of Attached Pages

<u>Unit 2</u>	<u>Unit 3</u>
221	221
223	223
224	224
234	234
235a	235a
236a	236a

## PBAPS

## LIMITING CONDITIONS FOR OPERATION

## SURVEILLANCE REQUIREMENTS

3.9.C Emergency Service Water System

1. The Emergency Service Water System (ESWS) shall be operable at all times when the reactor coolant temperature is greater than 212 F.
2. If one ESW pump becomes inoperable, the reactor may remain in operation for a period not to exceed seven (7) days. If this requirement cannot be met, an orderly shutdown shall be initiated and the reactor shall be placed in the cold shutdown condition within 24 hours.
3. If two ESW pumps become inoperable, the reactor shall be placed in hot shutdown within six (6) hours and in cold shutdown within 36 hours.
4. To consider the ESW pump operable the associated pump room fans must be available for normal operation except that a) one pump room supply and/or exhaust fan for each compartment may be out of service for one month or b) temporary fans may be used in place of permanently installed fans to provide room temperatures at less than 120°.

4.9.C Emergency Service Water System

1. The ESWS shall be tested once every 3 months as follows:
  - a. Pump operability - the pump shall be manually started and flow capability tested in accordance with the Section XI of the ASME Boiler Pressure Vessel Code and applicable addenda except where relief has been granted.
  - b. Valve operability - the automatic valves shall be stroked individually from their control switches.
2. The associated pump room fans shall be tested for operability every 3 months.
3. Each manual valve and each electric motor operated valve and is in the system flow path and that is not locked, sealed or otherwise secured in position, shall be verified monthly to be in its correct position.
4. Once per refuel outage the bottom of the 'A' ESW pump intake structure will be inspected and cleaned as necessary to remove excessive silt.

## PBAPS

## LIMITING CONDITIONS FOR OPERATION

## SURVEILLANCE REQUIREMENTS

3.9.C Emergency Service Water System

1. The Emergency Service Water System (ESWS) shall be operable at all times when the reactor coolant temperature is greater than 212 F.
2. If one ESW pump becomes inoperable, the reactor may remain in operation for a period not to exceed seven (7) days. If this requirement cannot be met, an orderly shutdown shall be initiated and the reactor shall be placed in the cold shutdown condition within 24 hours.
3. If two ESW pumps become inoperable, the reactor shall be placed in hot shutdown within six (6) hours and in cold shutdown within 36 hours.
4. To consider the ESW pump operable the associated pump room fans must be available for normal operation except that a) one pump room supply and/or exhaust fan for each compartment may be out of service for one month or b) temporary fans may be used in place of permanently installed fans to provide room temperatures at less than 120°.

4.9.C Emergency Service Water System

1. The ESWS shall be tested once every 3 months as follows:
  - a. Pump operability - the pump shall be manually started and flow capability tested in accordance with the Section XI of the ASME Boiler Pressure Vessel Code and applicable addenda except where relief has been granted.
  - b. Valve operability - the automatic valves shall be stroked individually from their control switches.
2. The associated pump room fans shall be tested for operability every 3 months.
3. Each manual valve and each electric motor operated valve that is in the system flow path and that is not locked, sealed or otherwise secured in position, shall be verified monthly to be in its correct position.
4. Once per refuel outage the bottom of the 'B' ESW pump intake structure will be inspected and cleaned as necessary to remove excessive silt.

## PBAPS

3.9 BASES (Cont'd.)

The 125-Volt battery system shall have a minimum of 105 Volts at the battery terminals to be considered operable. The 250-Volt portion of the 125/250-Volt battery system shall have a minimum of 210 Volts at the battery terminals to be considered operable.

The ESWS has two 100 percent cooling capacity pumps, each powered from a separate standby power supply. In the event one of the ESW pumps becomes inoperable the 7 day allowable out of service time is conservative given the probability of an event requiring the use of both ESW pumps occurring in that amount of time. One ESW pump is capable of supplying the entire system. If both of the ESW pumps become inoperable placing the reactor in a shutdown condition is consistent with the severity of the situation.

4.9 BASES

The monthly test of the diesel generator is conducted to check for equipment failures and deterioration. Testing is conducted up to equilibrium operating conditions to demonstrate proper operation at these conditions. The diesel generator will be manually started, synchronized and connected to the bus and load picked up. The diesel generator will be loaded to at least 75% of rated load to prevent fouling of the engine. It is expected that the diesel generator will be run for one to two hours. Diesel generator experience at other generating stations indicates that the testing frequency is adequate and provides a high reliability of operation should the system be required.

Each diesel generator has one air compressor and two air receivers for starting. It is expected that the air compressors will run only infrequently. During the monthly check of the diesel generator, one receiver in each set of receivers will be drawn down below the point at which the corresponding compressor automatically starts to check operation and the ability of the compressors to recharge the receivers.

The diesel generator fuel consumption rate at full load is approximately 200 gallons per hour. Thus, the monthly load test of the diesel generators will test the operation and the ability of the fuel oil transfer pumps to refill the day tank and will check the operation of these pumps from the emergency source.

The test of the diesel generator during the refueling outage will be more comprehensive in that it will functionally test the system; i.e., it will check diesel generator starting and closure of diesel generator breaker and sequencing of load on the diesel generator. The diesel generator will be started by simulation of a loss-of-coolant accident. In addition, an undervoltage condition will be imposed to simulate a loss of off-site power. The timing sequence will be checked to assure that the diesel generators can operate the LPCI pumps at rated speed within 18 seconds, and the core spray pumps at rated speed within twenty-four seconds.

## PBAPS

3.9. BASES (Cont'd.)

The 125-volt battery system shall have a minimum of 105 Volts at the battery terminals to be considered operable. The 250-volt portion of the 125/250-volt battery system shall have a minimum of 210 Volts at the battery terminals to be considered operable.

The ESWS has two 100 percent cooling capacity pumps, each powered from a separate standby power supply. In the event one of the ESW pumps becomes inoperable the 7 day allowable out of service time is conservative given the probability of an event requiring the use of both ESW pumps occurring in that amount of time. One ESW pump is capable of supplying the entire system. If both of the ESW pumps become inoperable placing the reactor in a shutdown condition is consistent with the severity of the situation.

4.9 BASES

The monthly test of the diesel generator is conducted to check for equipment failures and deterioration. Testing is conducted up to equilibrium operating conditions to demonstrate proper operation at these conditions. The diesel generator will be manually started, synchronized and connected to the bus and load picked up. The diesel generator should be loaded to at least 75% of rated load to prevent fouling of the engine. It is expected that the diesel generator will be run for one to two hours. Diesel generator experience at other generating stations indicates that the testing frequency is adequate and provides a high reliability of operation should the system be required.

Each diesel generator has one air compressor and two air receivers for starting. It is expected that the air compressors will run only infrequently. During the monthly check of the diesel generator, one receiver in each set of receivers will be drawn down below the point at which the corresponding compressor automatically starts to check operation and the ability of the compressors to recharge the receivers.

The diesel generator fuel consumption rate at full load is approximately 200 gallons per hour. Thus, the monthly load test of the diesel generators will test the operation and the ability of the fuel oil transfer pumps to refill the day tank and will check the operation of these pumps from the emergency source.

The test of the diesel generator during the refueling outage will be more comprehensive in that it will functionally test the system; i.e., it will check diesel generator starting and closure of diesel generator breaker and sequencing of load on the diesel generator. The diesel generator will be started by simulation of a loss-of-coolant accident. In addition, an undervoltage condition will be imposed to simulate a loss of off-site power. The timing sequence will be checked to assure that the diesel generators can operate the LPCI pumps at rated speed within 18 seconds, and the core spray pumps at rated speed within twenty-four seconds.



## PBAPS

## 4.9 BASES (Cont'd.)

Periodic tests between refueling outages verify the ability of the diesel generator to run at full load and the core and containment cooling pumps to deliver full flow. Periodic testing of the various components, plus a functional test one-a-cycle, is sufficient to maintain adequate reliability.

Although station batteries will deteriorate with time, utility experience indicates there is almost no possibility of precipitous failure. The type of surveillance described in this specification is that which has been demonstrated over the years to provide an indication of a cell becoming irregular or unserviceable long before it becomes a failure. In addition, the checks described also provide adequate indication that the batteries have the specified ampere hour capability.

The station batteries shall be subjected to a performance test every third refueling outage and a service test during the other refueling outages. This testing frequency complies with the testing requirements of the Institute of Electrical and Electronics Engineers (IEEE) Standard 450 (1975), "Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries," and Regulatory Guide 1.129, Revision 1 (February 1978), "Maintenance, Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants."

A performance test determines the ability of the battery to meet a specified discharge rate and duration based on the manufacturer's rating. A service test proves the capability of the battery to deliver the design requirements of the dc systems; i.e., supply and maintain in operable status all of the actual emergency loads for the design basis accident. A performance test is the most severe test because the cycling on the battery at manufacturer's rating shortens the service life of the battery. A service test is performed at design load instead of manufacturer's ratings.

The diesel fuel oil quality must be checked to ensure proper operation of the diesel generators. Water content should be minimized because water in the fuel could contribute to excessive damage to the diesel engine. Amendment No. 134 centralized commitments related to Position C.2 of Regulatory Guide 1.137, Revision 1 (October, 1979) "Fuel Oil Systems for Standby Diesel Generators".

When it is determined that some auxiliary electrical equipment is out-of-service, the increased surveillance required in Section 4.5.F is deemed adequate to provide assurance that the remaining equipment will be operable.

The test interval for the Emergency Service Water System, and pump room fans associated with the ESW pumps is deemed adequate to provide assurance that the equipment will be operable based on good engineering judgment and system redundancy, plus the additional testing accomplished when the diesel generators are tested. Pump flow tests during normal operation will be performed by measuring the head and flow in the system using suitable flow equipment and pressure instrumentation.

## PBAPS

## 4.9 BASES (Cont'd.)

Periodic tests between refueling outages verify the ability of the diesel generator to run at full load and the core and containment cooling pumps to deliver full flow. Periodic testing of the various components, plus a functional test one-a-cycle, is sufficient to maintain adequate reliability.

Although station batteries will deteriorate with time, utility experience indicates there is almost no possibility of precipitous failure. The type of surveillance described in this specification is that which has been demonstrated over the years to provide an indication of a cell becoming irregular or unserviceable long before it becomes a failure. In addition, the checks described also provide adequate indication that the batteries have the specified ampere hour capability.

The station batteries shall be subjected to a performance test every third refueling outage and a service test during the other refueling outages. This testing frequency complies with the testing requirements of the Institute of Electrical and Electronics Engineers (IEEE) Standard 450 (1975), "Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries," and Regulatory Guide 1.129, Revision 1 (February 1978), "Maintenance, Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants."

A performance test determines the ability of the battery to meet a specified discharge rate and duration based on the manufacturer's rating. A service test proves the capability of the battery to deliver the design requirements of the dc systems; i.e., supply and maintain in operable status all of the actual emergency loads for the design basis accident. A performance test is the most severe test because the cycling on the battery at manufacturer's rating shortens the service life of the battery. A service test is performed at design load instead of manufacturer's ratings.

The diesel fuel oil quality must be checked to ensure proper operation of the diesel generators. Water content should be minimized because water in the fuel could contribute to excessive damage to the diesel engine. Amendment No. 131 centralized commitments related to Position C.2 of Regulatory Guide 1.137, Revision 1 (October, 1979) "Fuel Oil Systems for Stand-by Diesel Generators".

When it is determined that some auxiliary electrical equipment is out-of-service, the increased surveillance required in Section 4.5.F is deemed adequate to provide assurance that the remaining equipment will be operable.

The test interval for the Emergency Service Water System, and pump room fans associated with the ESW pumps is deemed adequate to provide assurance that the equipment will be operable based on good engineering judgment and system redundancy, plus the additional testing accomplished when the diesel generators are tested. Pump flow tests during normal operation will be performed by measuring the head and flow in the system using suitable flow equipment and pressure instrumentation.

## PBAPS

## LIMITING CONDITIONS FOR OPERATION

## SURVEILLANCE REQUIREMENTS

## 3.11.A (Cont'd.)

2. At least 1 of the 2 main control room intake air radiation monitors shall be operable with the inoperable channel failed safe whenever the control room emergency ventilation air supply fans and filter trains are required to be operable by 3.11.A.1 or filtration of the control room ventilation intake air must be initiated.

B. Emergency Heat Sink Facility

The level in the emergency reservoir of the Emergency Heat Sink Facility shall not be less than 17'. Should the level drop below this point action shall be taken to restore the level to above the minimum, within 7 days.

C. Emergency Shutdown Control Panel

1. At all times when not in use or being maintained, the emergency shutdown control panels shall be secured.

## 4.11.A (Cont'd.)

- d. A sample of the charcoal filter shall be analyzed once per year to assure halogen removal efficiency of at least of at least 99.5 percent.

2. Operability of the main control room air intake radiation monitors shall be tested every 3 months.

B. Emergency Heat Sink Facility

1. The level in the emergency reservoir of the Emergency Heat Sink Facility shall be checked once per month.

2. Once a year the portable fire pump which is used to provide makeup water to the emergency reservoir will be checked for operability and availability.

- 3a. The Emergency Cooling Water pump and ESW booster pumps shall be tested in accordance with Section XI of the ASME Boiler Pressure Vessel Code and applicable addenda, except where relief has been granted.

- b. The Emergency Cooling Tower fans shall be tested every three months to verify operability.

C. Emergency Shutdown Control Panel

1. The emergency shutdown control panels shall be visually checked once per week to verify they are secured.

2. Operability of the switches on the emergency shutdown control panels shall be tested by electrical check once per refueling outage.



## PBAPS

## LIMITING CONDITIONS FOR OPERATION

## SURVEILLANCE REQUIREMENTS

## 3.11.A (Cont'd.)

2. At least 1 of the 2 main control room intake air radiation monitors shall be operable with the inoperable channel failed safe whenever the control room emergency ventilation air supply fans and filter trains are required to be operable by 3.11.A.1 or filtration of the control room ventilation intake air must be initiated.

B. Emergency Heat Sink Facility

The level in the emergency reservoir of the Emergency Heat Sink Facility shall not be less than 17'. Should the level drop below this point action shall be taken to restore the level to above the minimum, within 7 days.

C. Emergency Shutdown Control Panel

1. At all times when not in use or being maintained, the emergency shutdown control panels shall be secured.

## 4.11.A (Cont'd.)

- d. A sample of the charcoal filter shall be analyzed once per year to assure halogen removal efficiency of at least of at least 99.5 percent.

2. Operability of the main control room air intake radiation monitors shall be tested every 3 months.

B. Emergency Heat Sink Facility

1. The level in the emergency reservoir of the Emergency Heat Sink Facility shall be checked once per month.

2. Once a year the portable fire pump which is used to provide makeup water to the emergency reservoir will be checked for operability and availability.

- 3a. The Emergency Cooling Water pump and ESW booster pumps shall be tested in accordance with Section XI of the ASME Boiler Pressure Vessel Code and applicable addenda, except where relief has been granted.

- b. The Emergency Cooling Tower fans shall be tested in accordance with Section XI of the ASME Boiler Pressure Vessel Code and applicable addenda, except where relief has been granted.

C. Emergency Shutdown Control Panel

1. The emergency shutdown control panels shall be visually checked once per week to verify they are secured.

2. Operability of the switches on the emergency shutdown control panels shall be tested by electrical check once per refueling outage.

## PBAPS

3.11 BASESEmergency Heat Sink

The emergency heat sink is provided as an alternate source of cooling water to the plants in the unlikely event of loss of the normal heat sink (Conowingo Pond) or the maximum credible flood. For the condition of loss of the normal heat sink, the contained volume of water (approximately 3.7 million gallons, which corresponds to a gauge reading of 17') provides a minimum of seven days cooling water to both plants for decay heat removal.

C. Emergency Shutdown Control Panels

The Emergency Shutdown Control Panels are provided to assure the capability of taking the plants to the hot shutdown condition external to the control room for the unlikely condition that the control room becomes uninhabitable.

D. Shock Suppressors (Snubbers) on Safety Related Systems

Snubbers are provided to ensure that the structural integrity of the reactor coolant system and all other safety-related systems are maintained during and following a seismic or other event initiating dynamic loads. Snubbers are designed to prevent unrestrained pipe motion under dynamic loads as might occur during an earthquake or severe transient while allowing normal thermal motion during startup and shutdown. The consequence of an inoperable snubber is an increase in the probability of structural damage to piping as a result of seismic or other event initiating dynamic loads. It is therefore required that all snubbers necessary to protect the primary coolant system or any other safety system or components be operable during reactor operation.

Because the snubber protection is required only during low probability events a period of 72 hours is allowed for repairs or replacements. A determined effort will be made to repair the snubber as soon as possible. This allowable repair period is consistent with the allowable repair items of other safety related components such as RHR pumps, HPCI subsystems, ADS valves and diesel generators.

An engineering analysis must be performed on supported components when a snubber is determined to be inoperable. The purpose of this analysis is to assure that the supported components have not been damaged as a result of the snubber inoperability.

## PBAPS

3.11 BASESI. Emergency Heat Sink

The emergency heat sink is provided as an alternate source of cooling water to the plants in the unlikely event of loss of the normal heat sink (Conowingo Pond) or the maximum credible flood. For the condition of loss of the normal heat sink, the contained volume of water (approximately 3.7 million gallons, which corresponds to a gauge reading of 17') provides a minimum of seven days cooling water to both plants for decay heat removal.

C. Emergency Shutdown Control Panels

The Emergency Shutdown Control Panels are provided to assure the capability of taking the plants to the hot shutdown condition external to the control room for the unlikely condition that the control room becomes uninhabitable.

D. Shock Suppressors (Snubbers) on Safety Related Systems

Snubbers are provided to ensure that the structural integrity of the reactor coolant system and all other safety-related systems are maintained during and following a seismic or other event initiating dynamic loads. Snubbers are designed to prevent unrestrained pipe motion under dynamic loads as might occur during an earthquake or severe transient while allowing normal thermal motion during startup and shutdown. The consequence of an inoperable snubber is an increase in the probability of structural damage to piping as a result of seismic or other event initiating dynamic loads. It is therefore required that all snubbers necessary to protect the primary coolant system or any other safety system or components be operable during reactor operation.

Because the snubber protection is required only during low probability events a period of 72 hours is allowed for repairs or replacements. A determined effort will be made to repair the snubber as soon as possible. This allowable repair period is consistent with the allowable repair items of other safety related components such as RHR pumps, HPCI subsystems, ADS valves and diesel generators.

An engineering analysis must be performed on supported components when a snubber is determined to be inoperable. The purpose of this analysis is to assure that the supported components have not been damaged as a result of the snubber inoperability.

## PBAPS

4.11. BASESB. Emergency Heat Sink Facility

The testing of the ESW Booster Pumps and the ECW pump is in accordance with existing ASME codes and applicable addenda except where relief has been granted and assures the required availability of the equipment.

C. Emergency Shutdown-Control Panels

Once per week verification of the panels being properly secured is considered adequate. The associated equipment is proven operable during surveillance testing of that equipment. An operability verification by electrical test at each refueling outage is adequate to assure that the panels are available and can perform their design function.

D. Shock Suppressors (Snubbers) on Safety Related Systems

All safety-related snubbers are visually inspected to verify, 1) proper orientation, 2) freedom of movement where possible to induce motion manually without disconnecting the snubber, 3) proper attachment to structures and equipment, and 4) proper hydraulic fluid level for hydraulic snubbers. Snubbers are categorized into two groups, "accessible" or "inaccessible", based on their accessibility for inspection during reactor operation and drywell inertment. The required inspection interval varies inversely with the observed snubber failures. The number of inoperable snubbers found during a required inspection determines the time interval for the next required inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections will only be used to shorten the required interval and not to lengthen it.

When the cause of the rejection of a snubber is clearly established and remedied for that snubber and for any other snubbers that may be generically susceptible, and verified by inservice functional testing, that snubber may be exempted from being counted as inoperable. Generically susceptible snubbers are those which are of a specific make or model and have the same design features directly related to rejection of the snubber by visual inspection or are similarly located or exposed to the same environmental conditions such as temperature, radiation, and vibration. When a snubber is found inoperable an engineering evaluation is performed to determine a) snubber mode of failure and, b) if there is any adverse effect or degradation on the supported piping or equipment due to the failure.

To further increase the assurance of snubber reliability, functional tests will be performed once each operating cycle.

## PBAPS

4.11. BASESB. Emergency Heat Sink Facility

The testing of the ESW Booster Pumps and the ECW pump is in accordance with existing ASME codes and applicable addenda except where relief has been granted and assures the required availability of the equipment.

C. Emergency Shutdown-Control Panels

Once per week verification of the panels being properly secured is considered adequate. The associated equipment is proven operable during surveillance testing of that equipment. An operability verification by electrical test at each refueling outage is adequate to assure that the panels are available and can perform their design function.

D. Shock Suppressors (Snubbers) on Safety Related Systems

All safety-related snubbers are visually inspected to verify, 1) proper orientation, 2) freedom of movement where possible to induce motion manually without disconnecting the snubber, 3) proper attachment to structures and equipment, and 4) proper hydraulic fluid level for hydraulic snubbers. Snubbers are categorized into two groups, "accessible" or "inaccessible", based on their accessibility for inspection during reactor operation and drywell inertment. The required inspection interval varies inversely with the observed snubber failures. The number of inoperable snubbers found during a required inspection determines the time interval for the next required inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections will only be used to shorten the required interval and not to lengthen it.

When the cause of the rejection of a snubber is clearly established and remedied for that snubber and for any other snubbers that may be generically susceptible, and verified by inservice functional testing, that snubber may be exempted from being counted as inoperable. Generically susceptible snubbers are those which are of a specific make or model and have the same design features directly related to rejection of the snubber by visual inspection or are similarly located or exposed to the same environmental conditions such as temperature, radiation, and vibration. When a snubber is found inoperable an engineering evaluation is performed to determine a) snubber mode of failure and, b) if there is any adverse effect or degradation on the supported piping or equipment due to the failure.

To further increase the assurance of snubber reliability, functional tests will be performed once each operating cycle.