10 CFR 50.90

PHILADELPHIA ELECTRIC COMPANY

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September 28, 1992

NUCLEAR SERVICES DEPARTMENT

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
Technical Specifications Change Request (TSCR 92-03)

Gentlemen:

Philadelphia Electric Company is submitting Technical Specifications Change Request (TSCR) No. 92-03, in accordance with 10 CFR 50.90, requesting an amendment to the Technical Specifications (TS) (Appendix A) of Operating License Nos. DPR-44 and DPR-56. Information supporting this Change Request is contained in Attachment 1 to this letter, and the proposed replacement pages are contained in Attachment 2.

This submittal requests changes to TS surveillance intervals to facilitate a change in the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, refueling cycles from 18 months to 24 months. The 24 month refueling cycle will require a change from the current 18 month TS surveillance testing interval (i.e., a maximum of 22.5 months accounting for the allowable grace period) to a 24 month testing interval (i.e., a maximum of 30 months accounting for the allowable grace period). These TS changes were evaluated in accordance with the guidance provided in NRC Generic Letter 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991, and are being proposed accordingly.

As discussed in our letter dated February 11, 1992, this is the second of three Change Requests being submitted to the NRC to support the current change to 24 month refueling cycles at PBAPS, Units 2 and 3. This Change Request involves a proposed change to the TS surveillance intervals for non-instrumentation (i.e., non-instrument

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calibration) TS line items, e.g., pump, valve, and flow testing, logic system functional testing, response time testing. Proposed changes to TS surveillance intervals for instrument calibrations and the remaining TS line items to support 24 month refueling cycles will be requested in a forthcoming (i.e., third) Change Request.

Certain of the evaluations included in this Change Request relate to specific items in the TS tables and text for which no change to the text is required. The TS surveillance interval for these items is delineated by "operating cycle" or "refuel outage" in the TS tables (i.e., at least once per 18 months as defined in the definition section of TS). The change in this definition will be proposed in the forthcoming Change Request. Accordingly, we request that the NRC review the TS changes proposed in this Change Request, but withhold issuing the approved changes until the NRC has reviewed and approved the TS changes proposed in the forthcoming Change Request, and that all approved TS changes associated with the change to 24 month refueling cycles for PBAPS, Units 2 and 3, requested in the second and third Change Requests, be issued by February 28, 1993. Also, we request that the approved TS changes be effective 30 days after issuance of the Amendments.

If you have any questions regarding this matter, please contact us.

Very truly yours,

G. J. Beck, Manager
Licensing Section

Enclosures: Affidavit, Attachment 1, Attachment 2

cc: T. T. Martin, Administrator, Region I, USNRC
J. J. Lyash, USNRC Senior Resident Inspector, PBAPS
W. P. Dornsife Commonwealth of Pennsylvania

COMMONWEALTH OF PENNSYLVANIA:

: ss.

COUNTY OF CHESTER :

G. R. Rainey, being first duly sworn, deposes and says:

That he is Vice President of Philadelphia Electric Company; the Applicant herein; that he has read the attached Technical Specifications Change Request (Number 92-03) for Peach Bottom Facility Operating Licenses DPR-44 and DPR-56, and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.

G. R. Rainey

Vice President

Subscribed and sworn to
before me this 28th day
of September 1992.

Notary Public

Notarial Seal
Erica A. Santon, Notary Public
Tredyffrin Twp., Chester County
My Commission Expires July 10, 1995

ATTACHMENT 1

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

TECHNICAL SPECIFICATION CHANGE REQUEST
92-03

"Change to the Frequency of Non-Instrument Surveillance Tests"

Supporting Information for Changes 29 Pages

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

Philadelphia Electric Company (PECo), Licensee under Facility Operating Licenses DPR-44 and DPR-56 for the Peach Bottom Atomic Power Station (PBAPS) Unit No. 2 and Unit No. 3, respectively, requests that the Technical Specifications contained in Appendix A to the Operating Licenses be amended. Proposed changes to the Technical Specifications are indicated by vertical bars in the margin of each page. The proposed revised pages for each unit are included in Attachment 2.

The proposed changes are being requested to support changing the fuel cycle at PBAPS from 18 to 24 months. In reviewing the effects of this change the surveillance frequencies defined as either "REFUEL OUTAGE" or "OPERATING CYCLE" were considered as an 18 month interval with a 25 percent grace period. This request is limited to changing the surveillance frequency only. The surveillance tests will continue to be performed as they have been in that no modifications to test methodologies or station equipment has been included in this request. Equipment required to mitigate the consequences of an accident will not be affected, except that the frequency of testing that equipment will be extended to accommodate a 24 month fuel cycle. In addition, the frequency of some TS line items currently required once every "refuel outage" or "operating cycle" will not be changed; for these TS items a change in the text of the TS is being requested. The TS frequency for these items will be defined as once every "18 months". This will not change the effect of the TS; the requirement will still be performed once every 18 months, but the TS words for those few line items must be changed.

This request contains two types of changes: intent changes and text changes. Intent changes are those TS line items that use "refuel cycle" or "operating cycle" to define the surveillance frequency. As noted previously, these terms are currently defined to mean 18 months with a 25% grace period. No change to the text of the TS is being requested for these line items; however, a future TS change request will be submitted to change the definition of the "REFUEL OUTAGE" and "OPERATING CYCLE" to 24 months with a 25 percent grace period. The request to change the definition of these terms will be submitted when the evaluation of the instrument calibration surveillance frequency is complete. The other type of change in this submittal are text changes. In some TS line items the surveillance frequency was specifically designated as 18 months. For these items a change to the TS page is required. The revised pages are attached.

Description of Changes

Because of the volume of TS line items required to be evaluated, the specific changes were grouped and each group has been analyzed. Note that the name of each group is merely an

administrative title and may not contain all of the items that could be logically connected to this group. Each group is described below with a list of the TS line items, a description of the requirement, and a safety discussion. Where a change to the TS is being proposed and the existing and proposed TS section are reproduced in the discussion section, the affected words or phrases will be highlighted with bold type. In performing these evaluations, the guidelines of Generic Letter 91-04 were followed.

(1) AC POWER: Table 4.2.B, item 15, page 81a.

Table 4.2.B delineates the minimum test and calibration frequency for core standby cooling systems and item 15 of this table addresses the 4kv undervoltage relays. It should be noted that the calibration frequency requirement will be addressed in the third request and that this request is intended to address only the instrument functional test.

Safety Discussion: The purpose of this Technical Specification requirement is to functionally test and ensure the operation of the 4kv emergency bus undervoltage relays. There are two independent sources of off-site power. Each off-site source can be used to supply the unit auxiliary buses for plant startup and shutdown and the cooling tower equipment. In addition, each source is stepped down from 13kv to 4kv through an emergency auxiliary transformer and is connected through interlocked circuit breakers to each 4kv emergency switchgear bus. Every 4kv emergency switchgear bus is energized from one of these sources during normal operation. Upon loss of power, automatic transfer is made to the second source. If neither off-site source is available, the 4kv emergency switchgear buses are supplied from the diesel-generator units. The redundancy provided by the two off-site sources in conjunction with the 4kv emergency switchgear configuration lead to a conclusion that the impact, if any, on the system availability is small as a result of this request. A review of the history of the Surveillance Test (ST) results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(2) Air: TS 4.6.D.3, page 147

TS 4.6.D.3 requires for the safety relief valves (SRV): "The accumulators and air piping shall be inspected for leakage using leak test fluid once per operating cycle".

Safety discussion: TS 4.6.D.3: Pneumatic pressure is required to support the safety related Automatic Depressurization

System (ADS) SRV operation in the pneumatic actuating mode. This mode acts in conjunction with the core standby cooling systems to reflood the core. The ADS valves serve as backup to the High Pressure Coolant Injection (HPCI) System and as such is a redundant system to HPCI. In addition, for both the Emergency Core Cooling System (ECCS) function and the relief valve function there is redundancy built into the system in that more valves are provided for each function than are required to perform the function. Further, other STs quantitatively identify the leakage rate of the safety grade pneumatic supply to the ADS SRVs. The impact, if any, on system reliability and availability is small because of the redundancy provided by the HPCI system, the additional ADS valves and the other STs that are performed. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(3) Appendix J, Type B & C: TS 4.7.A.2.f, page 169

TS 4.7.A.2.f reads: "Local leak rate tests (LLRT's) shall be performed on the primary containment testable penetrations and isolation valves in accordance with Tables 3.7.2, 3.7.3 & 3.7.4 at a pressure of 49.1 psig (except for the main steam isolation valves, see below) **each operating cycle, but in no cases at intervals greater that two years.** Bolted double - gasketed seals shall be tested whenever the seal is closed after being opened and at least once per operating cycle, **but in no case greater than two years.**

The Main Steamline isolation valves shall be tested at a pressure of 25 psig for leakage during each refueling outage, **but in no case at intervals greater than two years.** If a total leakage rate of 11.5 scf/hr for any one main steamline isolation valve is exceeded, repairs and retest shall be performed to correct the condition." (emphasis added)

The licensee is proposing a change to the text of this TS section. The proposed new Section 4.7.A.2.f would read: "Local leak rate tests (LLRT's) shall be performed on the primary containment testable penetrations and isolation valves in accordance with Tables 3.7.2, 3.7.3 & 3.7.4 at a pressure of 49.1 psig (except for the main steam isolation valves, see below) **per 10CFR50 Appendix J requirements.** Bolted double - gasketed seals shall be tested whenever the seal is closed after being opened and at least once per operating cycle, **not to exceed the requirements of 10CFR50 Appendix J.**
The Main Steamline isolation valves shall be tested at a pressure of 25 psig for leakage during each refueling outage, **but in no case exceeding the requirements of 10CFR50 Appendix J.** If a total leakage rate of 11.5 scf/hr for any one main

steamline isolation valve is exceeded, repairs and retest shall be performed to correct the condition. (emphasis added).

Safety discussion: The proposed change would not impact the frequency of any of the required tests. The current words in the TS and the proposed words: "per 10CFR50 Appendix J requirements", have the same testing frequency; therefore there is no change to the frequency of testing and this change request may be considered an administrative change. This change is being proposed to facilitate requesting an extension to the testing intervals as recommended by GL 91-04.

(4) Fire Protection: TS 4.14.D.1.a, page 240j(1)
TS 4.14.D.1.c, page 240j(1)
TS 4.14.D.2, page 240j(2)

TS 4.14.D.1 reads as follows. "1. Fire barriers required to meet the provisions of 3.14.D.1 (fire doors excluded - see specification 4.14.D.2) shall be verified operable following maintenance or modification, and by performing the following visual inspection **once per 18 months**: a. The exposed surface of each fire barrier wall, floor, ceiling, and electrical cable enclosure. Exposed surfaces are those that can be viewed by the inspector from the floor. b. Each fire damper. c: at least 10 percent of each type of fire barrier penetration seal (including electrical cable, piping, ventilation duct penetration seals, and excluding internal conduit seals) such that each penetration seal will be inspected at least once per 15 years. Difficult to view fire barrier (unexposed) walls, ceilings **and electrical cable** enclosures that are rendered accessible by the penetration seal inspection program shall also be inspected during each 10 percent inspection. If any penetration seal selected for inspection is found by surveillance requirement 4.14.D.1.(c) in a condition which may compromise the operability of the penetration seal, the cause shall be evaluated. If the cause is a failure to adhere to penetration seal procedures, or an identified phenomenon (e.g., physical interference), the cause shall be corrected and potentially affected seals inspected. Otherwise, a visual inspection of an additional 10 percent, selection based on the nature of the degradation, shall be made. This inspection process shall continue until a 10 percent sample with no degradation is found. (emphasis added.)

The proposed 4.14.D.1 shall read: "1. Fire barriers required to meet the provisions of 3.14.D.1 (fire doors excluded - see specification 4.14.D.2) shall be verified operable following maintenance or modification, and by performing the following visual inspection: a. The exposed surface of each fire barrier wall, floor and ceiling **shall be inspected at least once per 24 months**. Exposed surfaces are those that can be viewed by

the inspector from the floor. b. Each fire damper and electrical cable enclosure shall be inspected at least once per 18 months. c: Once per 24 months at least 12.5 percent of each type of fire barrier penetration seal (including electrical cable, piping, ventilation duct penetration seals, and excluding internal conduit seals) such that each penetration seal will be inspected at least once per 16 years. Difficult to view fire barrier (unexposed) walls and ceilings that are rendered accessible by the penetration seal inspection program shall also be inspected during each 12.5 percent inspection. If any penetration seal selected for inspection is found by surveillance requirement 4.14.D.1.(c) in a condition which may compromise the operability of the penetration seal, the cause shall be evaluated. If the cause is a failure to adhere to penetration seal procedures, or an identified phenomenon (e.g., physical interference), the cause shall be corrected and potentially affected seals inspected. Otherwise, a visual inspection of an additional 12.5 percent, selection based on the nature of the degradation, shall be made. This inspection process shall continue until a 12.5 percent sample with no degradation is found. (emphasis added.)

TS 14.D.2 delineates the requirements for inspection of fire doors and includes a deferment for inspecting doors in radiation area until the next refuel outage or shutdown expected to last longer than 7 days. While the text of this TS does not require a change, the TS was evaluated to determine the impact of changing the definition of refuel outage to allow a 24 month fuel cycle.

Safety Discussion: The PBAPS fire protection program provides reasonable assurance that a fire will not prevent the performance of necessary safe shutdown functions. The program is formulated such that the failure of an active or passive component in one of the fire protection features is backed-up by another entirely different fire protection feature (e.g. fire barriers, sprinklers, detection). It is concluded that the impact, if any, on system availability is small due to the inherent redundancies of the fire protection program and the PBAPS Hazard Barrier Program. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(5) Main Control Room Emergency Ventilation System

TS 4.11.A.1, page 233
TS 4.11.A.3, page 233

TS 4.11.A.1 delineates the requirements for demonstrating that the pressure drop across the combined HEPA filters and

charcoal filters in the Main Control Room Emergency Ventilation System is less than 8 inches of water at the design flow rate. The frequency of this test is at least once per operating cycle.

TS 4.11.A.3 delineates the requirements for demonstrating that the Main Control Room Emergency Ventilation System (MCREVS) is capable to be automatically initiated. The frequency of this test is once per operating cycle.

Safety discussion: The MCREVS provides a suitable environment for continuous personnel occupancy and ensures the operability of control room equipment and instruments under accident conditions. The system is normally in standby condition, thus gross plugging or fouling of the HEPA filters and charcoal adsorbers will be minimized. In addition, the MCREVS has redundant filter trains and fans which will ensure system availability in the event of a failure of one of the system components. TS 4.11.A.4 requires operability of the main control room air intake radiation monitor be tested every 3 months. During testing of this radiation monitor, performance of the MCREVS is demonstrated. This radiation monitoring test would identify significant failures affecting MCREVS operability; including failures to automatically initiate. Therefore, it is concluded that because of the redundancy in the MCREVS and the other required STs the impact, if any, on system availability is small. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(6) Containment Atmospheric Dilution System

TS 4.7.A.6, item a, page 172
TS 4.7.A.6, item c, page 173
TS 4.7.E.3, item b, page 178a

TS 4.7.A.6, item a, requires that once per operating cycle the post-LOCA Containment Atmospheric Dilution (CAD) System be functionally tested.

TS 4.7.A.6, item c, requires that once per operating cycle the atmospheric analyzing system shall be functionally tested.

TS 4.7.E.3, item b, requires that once per operating cycle a functional test shall be conducted that demonstrates the operability of the backup nitrogen storage tank upon loss of normal supply.

Safety Discussion: The Containment Atmospheric Dilution (CAD) nitrogen make up system isolation valve test is performed quarterly to assist meeting the Inservice Testing (IST)

requirements of system isolation valves. During this test nitrogen flow to containment is required to verify the open position of the check valves on the nitrogen purge lines. This activity should identify gross failures related to nitrogen flow, such as, failures of the vaporizers, valves and other components which make up the CAD nitrogen flow path. Further, TS 4.7.A.6.c requires operability testing of O_2 Analyzer System once per month and calibration once per six months. Changing the CAD system, Atmospheric Analyzing System and the backup (CAD tank) nitrogen supply functional test frequency from 18 months to 24 months will have a small impact, if any, on system availability because more frequent testing is performed and the systems are provided with redundant systems. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(7) Contaminated Pipe Inspections (CPI)

TS 6.14, item 2, page 263

TS 6.14, item 2, requires performing: "System leak test requirements, to the extent permitted by system design and radiological conditions, for each system at a frequency not to exceed refueling intervals. The systems subject to this testing are (1) Residual Heat Removal, (2) Core Spray, (3) Reactor Water Cleanup, (4) HPCI, and (5) RCIC.".

Safety Discussion: These tests ensure that systems which may be used during post accident recovery have minimal leakage, thus minimizing the spread of potential contamination within the secondary containment and the exposure to plant workers during the recovery phase. The change to 24 month operating cycles will increase the testing interval. This change to the testing requirement has been evaluated and determined to have a small impact, if any, on the availability of the subject system. This conclusion is based on the fact that most portions of the subject systems included in this program are visually inspected during plant testing and/or operator/system engineer walkdowns. If leakage is observed from these systems, corrective actions will be taken to repair the leakage. Finally, the plant Health Physics radiological surveys will also identify any potential sources of leakage. The failure history alone does not provide evidences that the impact on safety, if any, from changing the subject requirement from 18 to 24 months is small. In order to provide support for this conclusion, a sample of performances of the contaminated pipe inspections was conducted on different systems. This sample identified that there was no gross external leakage documented from the components and therefore no indication of a time based degradation of the

system which would lead to the potential increase of system leakage with the extra operational time associated with the increased operating cycle. This history of the performance of the Surveillance Tests for the contaminated pipe inspections supports the above conclusion that the impact, if any, on safety from the change in testing frequency is small.

(8) Control Rod Drive (CRD)

TS 4.3.B.1.a	page 101
TS 4.3.B.1.b	page 102
TS 4.3.B.1.c	page 102
TS 4.3.B.2	page 102
TS 4.3.C.1	page 102-103

TS 4.3.B.1.a requires control rod coupling integrity to be verified when a rod is withdrawn for the first time after a refueling outage or after maintenance. TS 4.3.B.1.b requires control rod coupling integrity to be verified when a rod is fully withdrawn for the first time following a refueling or after maintenance. TS 4.3.B.1.c requires control rod coupling integrity to be verified during each refueling outage after control rod maintenance.

Safety Discussion: TS 4.3.B.1.a,b, and c verify that control rod integrity is established after a refueling outage. The control rods are required for power shaping and reactivity control. Control rod coupling integrity is demonstrated throughout the cycle during the weekly control exercise tests. Through the use of neutron instrumentation during the weekly test, it is verified that the control rod is following the CRD during a rod withdrawal. Further during power operation, a coupling check is performed anytime a control rod reaches position 48. Therefore, increasing the length of the operating cycle will have a small impact, if any, on the availability of the CRD system or on demonstrating control rod coupling integrity. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

TS 4.3.B.2 requires the Control Rod Drive (CRD) housing support to be inspected after reassembly.

Safety Discussion: This test verifies that the CRD housing support has been reassembled properly after it has been disassembled to replace CRDs. This is an event driven test that is completed because of maintenance activities not because a certain time interval has elapsed. Because this is an event driven requirement, it is concluded that the impact on system availability, if any, is small.

TS 4.3.C.1 requires the testing of scram insertion times after each refueling outage and prior to synchronizing the main turbine generator initially following the restart of the plant.

Safety Discussion: This requirement verifies that the control rod drive system is capable of bringing the reactor subcritical at a rate sufficient to prevent fuel damage. Control rod exercise tests are performed on the drives on at least a weekly basis through out the cycle and while the mode switch is in refuel. This requirement is capable of predicting potential failures associated with the CRDs. In addition, TS 4.5.K requires at least ten percent (19 or more) rods be scram timed every 120 days. This periodic testing would provide an early warning of degradation in scram performance throughout the cycle. Therefore, it is concluded that increasing the length of the operating cycle will not have an impact on the availability of the CRDs. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(9) Containment Inspection

TS 4.7.4	page 165
TS 4.7.A.2.h	page 170

TS 4.7.4 requires: "A visual inspection of the suppression chamber interior, including water line regions shall be made at each major refueling outage.".

TS 4.7.A.2.h requires that "The interior surfaces of the drywell and torus shall be visually inspected each operating cycle for evidence of deterioration.".

Safety Discussion: The purpose of both of these inspections is to determine that there is no evidence of corrosion of painted surfaces which could result in the un-evaluated degradation of the containment system during the next operating cycle. During plant operation all surfaces required to be inspected by these requirements are in an inerted environment. The inerted environment will help to reduce the corrosion from occurring at an excessive rate in all areas other than the underwater area of the torus. In addition, the original surveillance interval between inspections of the drywell and the torus is based on the accessibility to the containment interior not on a specific time based requirement. Because the containment environment is inerted and any "as found" degradation of the protective coating will be evaluated to determine acceptability for continued operation for a 24 Month

Operating Cycle, it is concluded that the impact, if any, on the containment integrity from the change to the surveillance interval for the subject requirements is small. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(10) Fire Detection

TS 4.14.C.2, page 240i

TS 4.14.C.2 requires that inaccessible smoke and heat detectors be functionally tested once per refuel cycle, if they are inaccessible due to high radiation or inerting.

Safety discussion: The functional testing is required to ensure that the detector circuitry has not degraded to an unacceptable level of performance. These detectors are required during all modes of operation. The detectors are of a "Class-B" type installation; the detectors are electrically supervised to detect ground fault, circuit breaks or power failures. Because of this supervision, it is concluded that the impact, if any, on system availability is small as a result of this change. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(11) Diesel Generator Power

TS 4.9.A.1.b page 218

TS line item 4.9.A.1.b requires once per operating cycle, during a simulated test, demonstrate: the diesel generator will start and accept the emergency load with the specified time sequence.

Safety Discussion: Two offsite power sources are available to each 4KV emergency bus. The failure of one offsite power source supplying power to the bus results in transfer to the second offsite source. This redundancy in the off - site power sources decreases the likelihood that a total loss of off - site power will occur. Diesel generators are automatically connected to their associated 4KV emergency buses after the generator voltage and frequency are established, zero bus voltage is detected, and all bus loads are tripped. The essential loads are then automatically sequenced onto the emergency diesel generators. The loading sequences are based on meeting ECCS requirements following a LOCA, while providing adequate voltage levels at emergency auxiliary buses.

Each diesel generator, its auxiliary systems, its connections to 4KV emergency switchgear, its control systems and the distribution of power to various safeguards loads through 4KV and 480V systems are segregated and separated from the corresponding systems of the other diesel generators. Each diesel generator is operated independently of the other EDG units, and is disconnected from the utility power system, except during certain other modes of testing. During the test period, the diesel generator unit is manually synchronized to the utility system and loaded. The engineered safeguard loads are so divided among the four 4KV emergency buses for each reactor that the failure of one diesel generator or one 4KV emergency bus would not prevent a safe shutdown of one or both reactors. Therefore, the increased time interval between surveillance tests will have a small impact if any, on system availability. Further, this minimal impact will not affect the ability of the plant systems to the mitigate the consequences of an accident. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(12) Diesel Generator Group: TS changes proposed in Technical Specification Change Request (TSCR) 88-08

PECo requested extensive changes to the diesel generator surveillance testing program in a January 31, 1992 letter to the NRC. The proposed changes included references to "refuel cycle" and "operating cycle", which the licensee had evaluated as an 18 month fuel cycle. These changes are being reviewed by the NRC. Discussions with the NRC Project Manager for PBAPS indicate that approval could occur prior to approval of this request; therefore, the following discussion of the impact of changing to a 24 month fuel cycle is included in this submittal. PECo requested the following changes that included a reference to an 18 month operating cycle or a specific 18 month time requirement. The number included in the parenthesis corresponds to the paragraph in the TSCR 88-08 submittal which discusses the requirement.

Verification every 18 months of EDG voltage and speed stability during a load rejection of the largest single load and the rated continuous load. (no existing requirement, A-1)

Verification every 18 months that each EDG's noncritical automatic trips are overridden by an ECCS actuation signal. (No existing requirement, A-2)

Verification every 18 months that each EDG can operate satisfactorily in the 2000 hour load rating range (2800 to 3000 kW) for at least 2 hours and in the continuous load

rating range (2400 to 2600) for the following 22 hours. (no existing requirement, A-3)

Verification every 18 months that the EDG can be restart while still hot following an EDG shutdown. (no existing requirement, A-4)

Simulation once per operating cycle of a loss of offsite power (LOOP) by itself in order to verify proper load shedding from the emergency buses and that the EDGs start and energize the permanent and auto-connected loads within the required time limits. (no existing requirements, A-5)

Simulation once per operating cycle of an ECCS signal without a LOOP in order to verify that the EDGs start and operate without connecting to the emergency buses. (no existing requirement, A-6)

Simulation once per operating cycle of an ECCS signal with a LOOP in order to verify load shedding from the emergency buses and that the EDGs start and accept the permanent and auto-connected loads. (this will replace Section 4.9.A.1.b., A-7)

Verification once per operating cycle that each EDG can be synchronized with and transfer electrical loads between the emergency buses and offsite circuits to demonstrate the ability to recover from a LOOP. (no existing requirement, A-8)

Verification once per operating cycle that the auto-sequencing timers for the 480-Volt Emergency Load Centers operate at 3+/-0.5 seconds was added to the existing requirements to functionally test and calibrate timers for the Core Spray Pumps. (no existing requirements, A-9)

Requirements to test every 18 months both manual and automatic transfer of the off-site AC sources from the normal circuit to the alternate circuit. (no existing requirements, A-10)

Safety Discussion: Two offsite power sources are available to each 4KV emergency bus. The failure of one offsite power source supplying power to the bus results in transfer to the second offsite source. This redundancy in the off - site power sources decreases the likelihood that a total loss of off - site power will occur. Diesel generators are automatically connected to their associated 4KV emergency buses after the generator voltage and frequency are established, zero bus voltage is detected, and all bus loads are tripped. The essential loads are then automatically sequenced onto the emergency diesel generators. The loading sequences are based on meeting ECCS requirements following a

LOCA, while providing adequate voltage levels at emergency auxiliary buses.

Each diesel generator, its auxiliary systems, its connections to 4KV emergency switchgear, its control systems and the distribution of power to various safeguard loads through 4KV and 480V systems are segregated and separated from the corresponding systems of the other diesel generators. Each diesel generator is operated independently of the other EDG units, and is disconnected from the utility power system, except during certain other modes of testing. During the test period, the diesel generator unit is manually synchronized to the utility system and loaded. The engineered safeguard loads are so divided among the four 4KV emergency buses for each reactor that the failure of one diesel generator or one 4KV emergency bus would not prevent a safe shutdown of one or both reactors. Therefore, the increased time interval between surveillance tests will have a small impact, if any, on system availability. Further, this minimal impact will not affect the ability of the plant systems to the mitigate the consequences of an accident. The proposed testing requirements and 24 month frequency is based on industry standards for verifying diesel generator operability for design standards. The 18 month time period was a convenient opportunity to perform testing; however, now because of the change to a 24 month fuel cycle it is appropriate to change the frequency. There is no ST history to review for the new requirements and TS 4.9.A.1.b ST history was reviewed in the previous section.

(13) DC Power: TS 4.9.A.2.c, page 218c

TS 4.9.A.2.c states: "The station batteries shall be subjected to a performance test every **third** refueling outage and a service test during the other refueling outages. In lieu of the performance test every **third** refueling outage, any battery that shows signs of degradation or has reached 85% of its service life shall be subjected to an annual performance test.". (emphasis added)

The proposed TS 4.9.A.2.c will state: "The station batteries shall be subjected to a performance test every **second** refueling outage and a service test during the other refueling outage. In lieu of the performance test every **second** refueling outage, any battery that shows signs of degradation or has reached 85% of its service life shall be subjected to an annual performance test.". (emphasis added)

Safety discussion: This testing frequency complies with the testing requirements of the Institute of Electrical and Electronic Engineers (IEEE) Standard 450 (1975). To continue

to comply with this standard the frequency of the performance test is requested to change to every second refuel outage, with the service test being performed during the other refueling outage. The proposed change will shorten the time interval between performance tests from about every 4.5 years to 4 years and may add one additional performance (discharge) test in the 20 year time period. After consulting with the vendor, the additional performance (discharge) test will not significantly shorten the service life of the battery or impact the ability of the battery to perform its design function. After consulting with the battery manufacturer, the increased length of time between service tests will not affect the availability of the battery as any decline in capacity will still be caught in ample time before the battery capacity becomes critical. In addition to the performance and service tests, in accordance with TSs, every week the specific gravity, voltage and temperature of the pilot cell and overall battery voltage shall be measured and logged. Also, every three months measurement shall be made and logged of the voltage of each cell to the nearest 0.1 volt, specific gravity of each cell, and the temperature of every fifth cell. Because of these requirements it is concluded that the impact, if any, on system availability is small as a result of these changes. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(14) ECCS Group: TS 4.5.C. item e, page 129
TS 4.6.D.4 page 147
TS 4.5.D.1 item e, page 130

TS 4.5.C item e, requires that once per operating cycle for the HPCI system at 150 psig steam pressure: the system develops a flow of at least 5000 gpm.

Safety discussion TS 4.5.C item e: This test is required to ensure that the HPCI system is capable of performing its design basis safety function during a unit start-up and prior to increasing reactor pressure above the system minimum operating pressure. The HPCI system is tested every 3 months, as required by ASME Section XI, to ensure the required flow. This test is performed at 1000 psig steam pressure but it would detect significant failures of the HPCI Turbine or Pump that would be detected by conducting the 150 psig ST. In addition, the HPCI system is one of the redundant ECCS systems and as such is provided with backup systems such as ADS and LPCI which will ensure a safe plant shut down. Based on redundant testing and redundant equipment it is concluded that the impact on system availability, if any, is small as a result of this change. A review of the history of the ST

results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

TS 4.6.D.4 requires: "with the reactor pressure [> or =] 100 psig, each relief valve shall be manually opened once per operating cycle. Verification that each relief valve has opened shall be by observation of compensating turbine bypass valve closure or load reduction or change in measured steam flow depending on the operating configuration existing during the test.".

Safety Discussion TS 4.6.D.4: This test is performed to ensure the relief valves are capable of performing their design function and can prevent over pressurization of the nuclear system. In addition, the ADS feature of the SRV acts in conjunction with the core standby cooling systems for reflooding the core following small breaks in the nuclear system process barrier. As such the SRVs serve as backup to the HPCI system and are a redundant system. Further, for both the ECCS function and the relief valve function, there is redundancy built into the system in that more valves are provided for each function than are required by analysis. Because of this redundancy it is concluded that the impact on system availability, if any, is small as a result of this change. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

TS 4.5.D.1, item e, requires that once per operating cycle for the Reactor Core Isolation Cooling (RCIC) system at 150 psig steam pressure: "The RCIC pump shall deliver at least 600 gpm for a system head corresponding to a reactor pressure of 1000 psig to 150 psig.".

Safety Discussion TS 4.5.D.1, item e: This test ensures the RCIC system is capable of performing its design function prior to increasing reactor pressure above the system's minimum operating pressure. In addition to this test, the RCIC system is tested on a quarterly basis as required by ASME Section XI code. These quarterly tests, although performed at 1000 psig would detect significant failures which would also be detected by the 150 psig test. Further, the RCIC system is provided with redundancy from the HPCI system. Based on redundant testing and equipment it is concluded that the impact, if any, on system availability is small as a result of this change. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(15) Logic System Functional Test (LSFT)

The following list of TS line items in the LSFT group are affected by changing from a 18 month to a 24 month fuel cycle:

TS Table 4.1.1, item 2	page 41
TS Table 4.2.A items 1-5	page 80
TS Table 4.2.B items 16-17	page 81a
TS Table 4.2.B, note 4 items 1-8	page 82
TS Table 4.2.G item 1	page 88
TS 4.5.D.1 item f	page 130
TS 4.8.G	page 216a-6

* Simulated Automatic Actuations

*TS Table 4.2.C item 1, note 4	page 83
*TS Table 4.2.D, note 4	page 84
*TS 4.5.A.1 item (a)	page 124
*TS 4.5.A.3 item (a)	page 125
*TS 4.5.D.1 item (a)	page 130
*TS 4.5.E.1	page 131
*TS 4.7.D.1 item (a)	page 177

TS Table 4.1.1, item 2, requires that at a minimum of every refueling outage or after channel maintenance the "RPS Channel Test Switch - Functional Test of Trip Channel and Alarm" be performed.

Safety Discussion TS Table 4.1.1, item 2: The purpose of this test is to check for proper operation of the RPS scram contacts by actuation of the individual channel test switches. The RPS is made up of two independent trip systems. There are usually four subchannels to monitor each parameter with two subchannels in each trip system. In addition, TS require testing of RPS channels after maintenance activities involving those channels, by using the RPS Channel Test switch. Based on channel redundancy and required post maintenance testing it is concluded that the impact, if any, on system availability is small as a result of this change. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

TS Table 4.2.A items 1-5, note 4 requires a Logic System Functional Test (LSFT) be performed once each operating cycle for the PCIS systems.
Safety Discussion TS Table 4.2.A, (items 1 5) note 4: The PCIS in conjunction with other protection systems, is designed to provide timely protection against the consequences of accidents involving the gross release of radioactive materials from the fuel and nuclear system process barriers. Essential parts of the primary containment isolation control system are testable during reactor operation. Isolation valves can be te ted by operating manual switches in the control room. By

observing the position lights and any associated process effects, closing of the valves can be verified. Testable check valves are arranged to verify that the tested valve disc is free to open and close. The channel and trip system responses can be functionally tested by applying test signals to each channel and observing the trip system response. Redundant instrument trip channels and isolation valves are provided. Based on system redundancy and additional testing, it is concluded that the impact, if any, on system availability is small as a result of this change. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

TS Table 4.2.B item 16, requires that an Instrument Functional Test be performed once per operating cycle for "ADS Relief Valve Bellows Pressure Switches.".

TS Table 4.2.B item 17, requires that a Instrument Functional Test be performed once per operating cycle for "LPCI/Cross Connect Valve Positions.".

Safety Discussion TS Table 4.2.B, Items 16 and 17: The ADS relief valve pressure switches provide Control Room indication of relief valve function. System design provides relief capability in excess of code requirements. The LPCI/Cross connect valves provide access to large sources of water for post-accident flooding of the Primary Containment. Valve position is indicated by both annunciators and position lights. Testing can only be performed when the reactor is in cold shutdown. Because of redundancy and availability for testing it is concluded that the impact, if any, on system availability is small as a result of this change. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.
TS Table 4.2.B, note 4 items 1-8 requires a Logic System Functional Test (LSFT) be performed once each operating cycle for the Core Standby Cooling Systems (CSCS).

Safety Discussion TS Table 4.2.B, note 4, items 1-8: The objective of the controls and instruments for the CSCS is to initiate appropriate responses from the various cooling systems so that the fuel is adequately cooled under abnormal or accident conditions. Sufficient instrument channel and equipment redundancy is built into the CSCS design such that no single failure could preclude the CSCS from performing its design functions. Based on the above discussion, it is concluded that the impact, if any, on system availability is small as a result of this change. A review of the history of

the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

TS Table 4.2.G item 1 requires a LSFT be performed once per refueling cycle for the Recirculation Pump Trip.

Safety Discussion TS Table 4.2.G item 1: The Recirculation Pump Trip (RPT) provides the means to mitigate the consequences of the unlikely failure to scram during an anticipated transient (ATWS) event. An RPT occurs when redundant coincident logics of reactor high pressure or reactor low water level are tripped. The RPT uses four reactor pressure and four reactor level outputs from the compensated reactor water level instruments. It should be noted that the channels used for RPT also initiates Alternate Rod Insertion (ARI). For this reason, it is advantageous to perform this testing when the reactor is not at power. Based on this and channel redundancy it is concluded that the impact, if any, on system availability is small. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

TS 4.5.D.1 item f requires that once per operating cycle for the Reactor Core Isolation Cooling (RCIC) System: "...verify automatic transfer from CST to suppression pool on low CST water level.".

Safety Discussion TS 4.5.D.1. item f: This test is required to ensure the capability of transferring the RCIC pump suction to the Suppression pool should the system's initial source, the condensate storage tank (CST), become unavailable. A redundant logic system is provided to detect low CST level. The RCIC system is designed to provide makeup water to the reactor vessel during isolation in order to provide adequate core cooling. The RCIC pump and motor operated valves are tested on a monthly basis which significantly increases the probability of detecting any failures that would prevent the RCIC system from performing its design function; therefore, it is concluded that the impact, if any, on system availability is small. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

TS 4.8.G requires for the Mechanical Vacuum Pump, "At least once during each operating cycle verify automatic securing and isolation of the mechanical vacuum pump.".

Safety Discussion TS 4.8.G: The Mechanical Vacuum Pump removes air and other non condensible gases from the Main Condenser when adequate steam pressure is not available to establish

vacuum conditions using the Steam Jet Air Ejectors (i.e., during start up and shut down). The discharge for the pump is routed to the Off-gas stack. In addition to providing a reactor scram, the Main Steam Monitoring System, uses redundant instrument channels arranged in a one out of two twice logic to isolate and trip the Mechanical Vacuum Pump on a high main steam radiation condition. This prevents removing fission products from the Main Condenser. Testing is performed during refueling outages to verify operability of the Mechanical Vacuum Pump prior to startup. It should also be noted that testing at power would cause a scram. Based on this and channel redundancy, it is concluded that the impact, if any, is small as a result of this change. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

Simulated Automatic Actuations

The following TS line items are simulated automatic actuations of safety systems which are performed prior to start up.

TS Table 4.2.C item 1, note 4, requires simulated automatic actuation of Control Rod Blocks once per operating cycle.

TS Table 4.2.D, note 4 requires simulated automatic actuation of the Reactor Building Isolation and the Standby Gas Treatment System Actuation once per operating cycle.

TS 4.5.A.1 item (a) requires the Core Spray system have a Simulated Automatic Actuation test once per operating cycle.

TS 4.5.A.3 item (a) requires the LPCI system have a Simulated Automatic Actuation test once per operating cycle.

TS 4.5.D.1, item (a) requires the RCIC system have a Simulated Automatic Actuation test performed once per operating cycle.

TS 4.5.E.1 requires for the Automatic Depressurization System (ADS) "during each operating cycle the following test shall be performed on the ADS: A simulated automatic test shall be performed prior to startup after each refueling outage.".

TS 4.7.D.1 item (a) requires the operable Primary Containment Isolation Valves that are power-operated and automatically initiated be tested for simulated automatic initiation and closure times at least once per operating cycle.

Safety Discussion Simulated Automatic Actuation: The above referenced TS line items are performed prior to startup

following a refueling outage. The purpose of these requirements is to ensure that the subject systems, which are critical to reactor safety, have been properly tested and are available following a refueling outage. Based on the above discussion, these surveillance requirements are considered "event" driven and therefore, since the refueling outage will be performed once each 24 months (the event) changing these surveillance requirements will not impact the availability of the subject systems. A review of the ST history for these items was not performed based on the fact that the ST which fulfill the above TS requirements are either performed on a more frequent basis and/or are a listing of other Logic System Functional Tests which fulfill other TS requirements.

(16) Mode Switch

TS Table 4.1.1, item 1 page 41

TS 4.1.A requires reactor protection system (RPS) instrumentation and associated devices that initiate a reactor scram to be functionally tested and calibrated according to the minimum frequency intervals shown in Table 4.1.1. The reactor mode switch in the shutdown position is one functional test listed in Table 4.1.1 with a specified test interval of once every refueling outage.

Safety Discussion: This test verifies the Reactor Mode Switch Shutdown Scram and Scram Bypass logic associated with the RPS function properly. The reactor mode switch scram function is not required to protect the fuel or nuclear boundaries. The RPS functions independently from the mode switch. The mode switch interfaces with the RPS; therefore, in the event of an undetected mode switch failure, the RPS could and does provide both automatic and manual scram capability. Based on the above discussion, it is concluded that the impact, if any, on the mode switch availability, is small as a result of this change. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(17) Project Appendix J: TS 4.7.A.2.f page 169
TS 4.7.A.4.d page 171

TS 4.7.A.2.f requires "The Main Steamline Isolation valves shall be tested at a pressure of 25 psig for leakage during each refueling outage, but in no case at intervals greater than two years. If a total leakage rate of 11.5 scf/hr for any one main steamline isolation valve is exceeded, repairs and retest shall be performed to correct the condition.".

Safety Discussion: The 4.7.A.2.f requirement is in place to implement 10 CFR 50 Appendix J requirements. The maximum interval of performing the test will still be limited to the stated Appendix J limit of not exceeding 24 months (i.e. the grace period of 25 percent normally applicable to surveillance requirements will not apply to 4.7.A.2.f because of the Appendix J requirements). The intent of this requirement has been to perform a test at an interval not to exceed 2 years and the intent of this requirement remains unchanged. Therefore, no change for this requirement in either word or intent is being proposed by changing to a 24 month fuel cycle.

TS 4.7.A.4.d requires "A leak test of the drywell to suppression chamber structure shall be conducted at each refueling outage to assure no bypass larger than or equivalent to a one-inch diameter hole exists between the drywell and suppression chamber."

Safety Discussion TS 4.7.A.4.d : In addition to the once per refuel outage, the ST is performed whenever a drywell to suppression chamber vacuum breaker is not fully closed in accordance with TS 3.7.A.4.b. It is concluded that the impact, if any, on system availability is small as a result of this change. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(18) Remote Shutdown Panels

4.11.C.2 page 234

TS 4.11.C.2 requires: "Operability of the switches on the emergency shutdown control panels shall be tested by electrical check once per refueling outage.".

Safety discussion: The increased time interval between surveillance tests will have a small impact, if any, on the availability of the Emergency Shutdown Control Panels because of the redundant equipment. The control of redundant systems required for maintaining the reactors in safe shutdown is such that damage to one panel will not prevent maintaining the reactors in the safe shutdown condition. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(19) RPS Response Time: TS Table 4.1.2, Note 4 page 44

Table 4.1.2 requires the following Reactor Protection System (RPS) Instrument Channels shall have their response times checked once per operating cycle:

Intermediate Range Monitor (IRM) High Flux
Average Power Range Monitor (APRM) High Flux
High Reactor Pressure
High Drywell Pressure
Reactor Low Water Level
High Water Level in Scram Discharge Instrument Volume
Turbine Condenser Low Vacuum
Main Steam Line Isolation Valve Closure
Main Steam Line High Radiation
Turbine First Stage Pressure Permissive
Turbine Control Valve Fast Closure Oil Pressure Trip
Turbine Stop Valve Closure

Safety discussion: The RPS esponse time testing is required to provide assurance th[illegible] the protective functions associated with each RPS functional unit channel are completed within the time limit assumed in the safety analyses. The RPS is made up of two independent trip systems. There are usually four subchannels to monitor each parameter with two subchannels in each trip system. The outputs of the subchannels in a trip system are combined in a logic so that either subchannel will trip that trip system. The tripping of both trip systems will produce a reactor scram. By increasing the refueling cycle length, the time interval between testing of the RPS response time will be increased. Using the inherent equipment availability and channel redundancy within the RPS design, is concluded that the impact, if any, on system availability is small. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(20) Standby Liquid Control System (SBLC)

TS 4.4.A.1	page 115
TS 4.4.A.2	page 116
TS 4.4.A.3	page 116

TS 4.4.A.1 requires: "At least once during each operating cycle: check that the setting of the relief valves is 1400 < P < 1680 psig.".

TS 4.4.A.2 requires: "At least once during each operating cycle: Manually initiate one of the SBLC pumps and pump demineralized water into the reactor vessel from the test tank.".

TS 4.4.A.3 requires: "Both systems including both explosive valves, shall be tested in the course of two operating cycles.".

Safety discussion: TS 4.4.A.1 tests the relief valves that provide system overpressure protection from the discharge of the positive displacement pumps. The SBLC system is designed with two redundant loops. If one relief valve lifted at too low a pressure, the check valve in that discharge line would prevent the other pump's flow from recycling back to the storage tank. In addition, the current TS surveillance frequency significantly exceeds the ASME XI/OM-1 requirements. The OM-1 requirement is that all valves of a type be tested within 10 years with a minimum of 20% tested within any 48 months. The new operating cycle will require 100% of the valves to be tested every 24 to 30 months. TS 4.4.A.2 delineates the testing requirements to ensure operability of the SBLC system. The SBLC system is redundant, but independent of the control rods. The system is also designed with a redundant loop. In addition, functional testing of the SBLC pump is performed on a quarterly basis throughout the operating cycle and the charges in the explosive valves are monitored for circuit continuity in the control room and an alarms sounds when the circuit is opened. The overall impact on system availability, if any, of extending the operating cycle from 18 to 24 months, with corresponding grace periods, is small. This conclusion is based on the fact that more frequent testing is performed, there are control room alarms which verify circuit continuity in the explosive valves, and/or system redundancy. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(21) Secondary Containment

TS 4.7.C.1.c page 176

TS 4.7.C.1.c requires: "Secondary containment capability to maintain 1/4 inch of water vacuum under calm wind (<5 mph) conditions with a filter train flow rate of not more than 10,500 cfm, shall be demonstrated at each refueling outage prior to refueling."

Safety discussion: Secondary containment is designed to minimize any ground level release of radioactive materials which might result from a serious accident. The Standby Gas Treatment System (SBGT) is used to ensure that a 1/4 inch vacuum can be maintained. There are redundant trains of SBGT and TS require that after secondary containment capability is challenged, the capability to draw a 1/4 inch vacuum be demonstrated. The redundant train and the operability

demonstration provide assurances that the impact, if any, of increasing the surveillance frequency from 18 to 24 months on system availability is small. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(22) Standby Gas Treatment System (SGTS)

TS 4.7.B.1.a page 175
TS 4.7.B.1.b page 175
TS 4.7.B.3.a page 175a

TS 4.7.B.1.a & b state: "At least once per operating cycle, the following conditions shall be demonstrated: a. Pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 8 inches of water at approximately 8,000 cfm. b. Inlet heater is capable of providing at least 40KW.".

Safety discussion: The SGTS system is normally in the standby condition, thus gross plugging of the HEPA filters and charcoal adsorber will be minimized. Testing of the HEPA filters at 8 inches of water differential pressure across the entire train is sufficiently conservative because the PBAPS HEPA filters are changed out at 3 inches of water differential pressure. Considering the simplicity of the heating circuit, increasing the test interval will have a small impact, if any, on system availability. In addition, the SGTS system has redundant filter trains and heaters which will ensure system availability in the event of failure of one of the system components. Based on the above discussion, it is concluded that the impact, if any, on the system availability is small as a result of this change. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

TS 4.7.B.3.a states: "At least once per operating cycle automatic initiation of each filter train of the standby gas treatment system shall be demonstrated.".

Safety discussion TS 4.7.B.3.a: This requirement demonstrates the automatic initiation of each filter train of the SGTS at least once per operating cycle. The SGTS system is tested to ensure that it can perform its design function of limiting the ground release from the reactor building and to release primary and secondary containment air at an elevated release point via the stack. TS Section 4.2.D and Table 4.2.D require SGTS system logic be functionally tested with system actuation at least once per 6 months. Further, the SGTS has redundant filter trains and normally is in standby. Therefore, it is concluded that the impact on system availability and availability is small as a result of increasing the length of

the test interval. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

(23) Snubber: TS 4.11.D.4 page 234b
TS 4.11.D.9 page 234e

TS 4.11.D.4 requires: "a) Once each operating cycle, during shutdown, a representative sample of 10% of each type of (mechanical or hydraulic) snubber required to be operable under the provisions of 3.11.D.1 shall be functionally tested either in place or in a bench test. For every unit found to be inoperable an additional 10% of that type of snubber shall be functionally tested until no more failures are found or all snubbers of that type have been tested...".

TS 4.11.D.9 requires: ".... Once each operating cycle, these records shall be reviewed to verify that no snubber service life shall be exceeded prior to the next review. If the service life will be exceeded then either recondition or replace the snubbers or re-evaluate the service life.".

Safety Discussion: Changing the inspection cycle to 24 months (maximum of 30 months) will not reduce the ability of the functional testing program to confirm the operability of the snubber population. The original interval of 18 months was selected to accommodate the need to test snubbers that were inaccessible during normal operation. Since snubbers do not require preventative maintenance during the operating cycle, the additional time added by a 24 month operating cycle (maximum of 30 months) has no impact on the snubbers ability to perform their design function.

The requirements to monitor service life remains a part of TS 4.11.D.9. The review of snubber service life records is a documentation review. If a snubber's service life would expire prior to the next scheduled review (next refuel outage) then the snubber is either reconditioned, replaced or reevaluated to extend its service life. Therefore, an increase in the operating cycle to 24 months (maximum of 30 months) will have no impact on snubber service life.

(24) Valves - Miscellanous: TS 4.7.A.3.a page 170
TS 4.7.A.4.c page 170
TS 4.7.D.3 page 178
TS 4.7.E.1 page 178

TS 4.7.A.3.a requires: "The pressure suppression chamber - reactor building vacuum breakers and associated instrumentation including setpoint shall be checked for proper operation every refuel outage.".

TS 4.7.A.4.c requires [for the Drywell-Pressure Suppression Chamber Vacuum breakers] : "Once per operating cycle each vacuum breaker shall be visually inspected to insure proper maintenance and operation.".

TS 4.7.D.3 requires: "At least once per operating cycle the operability of the reactor coolant system instrument line flow check valves shall be verified.".

TS 4.7.E.1 requires: "The inflatable seals for the large containment ventilation isolation valves shall be replaced at least once every **third** refueling outage.".

Safety discussion: The Pressure Suppression Chamber to reactor building vacuum relief system is designed with 100% redundancy. Operation of either train will maintain the pressure differential below the containment design. The drywell to suppression chamber vacuum relief system also has design margin. Only 10 of 12 vacuum breaker valves are necessary to maintain containment integrity. In addition, a quarterly full stroke exercise test in the forward and reverse direction is performed on the pressure suppression chamber to reactor building vacuum breaker valves. TS 4.6.A.4.a requires the drywell to suppression chamber vacuum breaker valves to be exercised through an opening and closing cycle once a month. These more frequent test would most likely detect problems with the valves. Therefore, it is concluded that the impact, if any, on system availability is small. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

The excess flow check valves are installed in instrument lines to minimize leakage in the event of a line failure downstream of the excess flow check valve. As a redundant safeguard these lines have a restricting orifice to assure minimization of leakage in the event of a line failure; therefore, it is concluded that the impact, if any, on system availability is small. A review of the history of the ST results demonstrates that there is no evidence of any failures which would invalidate this conclusion.

The proposed section 4.7.E.1 will state. "The inflatable seals for the large containment ventilation isolation valves shall be replaced at least once every **second** refueling outage.". The decrease in the inflatable seal replacement interval (nominally every 4 years vs. every 4.5 years) will have no impact on the ability of the large primary containment ventilation isolation valves to perform as designed. Since the seals will be replaced at a greater frequency than is currently done, their performance will equal or exceed

currently accepted performance. Therefore, there is no impact on the system availability because of this change.

Safety Assessment Summary

The proposed TS changes involve a change in the surveillance testing intervals from 18 months to 24 months to facilitate the current change in the PBAPS Unit 2 and Unit 3 refueling cycles from 18 months to 24 months. The proposed changes are to the surveillance frequencies only, and do not involve a change to the TS surveillance requirements themselves or the way in which the surveillances are performed. Additionally, the impact of the proposed TS changes on the availability of equipment or systems required to mitigate the consequences of an accident, if any, is small based on other, more frequent testing or the availability of redundant systems or equipment. A review of surveillance test history demonstrated that there was no evidence of any failures that would invalidate the above conclusions.

Information Supporting a Finding of No Significant Hazards Consideration

We have concluded that the proposed changes to the PBAPS TS, to facilitate a change from 18 month to 24 month refueling cycles, do not constitute a Significant Hazards Consideration. In support of this determination, an evaluation of each of the three standards set forth in 10CFR50.92 is provided below.

1. The proposed TS changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed TS changes involve a change in the surveillance testing intervals to facilitate the current change in the PBAPS Unit 2 and Unit 3 refueling cycles from 18 months to 24 months. The proposed TS changes do no physically impact the plant nor do they impact any design or functional requirements of the associated systems. That is, the proposed TS changes do not degrade the performance or increase the challenges of any safety systems assumed to function in the accident analysis below the design basis. The proposed TS changes do not impact the TS surveillance requirements themselves nor the way in which the surveillance are performed. Additionally, the proposed TS changes do not introduce any new accident initiators since no accidents previously evaluated have as their initiators anything related to the change in the frequency of surveillance testing. Also, the proposed TS changes do not affect the availability of equipment or systems required to mitigate

the consequences of an accident because of other, more frequent testing or the availability of redundant systems or equipment. Furthermore, an historical review of surveillance test results indicated there was no evidence of any failures that would invalidate the above conclusions. Therefore, the proposed TS changes do not increase the probability or consequences of an accident previously evaluated.

2. The proposed TS changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed TS changes involve a change in the surveillance testing intervals to facilitate the current change in the PBAPS Unit 2 and Unit 3 refueling cycles from 18 months to 24 months. The proposed TS changes do not introduce any failure mechanisms of a different type than those previously evaluated since there are no physical changes being made to the facility. In addition, the surveillance test requirements themselves and the way surveillance tests are performed will remain unchanged. Furthermore, an historical review of surveillance test results indicated there was no evidence of any failures that would invalidate the above conclusions. Therefore, the proposed TS changes do not create the possibility of a new or different kind of accident from any previously evaluated.

3. The proposed TS changes do not involve a significant reduction in a margin of safety.

Although the proposed TS changes will result in an increase in the interval between surveillance tests, the impact on system availability is small based on other, more frequent testing or redundant systems or equipment, and there is no evidence of any failures that would impact, if any, the availability of the systems. Therefore, the assumptions in the licensing basis are not impacted, and the proposed TS changes do not reduce a margin of safety.

Information Supporting an Environmental Assessment

An environmental assessment is not required for the changes proposed by this Change Request because the requested changes conform to the criteria for "actions eligible for categorical exclusion," as specified in 10CFR51.22(c)(9). The requested changes will have no impact on the environment. The requested

changes do not involve a significant hazards consideration as discussed in the preceding section. The requested changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite. In addition, the proposed changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Conclusion

The Plant Operations Review Committee and the Nuclear Review Board have reviewed these proposed changes to the TS and have concluded that they do not involve an unreviewed safety question, or a significant hazards consideration, and will not endanger the health and safety of the public.