

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>
218	218
220	220
220b	220b
224	224
224a	224a

## PBAPS

## LIMITING CONDITIONS FOR OPERATION

## SURVEILLANCE REQUIREMENTS

## 3.9.B (Continued)

- |   |                |
|---|----------------|
| <p>6. With fuel oil in one of the diesel generator main storage tanks not available or not in conformance with Surveillance Requirement 4.9.A.1.2.e, implement the following:</p> <ul style="list-style-type: none"> <li>a. Isolate the main storage tank from the system, with the associated diesel generator being supplied from one of the remaining storage tanks within 8 hours, and</li> <li>b. Establish and maintain a minimum of 108,000 gallons of diesel fuel oil in the other three main storage tanks within 72 hours, and</li> <li>c. Sample the fuel oil in the other three main storage tanks and confirm conformance with specification 4.9.A.1.2.e within 24 hours, and</li> <li>d. Replace the unacceptable fuel oil with acceptable fuel and return the storage tank to service within 7 days, or place the reactor in Cold Shutdown within 24 hours.</li> </ul> | <p>6. None</p> |
|---|----------------|

Accelerated testing of the diesel generators is not required.

- |   |                |
|---|----------------|
| <p>7. With one of the 4kV emergency busses or 480V emergency load centers required by 3.9.A.3 not energized, declare the associated equipment inoperable and take the appropriate action for that system.</p> | <p>7. None</p> |
|---|----------------|

Reenergize the bus within 24 hours or be in COLD SHUTDOWN within the following 24 hours.

- |   |  |
|---|--|
| <p>8. With the Conowingo line inoperable for 15 days, notify the NRC.</p> | <p>8. Verify once/month the operability of the Conowingo line.</p> |
|---|--|

## PBAPS

## LIMITING CONDITIONS FOR OPERATION

## SURVEILLANCE REQUIREMENTS

## 3.9.B (Continued)

- |    |   |         |
|----|---|---------|
| 6. | With fuel oil in one of the diesel generator main storage tanks not available or not in conformance with Surveillance Requirement 4.9.A.1.2.e, implement the following: | 6. None |
| a. | Isolate the main storage tank from the system, with the associated diesel generator being supplied from one of the remaining storage tanks within 8 hours, and          |         |
| b. | Establish and maintain a minimum of 108,000 gallons of diesel fuel oil in the other three main storage tanks within 72 hours, and                                       |         |
| c. | Sample the fuel oil in the other three main storage tanks and confirm conformance with specification 4.9.A.1.2.e within 24 hours, and                                   |         |
| d. | Replace the unacceptable fuel oil with acceptable fuel and return the storage tank to service within 7 days, or place the reactor in Cold Shutdown within 24 hours.     |         |

Accelerated testing of the diesel generators is not required.

- |    |   |         |
|----|---|---------|
| 7. | With one of the 4kV emergency busses or +80V emergency load centers required by 3.9.A.3 not energized, declare the associated equipment inoperable and take the appropriate action for that system. | 7. None |
|----|---|---------|

Reenergize the bus within 24 hours or be in COLD SHUTDOWN within the following 24 hours.

- |    |   |   |
|----|---|---|
| 8. | With the Conowingo line inoperable for 15 days, notify the NRC. | 8. Verify once/month the operability of the Conowingo line. |
|----|---|---|

## PBAPS

## LIMITING CONDITIONS FOR OPERATION

## SURVEILLANCE REQUIREMENTS

## 4.9.A.1 (Continued)

2. Each of the required diesel generators shall be demonstrated OPERABLE:

a. In accordance with the frequency specified in 4.9.A.1.2.1 by:

1. Verifying the fuel level in the fuel storage tank, and the volume of fuel onsite.
2. Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day fuel tank.
3. Verifying that the diesel can start<sup>a</sup> and gradually accelerate to synchronous speed with generator voltage and frequency at  $4160 \pm 410$  volts and  $60 \pm 1.2$  HZ.
4. Verifying that the diesel can be synchronized, gradually loaded<sup>a</sup> to an indicated 2400-2600<sup>b</sup> kw and can operate with this load for at least 60 minutes.
5. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

<sup>a</sup>This test shall be conducted in accordance with the manufacturer's recommendations regarding engine pre-lube and warmup and, as applicable, loading and shutdown.

<sup>b</sup>This load band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing, under direct monitoring by the manufacturer or system engineer, or momentary variations due to changing bus loads shall not invalidate the test.

## PBAPS

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS

## 4.9.A.1 (Continued)

2. Each of the required diesel generators shall be demonstrated OPERABLE:

a. In accordance with the frequency specified in 4.9.A.1.2.1 by:

1. Verifying the fuel level in the fuel storage tank, and the volume of fuel onsite.
2. Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day fuel tank.
3. Verifying that the diesel can start<sup>a</sup> and gradually accelerate to synchronous speed with generator voltage and frequency at  $4160 \pm 410$  volts and  $60 \pm 1.2$  HZ.
4. Verifying that the diesel can be synchronized, gradually loaded<sup>a</sup> to an indicated 2400-2600<sup>b</sup> kw and can operate with this load for at least 60 minutes.
5. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

---

<sup>a</sup>This test shall be conducted in accordance with the manufacturer's recommendations regarding engine pre-lube and warmup and, as applicable, loading and shutdown.

<sup>b</sup>This load band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing, under direct monitoring by the manufacturer or system engineer, or momentary variations due to changing bus loads shall not invalidate the test.

## PBAPS

## LIMITING CONDITIONS FOR OPERATION

## SURVEILLANCE REQUIREMENTS

## 3.9.B (Continued)

- 3.a. With one diesel generator inoperable and the Conowingo line OPERABLE, restore the inoperable diesel generator to an OPERABLE status within 30 days.
- b. When one diesel generator becomes inoperable while the Conowingo line is inoperable, either:
  1. restore the diesel generator to an OPERABLE status within 7 days,  
or
  2. restore the Conowingo line to an OPERABLE status within 7 days, and restore the diesel generator to an OPERABLE status within 30 days.
- c. When the Conowingo line becomes inoperable while one diesel generator is inoperable, then:
  1. restore the diesel generator or the Conowingo line to an OPERABLE status within the next 7 days,  
and
  2. restore the diesel generator to an operable status within 30 days from the time that the diesel generator became inoperable.
- d. If the requirements of 3a, 3b, or 3c, above cannot be met then be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

3. When it is determined that one diesel generator is inoperable, verify the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.9.A.1.1.a within 1 hour and once per 8 hours thereafter. Verify within 2 hours that required systems, subsystems, trains, components, and devices that depend on the remaining diesel generators as a source of emergency power are OPERABLE.

If the diesel generator became inoperable for any reason other than preplanned preventative maintenance, or testing, demonstrate the OPERABILITY of the remaining operable diesel generators by performing Surveillance Requirement 4.9A.1.2.a.3 for one diesel at a time, within 24 hours\* and at least once per 72 hours thereafter.

\*This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY for failures that are potentially generic to the remaining diesel generators and for which appropriate alternative testing cannot be designed.

## PBAPS

## LIMITING CONDITIONS FOR OPERATION

## SURVEILLANCE REQUIREMENTS

## 3.9.B' (Continued)

3. a. With one diesel generator inoperable and the Conowingo line OPERABLE, restore the inoperable diesel generator to an OPERABLE status within 30 days.
- b. When one diesel generator becomes inoperable while the Conowingo line is inoperable, either:
  1. restore the diesel generator to an OPERABLE status within 7 days,  
or
  2. restore the Conowingo line to an OPERABLE status within 7 days, and restore the diesel generator to an OPERABLE status within 30 days.
- c. When the Conowingo line becomes inoperable while one diesel generator is inoperable, then:
  1. restore the diesel generator or the Conowingo line to an OPERABLE status within the next 7 days,  
  
and
  2. restore the diesel generator to an operable status within 30 days from the time that the diesel generator became inoperable.
- d. If the requirements of 3a, 3b, or 3c, above cannot be met then be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

When it is determined that one diesel generator is inoperable, verify the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.9.A.1.1.a within 1 hour and once per 8 hours thereafter. Verify within 2 hours that required systems, subsystems, trains, components, and devices that depend on the remaining diesel generators as a source of emergency power are OPERABLE.

If the diesel generator became inoperable for any reason other than preplanned preventative maintenance, or testing, demonstrate the OPERABILITY of the remaining operable diesel generators by performing Surveillance Requirement 4.9A.1.2.a.3 for one diesel at a time, within 24 hours\* and at least once per 72 hours thereafter.

\*This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY for failures that are potentially generic to the remaining diesel generators and for which appropriate alternative testing cannot be designed.

## PBAPS

## 4.9 BASES (Cont'd)

The diesel generator voltage may decrease to 59% of nominal when the 2000 HP RHR pump motor is started. The load rejection test of the largest single load will be conducted with the EDG governor in isochronous mode using the Residual Heat Removal Pump in full flow test as the rejected load. The load rejection test of 2400-2600 kW may be conducted with the EDG governor and voltage regulator in droop mode parallel to the offsite grid. The EDG voltage will be matched to the bus voltage (4160 ± 410 volts) and the overshoot upon load removal will be limited to 660 volts which is 15% of this nominal value.

The term permanent and auto-connected loads means those loads which the diesel would normally be expected to supply in the scenario being tested. Verification of load shedding from the emergency busses will include only those normally powered from the emergency bus during plant operations. The loads described by the term emergency loads are a Residual Heat Removal Pump, a High Pressure Service Water Pump and the 480 Volt emergency bus load center.

Verification of the Conowingo Line may include a combination of:

- 1) circuit breaker line-up on the Conowingo side (Susquehanna Substation) is verified by Unit 1, PBAPS being powered from Conowingo Line
- 2) circuit breaker verification of PBAPS Unit 2 and 3 switchgear
- 3) communications with the Conowingo Control Room to ensure that required equipment at Conowingo is operable.

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 Standby Diesel Generators."

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.



## PBAPS

4.9 BASES (Cont'd)

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)

The diesel generator voltage may decrease to 59% of nominal when the 2000 HP RHR pump motor is started. The load rejection test of the largest single load will be conducted with the EDG governor in isochronous mode using the Residual Heat Removal Pump in full flow test as the rejected load. The load rejection test of 2400-2600 kW may be conducted with the EDG governor and voltage regulator in droop mode parallel to the offsite grid. The EDG voltage will be matched to the bus voltage (4160 ± 410 volts) and the overshoot upon load removal will be limited to 660 volts which is 15% of this nominal value.

The term permanent and auto-connected loads means those loads which the diesel would normally be expected to supply in the scenario being tested. Verification of load shedding from the emergency busses will include only those normally powered from the emergency bus during plant operations. The loads described by the term emergency loads are a Residual Heat Removal Pump, a High Pressure Service Water Pump and the 480 Volt emergency bus load center.

Verification of the Conowingo Line may include a combination of:

- 1) circuit breaker line-up on the Conowingo side (Susquehanna Substation) is verified by Unit 1, PBAPS being powered from Conowingo Line
- 2) circuit breaker verification of PBAPS Unit 2 and 3 switchgear
- 3) communications with the Conowingo Control Room to ensure that required equipment at Conowingo is operable.

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."

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.

## PBAPS

4.9 BASES (Cont'd)

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.