Station Support Department

PECO NUCLEAR
A Unit of PECO Energy

10 CFR 50.90
10 CFR 50.59(c)

PECO Energy Company
965 Chesterbrook Boulevard
Wayne, PA 19087-5691

May 5, 1997

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
Request for License Amendments Associated With ECCS
Pump Suction Strainer Plant Modification

Gentlemen:

This letter is being submitted in accordance with the requirements of 10 CFR 50.90 and 10 CFR 50.59 requesting license amendments to Facility Operating License Nos. DPR-44 and DPR-56 for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, respectively. PECO Energy is submitting this request to obtain NRC approval for implementation of a plant modification to support installation of replacement suction strainers for the Emergency Core Cooling System (ECCS) pumps at PBAPS, Units 2 and 3. This plant modification is necessary in order to satisfy the recommendations stipulated in Bulletin 96-03, "Potential Plugging of Emergency Core Cooling Suction Strainers by Debris in Boiling Water Reactors." Prior NRC approval for this plant modification is required, since the 10 CFR 50.59 Review prepared for this modification concluded that the proposed modification does constitute an Unreviewed Safety Question (USQ). 10 CFR 50.59(c) requires that, for any changes to the facility involving a USQ, the licensee shall submit an application for amendment to its license pursuant to 10 CFR 50.90.

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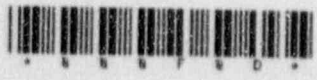
Accordingly, the attachment to this letter contains the information supporting a no significant hazards consideration in accordance with the requirements of 10 CFR 50.92. This information is being submitted under affirmation, and the associated affidavit is enclosed.

We are requesting that the NRC review and approve our request by September 30, 1997, in order to support the installation of the replacement strainers at PBAPS, Unit 3, during its next refueling outage which is scheduled for October 1997.



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NRR/DLPM/PD3-2
NRR/SCSB
NRR/SRXB/A
NRR/SCSB
NRR/DLPM/PD3-2
RES/GSTB

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

Very truly yours,

G. A. Hunger, Jr.

G. A. Hunger, Jr.
Director - Licensing

Attachment
Enclosure

cc: H. J. Miller, Administrator, Region I, USNRC (w/ attachment, enclosure)
W. L. Schmidt, USNRC Senior Resident Inspector, PBAPS (w/ attachment, enclosure)
R. R. Janati, Director, PA Bureau of Radiological Protection (w/ attachment, enclosure)

COMMONWEALTH OF PENNSYLVANIA :

: ss.

COUNTY OF CHESTER :

J. B. Cotton, being first duly sworn, deposes and says:

That he is Vice President of PECO Energy Company, the Applicant herein; that he has read the foregoing request for license amendments for Peach Bottom Atomic Power Station, Units 2 and 3, Facility Operating License Nos. DPR-44 and DPR-56, concerning the replacement of Emergency Core Cooling System pump suction strainers, 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.

J. B. Cotton

Vice President

Subscribed and sworn to

before me this 5th day

of May, 1997.

Mary Lou Skrocki

Notary Public

Notarial Seal
Mary Lou Skrocki, Notary Public
Tredyffrin Twp., Chester County
My Commission Expires May 17, 1999
Member, Pennsylvania Association of Notaries

ATTACHMENT

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos.	50-277 50-278
License Nos.	DPR-44 DPR-56

10 CFR 50.92 EVALUATION
INFORMATION SUPPORTING A NO SIGNIFICANT HAZARDS CONSIDERATION
FOR ECCS PUMP SUCTION STRAINER REPLACEMENT MODIFICATION

10 CFR 50.92 EVALUATION
INFORMATION SUPPORTING A NO SIGNIFICANT HAZARDS CONSIDERATION
FOR ECCS PUMP SUCTION STRAINER REPLACEMENT MODIFICATION

Subject

PECO Energy is submitting this license amendment request to obtain NRC approval for the implementation of a plant modification to support installation of replacement suction strainers for Emergency Core Cooling System (ECCS) pumps at Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3. This plant modification is necessary in order to satisfy the recommendations stipulated in Bulletin 96-03, "Potential Plugging of Emergency Core Cooling Suction Strainers by Debris in Boiling Water Reactors." Prior NRC approval for this plant modification is required, since the 10 CFR 50.59 Review prepared for this modification concluded that the proposed modification does constitute an Unreviewed Safety Question (USQ).

We are requesting that the NRC review and approve our request by September 30, 1997, in order to support the installation of the replacement strainers at PBAPS, Unit 3, during its next refueling outage which is scheduled for October 1997.

On May 6, 1996, the NRC issued Bulletin 96-03 requesting that Boiling Water Reactor (BWR) licensees implement appropriate procedural measures and plant modificatio to minimize the potential for clogging of Emergency Core Cooling System (ECCS) pump suct strainers by debris generated during a Loss-of-Coolant-Accident (LOCA). The NRC indicated that these actions were necessary to ensure that the ECCS can perform its intended safety function and minimize the need for operator action to mitigate a LOCA. The NRC requested that the actions specified in Bulletin 96-03 be implemented by the end of the first refueling outage starting after January 1, 1997.

In Bulletin 96-03 the NRC identified three (3) potential options for addressing the long-term resolution of the ECCS pump suction strainer clogging industry issue. In addition, the NRC also indicated that licensees may propose other alternatives which provide an equivalent level of assurance that the ECCS will be able to perform its intended safety function following a LOCA. The three (3) potential resolution options identified in the Bulletin are:

Option 1: Installation of a Large Capacity Passive Strainer Design

Option 2: Installation of a Self-Cleaning Strainer

Option 3: Installation of a Backflush System

PECO Energy evaluated various options and determined that the installation of large-capacity, passive, pump suction strainers (i.e., Option 1) is the most viable option for implementation at PBAPS, Units 2 and 3, in order to achieve a long-term resolution for addressing the ECCS pump suction strainer clogging issue.

This option utilizes a strainer design of sufficient capacity to ensure that debris loading effects following a LOCA, and as calculated in accordance with the guidance specified in Regulatory Guide (RG) 1.82, "Water Sources for Long-Term Recirculation Cooling Following a Loss-of-Coolant Accident, do not cause a loss of Net Positive Suction Head (NPSH) for the ECCS pumps. This design is completely passive and requires no operator intervention, nor does it require an interruption of ECCS flow for strainer cleaning or backflushing. Since this design relies solely on passive structures and components, no new Technical Specifications surveillance requirements for the strainers are required.

The new replacement strainers will be installed on each unit at PBAPS during that unit's next scheduled refueling outage during a time period when the affected pumps are not required to be operable in accordance with Technical Specifications (TS). The work will be performed in accordance with approved procedures and will meet the requirements of all existing PECO Energy programs, e.g., Foreign Material Exclusion (FME) controls and control of heavy loads.

The new large-capacity replacement strainers will be installed on the Residual Heat Removal (RHR) and Core Spray (CS) systems' pump suction piping at PBAPS, Units 2 and 3. Replacement strainers are not planned to be installed on the High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) systems, since these systems are not required for initial reflooding following a large-break LOCA or for long-term cooling. In addition, the HPCI and RCIC pumps normally take suction from the Condensate Storage Tank (CST) rather than the Torus. The assumptions used in sizing these new replacement strainers for the PBAPS ECCS are discussed below, and are consistent with the guidance specified in RG 1.82, and NUREG/CR-6224, "Parametric Study of the Potential for BWR ECCS Strainer Blockage Due to LOCA Generated Debris."

Safety Assessment

Current Design Basis

The suction strainers currently installed on the RHR and CS systems are 4 foot diameter cylindrical strainers. The RHR strainers are 18 inches long and the CS strainers are 8 inches long. The strainers are designed to maintain a pressure drop below 0.5 psi for RHR system and 0.5 psi for CS system, at flow rates of 10,000 gpm for RHR system and 3,125 gpm for CS system. No fouled pressure drop limits were specified for the original strainers.

The original specified required NPSH margin for the RHR pumps was 4 feet, and there was no specified margin for the CS pumps. This margin was intended to offset manufacturing tolerances and differences in piping configuration. This margin requirement was not included in the NPSH calculations for Power Rerate for PBAPS, Units 2 and 3. The available NPSH margins for the RHR and CS pumps are currently defined as 9.6 feet for RHR and 8 feet for CS with system flow rates of 9500 gpm for RHR and 3125 gpm for Core Spray. These values are calculated to occur with a Torus temperature of 213°F and Torus airspace pressure of 23.8 psia, and include no losses for the suction strainers.

Since PBAPS has individual suction strainers for each ECCS pump, the most limiting accident and single failure scenario is the scenario which minimizes the number of ECCS pumps running and drawing suction from the Torus.

The original accident analysis previously evaluated in the Safety Analysis Report (SAR) did not include assumptions regarding the introduction of insulation debris into the torus and the effect on ECCS pump operability. The only head loss information included was the clean head loss for the RHR and Core Spray strainers, provided in Updated Final Safety Analysis Report (UFSAR) Figures 4.8.1 and 6.4.2. Therefore, the existing strainers were not designed for the resulting increase in head loss. The replacement strainers will be designed to preclude a potential loss of NPSH for the ECCS pumps. The design is consistent with the commitments made in our letter to the NRC dated November 1, 1996 responding to NRCB 96-03 for PBAPS, Units 2 and 3, and LGS, Units 1 and 2.

The design basis accident and most limiting single failure for PBAPS is a recirculation pump suction line break coupled with a loss-of-offsite-power and failure of Division I or II dc power which would render the one (1) RHR pump inoperable and two (2) CS pumps inoperable due to the loss of the common CS injection valve. This results in the following ECCS equipment operating initially and drawing suction from the Torus: three (3) RHR pumps in LPCI mode and two (2) CS pumps. The HPCI and RCIC system pump suction strainers are not planned for replacement, since these systems are not required for initial reflood following a large break LOCA or for long-term cooling, and their respective pump suctions are normally aligned to the CST rather than the Torus.

Modified Design Basis

General

The proposed plant modification substantially changes the design basis for the ECCS suction strainers. The current ECCS suction strainer design for PBAPS does not include any assumptions regarding debris fouling. The new design includes substantial margins in many of the design inputs which are discussed below. The ECCS injection capability will continue to be functionally tested in the same manner as described in the SAR.

The heat capacity of the torus pool is not impacted by the replacement of larger strainers. The volume of water displaced and the corresponding difference in heat capacities between the water displaced and the steel of the replacement strainers is less than .01%. Therefore, the replacement strainers have no measurable effect on the capabilities of the torus as a heat sink due to their increased size.

The larger strainers and their supports will be designed for the currently licensed seismic and hydrodynamic load methodologies and load combinations. Loads on other submerged structures are not changed due to the installation of larger ECCS suction strainers. The torus structure and supports have been analyzed and are capable of accepting the loads imposed by the larger strainers. The changes have no impact on any other systems or portion of systems, structures or components described in the UFSAR.

This proposed modification provides replacement strainers for the ECCS suction lines of sufficient capacity to perform their intended safety function following a LOCA, considering debris loading effects. Since these strainers will be passive components, no changes will be required to procedures which provide controls, methods, or actions for activities performed at the plant or on plant systems, structures, or components as described in the SAR. All modification and maintenance activities will be performed under approved plant procedures.

NPSH Margin

Although no margin is required for NPSH, the proposed design basis for sizing the new replacement strainers is to limit the head loss of a fully fouled strainer to 2 feet less than the NPSH margin for each ECCS pump for those accident conditions specified above. The value of 2 feet was chosen to provide some additional operational margin. Therefore, the allowable head loss for an RHR pump suction strainer would be 7.6 feet and the allowable head loss for a CS pump suction strainer would be 6 feet based on the following design debris considerations:

Insulation Type

The PBAPS, Units 2 and 3, drywells contain substantial amounts of both fibrous insulation (i.e., NUKON material) primarily with protective stainless steel jacketing (approximately 1700 ft^3) and Reflective Metal Insulation (RMI) (approximately 2400 ft^3). A small amount of fiberglass insulation is also installed on the chilled water lines in the drywell which was treated as NUKON type material for the purposes of the sizing calculations for the new replacement strainers. An evaluation comparing the loss in NPSH associated with the expected amount of NUKON insulation material bounds the head-loss for RMI material. In addition, the Boiling Water Reactor Owners' Group (BWROG) testing has shown that combining RMI with a bed of NUKON insulation along with the deposition of corrosion product debris does not further increase the head-loss for the bed. Therefore, only a combined bed of NUKON insulation and corrosion product/operational debris was used in sizing the new replacement strainers.

Zone of Destruction

The zone of destruction (i.e., the zone around a pipe break within which insulation is destroyed) to be used at PBAPS for sizing the strainers is conservatively estimated, and is based on the volume associated with a fully expanding jet at a distance corresponding to a stagnation pressure of 4 psig. Since testing conducted by the BWROG showed that jacketed or unjacketed NUKON was not destroyed at stagnation pressures of less than 10 psig, this zone of destruction will bound the actual zone of destruction in the drywell. This volume was then converted to a spherical volume based on the methodology and data in the BWROG Utility Resolution Guideline (URG), Method 2. This spherical volume was then placed within the drywell. Any portions of the sphere which intersected the drywell walls or vessel pedestal were eliminated from the zone. Also, any portions of the sphere with no line of sight to the assumed break location were eliminated from the zone of destruction. The remainder of the sphere was then used to define the zone in which insulation could be destroyed. All insulation contained within this zone was considered destroyed for the purposes of sizing the new replacement strainers.

Transport Fraction

The percentage of destroyed insulation which could be expected to be transported to the Torus during the initial blowdown or subsequent washdown is defined as the transport fraction. Testing conducted by the BWROG has shown that this fraction varies with the containment type and size of debris generated by the break. Defining the transport fraction in accordance with the guidance specified in the URG for a Mark 1 drywell results in a fraction of 28% for insulation above the lowest grating and 78% for insulation below the lowest grating. However, for conservatism, a transport fraction of 100% was assumed for the design of the PBAPS replacement strainers.

Pipe Break Location

Since there are no specific analyzed pipe break locations defined for PBAPS, the location of the center of the spherical volume for the zone of destruction was chosen, and selected to be the area within the drywell containing the highest density of NUKON insulation material. This volume provides a bounding volume of insulation for the head-loss calculation.

Debris Settling

There was no credit taken for settling of insulation debris or corrosion products in the torus.

Insulation Inventory

The design basis for the new replacement strainers at PBAPS uses the zone of destruction described above assuming 100% transport of material. This results in a torus debris inventory of approx. 650 ft^3 of NUKON. The NUKON debris used to size the actual strainers is the entire drywell inventory of NUKON type insulation material which is approximately 1800 ft^3. Therefore, the strainers are designed with operational margin of approx. 176% for the NUKON debris load.

As a result of the assumptions listed above, and since the maximum post-accident NUKON inventory for any given break is expected to be approximately 650 ft^3, the inventory for each strainer, when distributed in proportion to each individual strainer flow versus total ECCS flow, is defined as follows:

RHR system: 174 ft^3

CS system: 63 ft^3

Corrosion Product Inventory

The corrosion product inventory value used for sizing the new replacement strainers was based on an accumulation rate of 100 pounds of corrosion product debris per year. This value is based on specific plant data obtained during the last two (2) refueling outages at PBAPS. The actual accumulation rate was estimated at 45 pounds per year, based on measurements taken in the Torus. Since the corrosion product layer in the torus was very thin, the accumulation rate for the design was increased to 100 pounds per year to account for possible measurement inaccuracies. The Torus corrosion product inventory assumed for the design was 1000 pounds.

Operational Debris

Modeling the effects of the operational debris for PBAPS by doubling the corrosion product inventory increases the calculated head-loss for any given strainer by approximately 18% based on an estimate of the "bump up factors" as described in Volume 1 of the Technical Support Documentation to the URG.

Only particulate debris was considered in the design of the replacement strainers. The design basis zone of destruction includes sufficient conservatism to bound any expected amount of fibrous operational debris. For particulate debris, no loading was explicitly calculated. An additional 1000 pounds of corrosion products was assumed to bound operational debris in the basis for strainer sizing. This is considered to be a conservative bounding estimate for the following reasons:

The PBAPS units have a steel containment that is coated with inorganic zinc. Inorganic zinc would be expected to fail in powder form, rather than delaminate in sheets or chips. Additionally, since the containment is steel, this limits the amount of concrete debris and dust which could be dislodged by a LOCA.

The quantity of unqualified coating material (i.e., paint) in the drywell is small and is mainly installed on platform steel, the recirculation pump motors, and small components such as level switches and some valve operators. While no final calculation has been performed to quantify the amount of these coatings, inspection of photographs of the PBAPS drywells indicates that the quantity is similar to the quantity of unqualified coatings at Limerick Generating Station (LGS). The LGS Updated Final Safety Analysis Report (UFSAR) lists the weight of unqualified coatings in the drywell as 26 pounds.

The BWROG URG recommends the following values for operational debris:

Inorganic Zinc:	47 lb
Dust / Dirt:	150 lb
Rust Chips:	50 lb

Adding these quantities to the unqualified paint estimate results in an amount of debris which is bounded by the 1000 pounds of additional corrosion products.

Adding the operational debris total to the Torus corrosion product inventory yields a total corrosion product inventory of 2000 pounds as the design basis for the strainers.

In addition, PECO Energy has confidence in its Foreign Material Exclusion (FME) program at PBAPS, Units 2 and 3. Procedural controls are in place in order to maintain plant cleanliness and to control introduction of foreign material. FME controls are instituted for work activities performed in the drywell and torus. Closeout inspections of the drywell and torus are conducted, as appropriate, to ensure that any foreign material is removed upon completion of work activities. Plant personnel are instructed regarding the importance of plant cleanliness. Therefore, since adequate FME controls are in place at PBAPS, Units 2 and 3, operability of the replacement ECCS suction strainers will not be adversely impacted by any foreign material.

Strainer Fabrication/Testing

The sizing/design of the replacement strainers selected for use is based on vendor supplied head-loss correlations which will be verified by a prototypical test at the EPRI test facility using debris loadings prototypical of the PBAPS design conditions. The strainers will be designed and structurally supported in order to withstand all expected forces including those resulting from missiles, debris accumulation, LOCA and Safety-Relief Valve (SRV) induced hydrodynamic loads, and design basis seismic events.

The new replacement strainers will be fabricated in accordance with the applicable requirements of the American Society of Mechanical Engineers (ASME) Code, Section III, but not stamped, since the strainers are not pressure retaining components. The strainers will be fabricated of material that is not susceptible to corrosion (i.e., stainless steel) and will not be subject to degradation during long periods of inactivity and/or normal operations. The new strainers will be added to the inservice Inspection (ISI) Programs for both PBAPS, Units 2 and 3.

Planned Surveillances/Inspections

In order to assure that the accumulation of corrosion products does not exceed the value assumed in the strainer design, PECO Energy will periodically inspect the new replacement strainers and torus. If the design assumptions (i.e., 100 pounds of corrosion products per year) are exceeded, PECO Energy will adjust the desludging interval accordingly.

Proposed Technical Specification Changes

No new surveillance requirements will be imposed due to the level of conservatism included in the design of the replacement strainers, and due to the fact that these components are strictly passive components. Therefore, the replacement strainers for the ECCS suction strainers will not require changes to the TS. The new larger passive strainers are required to reduce the loss of NPSH concern expressed in NRCB 96-03 and assure adequate flow to the RHR and CS pumps. Since they are passive components in the system flow path, their operability will be adequately demonstrated through the existing TS surveillance tests performed for the RHR and CS systems. This is consistent with the treatment of suction strainers in the current PBAPS TS, the Standard TS, and Improved Standard TS.

Conclusions

The new larger passive strainers are required to provide the required ECCS flows and minimum required pump NPSH for the CS and RHR pumps even when accounting for larger quantities of debris postulated to be generated during a LOCA. The larger strainers and their supports are designed for the currently licensed seismic and hydrodynamic load methodologies and load combinations. Loads on other submerged structures are not changed due to the installation of larger ECCS suction strainers. The torus structure and supports have been analyzed for the modified loadings and are capable of accepting the loads imposed by the larger strainers. No structure, system, or component is adversely impacted by this modification.

Effectiveness and reliability of ECCS to ensure the reactor core is flooded is enhanced by this modification due to the larger capacity suction strainers being installed. The Technical Specifications (TS) and the UFSAR sections impacted by this modification were reviewed for potential reductions in the margin of safety and the existing design margin of safety is not adversely impacted.

The replacement ECCS suction strainers are designed to maintain the required NPSH for the RHR and CS pumps under the most limiting design basis accident conditions. The design inputs for the sizing of the strainers bound the accident conditions and provide significant operational margin.

Information Supporting a Finding of No Significant Hazards Consideration

We have concluded that the proposed plant modification for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, to replace Emergency Core Cooling System (ECCS) pump suction strainers for the Residual Heat Removal (RHR) and Core Spray (CS) systems, does not involve a Significant Hazards Consideration. In support of this determination, an evaluation of each of the three (3) standards set forth in 10 CFR 50.92 is provided below.

1. The proposed change to the facility does not involve a significant increase in the probability or consequences of an accident previously evaluated.

   While the operability of the Emergency Core Cooling System (ECCS) could affect the probability of fuel failure, the radiological consequences of fuel failure are included in the current SAR analysis. The remaining barriers to fission product release, such as the primary and secondary containment, and Standby Gas Treatment System (SGTS) are unaffected by this modification. Therefore, the consequences of any equipment malfunction previously evaluated will not be increased as a result of this proposed plant modification. None of the components modified or replaced in this modification are accident initiators. They do not affect the nuclear fuel, the reactor pressure vessel, or any piping which forms the pressure boundary of the Nuclear Steam Supply System (NSSS). Additionally, none of the components modified or replaced by this proposed plant modification affect any of the barriers to fission product release previously evaluated.

   The original accident analysis previously evaluated in the SAR did not include assumptions regarding the introduction of insulation debris into the torus and the effect on ECCS pump operability. Therefore, the existing strainers were not designed for the resulting increase in head loss. Sizing of the replacement Peach Bottom suction strainers is based on the guidance included in the BWROG Utility Resolution Guide (URG). This document is not currently approved by the NRC. Therefore, the operability of the new strainers would be indeterminate prior to approval of the URG. Since the operability of the ECCS pumps is dependent on the operability of the suction strainers, the operability of the ECCS pumps would also be considered indeterminate prior to NRC approval of these assumptions.

   The new strainers are being added to increase the surface area to ensure operability of the ECCS pumps, and thereby, maintain long-term recirculation cooling capability during post LOCA conditions. These components are passive parts of the ECCS system and are installed only to mitigate the effects of an accident. This proposed plant modification is required as the result of design basis changes for the ECCS suction strainers implemented in accordance with the recommendations stipulated in Bulletin 96-03.

   This proposed plant modification does not change, degrade or prevent the responses of any existing plant system required to mitigate the radiological consequences of an accident previously evaluated in the SAR. As such, the onsite and offsite radiological effects of any accident previously evaluated will not be impacted as a result of performing this modification. The purpose of the modification is to preserve the performance of the existing ECCS systems, given a change in the strainer design basis.

   Therefore, the proposed change to the facility does not involve an increase in the probability or consequences of an accident previously evaluated.

2. The proposed change to the facility does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The original accident analysis previously evaluated in the SAR did not include assumptions regarding the introduction of insulation debris into the torus and the effect on ECCS pump operability. Therefore, the existing strainers were not designed for the resulting increase in head loss. Sizing of the replacement PBAPS suction strainers is based on the guidance included in the BWROG Utility Resolution Guide (URG). This document is not currently approved by the NRC. Therefore, the operability of the new strainers would be indeterminate prior to approval of the URG. Operation of the plant with the operability of all ECCS suction strainers indeterminate is beyond the analyzed condition as described in the Updated Final Safety Analysis Report (UFSAR).

None of the components modified or replaced in this modification are accident initiators or affect any structures, systems or components which initiate accidents. This change only replaces the current RHR and CS suction strainers with strainers designed to maintain the required Net Positive Suction Head (NPSH) for the maximum post Loss-of-Coolant-Accident (LOCA) debris loading. These are passive components which serve only to mitigate an accident. They meet all required hydrodynamic and seismic loading and cannot initiate any accident.

The proposed plant modification to install replacement suction strainers does not control functions or responses of safety related equipment. The installation of larger strainers in response to a change in the design basis does not create any new accident scenarios or any new failure modes.

Therefore, the proposed change to the facility does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed change to the facility does not involve a significant reduction in a margin of safety.

The margin of safety for the ECCS system is defined by the flow rates produced by the pumps. If the required NPSH is maintained, the ECCS pumps will deliver the rated flow. The replacement suction strainers are designed to maintain the pressure drop across a fully fouled strainer to 2 ft. less than the required NPSH for the RHR and CS pumps under design basis LOCA conditions with the maximum combined insulation and corrosion product debris loading.

The debris loading used for this design is based on a break of a Main Steam Line in the location in the drywell having the highest density of NUKON insulated piping. This location maximizes both the energy available to transport insulation debris and the possible number of targets. All of the insulation in the zone of destruction, discussed in the Safety Assessment section above, is assumed destroyed and transported to the torus, where it is available to be entrained on the replacement strainers combined with 2000 pounds of corrosion products. No settling of debris is credited in this design. Since no design margin is required above the required NPSH to assure full pump flow, this design bounds all accident conditions.

The design of the new strainers assures that adequate NPSH margins exist to maintain the current analyzed ECCS flow rates, even with increased debris loading. In addition, Foreign Material Exclusion (FME) controls are adequate such that foreign material will not adversely impact the new replacement suction strainers. Therefore, this modification maintains the existing margin of safety as defined in the bases for the current Technical Specifications (TS).

Therefore, this proposed change to the facility does not result in a significant reduction in any margin of safety.

Information Supporting an Environmental Assessment

An Environmental Assessment is not required for the proposed changes to the facility since the proposed plant modification for PBAPS, Units 2 and 3, conforms to the criteria for "actions eligible for categorical exclusion," as specified in 10 CFR 51.22(c)(9). The proposed plant modification will have no impact on the environment. The proposed plant modification does not involve a significant hazards consideration as discussed in the preceding section. The proposed plant modification does not involve a significant change in the types or significant increase in the amounts of any effluent that may be released offsite. In addition, the proposed plant modification does 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 the proposed changes to the facility as a result of this proposed plant modification and concur that the changes do involve an Unreviewed Safety Question, and that the proposed changes will not endanger the health and safety of the public.