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SUBJECT: Submits update response to RAI re NRC Bulletin 96-003, "Potential Plugging of ECCS Suction Strainers," & to request for NRC action to revise schedule for final compliance w/ Bulletin 96-003.

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SUSQUEHANNA STEAM ELECTRIC STATION
REQUEST FOR NRC RESPONSE TO ADDITIONAL INFORMATION REGARDING BULLETIN 96-03:
POTENTIAL PLUGGING OF ECCS SUCTION STRAINERS
PLA-4880 **FILE R41-2**

Docket Nos. 50-387 and 50-388

References: (1) *NRC Bulletin 96-03, "Potential Plugging of Emergency Core Cooling Suction Strainers by Debris in Boiling Water Reactors," dated May 6, 1996.*
(2) *PP&L Letter No. PLA-4512, "Interim Response to Bulletin 96-03, Request for One-Cycle Deferral for Unit 2," dated October 4, 1996.*
(3) *PP&L Letter No. PLA-4523, "Response to Bulletin 96-03, Potential Plugging of ECCS Suction Strainers," dated November 5, 1996.*
(4) *NRC Letter, "NRC Bulletin 96-03, 'Potential Plugging ECCS Suction Strainers,' Request for Deferral for Susquehanna Steam Electric Station, Units 1 and 2 (TAC Nos. M96172 and M96173)," dated February 19, 1997.*
(5) *Letter, B. C. Buckley (NRC) to G. A. Hunger (PECO), "Deferral of Implementation of NRC Bulletin 96-03 Requested Actions for Limerick Generating Station (LGS), Unit 2, (TAC NO. MA0689)," dated March 6, 1998.*

NRC Bulletin 96-03, "Potential Plugging of Emergency Core Cooling Suction Strainers by Debris in Boiling Water Reactors" (Reference 1) requests that addressees implement appropriate procedural measures and plant modifications to minimize the potential for clogging of ECCS suction strainers by debris during a loss-of-coolant accident (LOCA). It further requires that addressees report the extent to which the requested actions will be taken and notify the NRC upon completion. Specifically, the bulletin requires:

- A 180 day report indicating whether the addressees intend to comply with requested actions, including a description of planned actions and mitigative strategies to be used, the schedule for implementation, and proposed Technical Specifications, if appropriate.

- Within 30 days of completion of all requested actions, submittal of a report confirming completion and summarizing any actions taken.

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The PP&L 180 day response was provided via References 2 and 3. At the time of submittal of the 180 day response it was anticipated that an NRC-approved basis for demonstrating compliance with the requirements of Bulletin 96-03 would be available prior to the installation of the replacement strainers in Unit 1 during the Spring '98 refueling outage.

This letter has the following purposes:

- To provide an update on the PP&L actions in response to Bulletin 96-03.
- To request NRC action to revise the schedule for final compliance with Bulletin 96-03.
- To request NRC approval for deferral of the Unit 2 strainer installation until the Spring 1999 Unit 2 refueling outage.

Each of these purposes are discussed in more detail below.

Update on PP&L Actions in Response to Bulletin 96-03

PP&L will install new, larger, passive strainers in Unit 1 during the ongoing Spring 1998 refueling outage (RFO). A request for NRC concurrence for deferring the Unit 2 installation until the Spring 1999 RFO is provided with this letter. The replacement strainers are of a design and size that significantly improves their ability to accommodate additional debris and will improve the NPSH available to the Residual Heat Removal (RHR) and Core Spray (CS) pumps. Installation of these strainers will enhance the safety margin of the low pressure ECCS systems. Additional design information is provided in Attachment 1.

Request for NRC Action to Revise the Schedule for Final Compliance With Bulletin 96-03

Under "Requested Actions," Bulletin 96-03 discusses options to "implement appropriate measures to ensure the capability of the ECCS to perform its safety function following a LOCA." Under "Required Response" the bulletin requires, as noted earlier in this letter, a report confirming that all requested actions have been completed within 30 days of doing so.

PP&L plans to install replacement strainers in upcoming outages on each unit; however, in order to demonstrate full compliance with the bulletin , the following items require resolution:

BWROG Utility Resolution Guidance (URG) - This guidance formed the basis for many of PP&L's design assumptions on the new strainers; PP&L is awaiting its final disposition in order to resolve any resulting impacts. As of this letter, the NRC has issued a draft SER for comment to the BWROG; a final SER is not currently anticipated prior to PP&L's Unit 1 installation.

Containment Coatings - An ongoing BWROG effort is expected to establish the source term, transport, and head loss assumptions related to containment coatings. Defined workscope and NRC reviews will likely extend into 1999. The NRC is currently monitoring the BWROG activities, and anticipates release of a Generic Letter on this subject in the near future.

Treatment of Min-K Insulation - As a result of additional testing PP&L has sponsored, we have recently learned that the head loss caused by Min-K insulation debris can be significant even when only a small quantity of Min-K is present. PP&L has limited amounts of Min-K installed at SSES, typically in the areas of pipe whip restraints. Our current plans for resolving this potential impact are discussed in the attachment.

Vendor Topical Report - The NRC is currently reviewing General Electric Report NEDC-32721P, Rev. 1, "Application Methodology for GE Stacked Disk ECCS Suction Strainers." Similar to the URG, PP&L is awaiting final NRC disposition of this report in order to resolve any resulting impacts.

Based on these issues, PP&L proposes the following alternative method for responding to the subject Bulletin Required Action:

- PP&L will provide a report to the NRC confirming installation of replacement strainers within 30 days of the modification being determined operational for each unit.

- Within 30 days of the availability of the final NRC-approved basis for demonstrating compliance with the requirements of Bulletin 96-03, PP&L will submit a letter which will provide the plan and schedule for full compliance with Bulletin 96-03. This letter will include our final disposition of the interim commitments made in response to NRC Bulletins 93-02, 95-02, and 96-03 (see Attachment 2), based on the final suction strainer design requirements.

It is requested that the NRC provide a response indicating their position on this approach.

Request For NRC Approval To Defer The Unit 2 Strainer Installation Until The Spring 1999 Unit 2 Refueling Outage

PP&L originally requested deferral of the strainer installation for SSES Unit 2 in Reference 2. The NRC response (Ref. 4) granted a partial deferral, but requested that we "install passive suction strainers in each unit and make them operational on or before December 31, 1998." Recently, the NRC has approved a four month deferral beyond the end of 1998 for Limerick Generating Station Unit 2 (Ref. 5).

Based on the information provided in Attachment 2 to this letter, PP&L requests that NRC reconsider their initial position and grant a three-month deferral from the end of 1998 to the SSES Unit 2 ninth refueling outage, which is currently scheduled to begin in March, 1999.

Any questions on this letter should be directed to Mr. R. R. Sgarro at (610) 774-7552.

Sincerely,

R. G. Byram

Attachments

copy: NRC Region I
Mr. V. Nerses, NRC Sr. Project Manager - OWFN
Mr. K. M. Jenison, NRC Sr. Resident Inspector - SSES
Mr. K. Kerns, PA DEP

Attachment 1: Supplemental Design Information on Replacement ECCS Pump Suction Strainers for Susquehanna SES

Introduction

PP&L plans to replace the existing truncated cone Residual Heat Removal (RHR) and Core Spray (CS) strainers at Susquehanna Steam Electric Station (SSES) with a stacked disk strainer design provided by General Electric (GE). The replacement strainers provide a much larger surface area than the existing truncated cone strainers and are designed to be bolted to the existing ECCS piping penetrations. The strainers are flange mounted on the RHR and CS suction piping tee which is oriented vertically. Each penetration has both an upper and lower strainer basket.

The strainers are designed to replace the existing truncated cone strainers without additional support members required.

In regards to hydrodynamic load considerations, the new strainers and piping inside the suppression chamber have been evaluated for pool swell, inertial building loads (LOCA and SRV) and LOCA and SRV submerged structure loads based on the methods documented in the SSES Design Assessment Report (DAR). The methods used for determination of loads on both the strainers and ECCS suction piping are consistent with those described in the DAR.

In terms of hydraulic considerations, conservative application of the URG guidance has been the basis for the debris loading used in evaluating the performance of the replacement strainers. The URG guidance has also been reviewed for applicability to Susquehanna and adjustments have been made to account for plant unique considerations, where appropriate. In addition, PP&L has required the strainer vendor (GE) to perform supplemental testing to increase the confidence in the head loss correlations applicable to the debris combinations specific to SSES. In addition, full scale tests of the strainers at the EPRI facility are planned in the near future. This testing will confirm the strainer hydraulic design meets PP&L requirements.

Both the hydrodynamic load and hydraulic considerations for the design of the replacement strainers are discussed further in the following sections.

Hydrodynamic Load Considerations

The new strainers and existing piping are subject to the following LOCA and SRV hydrodynamic loads:

LOCA Water Jet Load
LOCA Air Bubble Load
LOCA Pool Swell Loads
LOCA And SRV Building Inertial Loads
Condensation Oscillation (CO) and Chugging Drag Load
SRV Drag Load

The licensing basis LOCA and SRV hydrodynamic load methodologies are described in the SSES DAR. The load methodologies used to calculate the LOCA and SRV hydrodynamic loads for structural evaluation of the new strainers and existing piping are described below:

LOCA Water Jet Load

The postulated DBA LOCA causes a rapid increase in drywell pressure which results in the rapid expulsion of the water leg in the downcomers. The effect of the LOCA water jet on the piping and the new strainers is based on the licensing load methodology described in the DAR, which concludes that the LOCA water jet load is not a design controlling submerged structure load. Consistent with the DAR, LOCA water jet loads are not calculated for the piping nor the replacement strainers, since they are not located directly below the downcomers.

LOCA Air Bubble Load

Following downcomer water clearing, the steam/air flow into the suppression pool forms an expanding air bubble at the downcomer exits. The rapidly expanding air bubble produces drag loads on submerged structures. The LOCA air bubble load for the new strainers is based on the licensing load methodology described in the DAR. Our analysis indicates that the LOCA air bubble load is enveloped by the chugging/CO loads. Consistent with the methodology presented in the DAR, the LOCA air bubble load is not a design controlling load for the piping nor for the new strainers.

LOCA Pool Swell Loads

The DBA LOCA causes the rapidly expanding air bubbles at the downcomer exits to coalesce into a blanket of air. The rapidly expanding blanket of air, fed by the drywell pressurization, accelerates the pool surface in the vertical direction leading to the pool swell phenomena. The new strainers (upper baskets only) are subject to pool swell drag (including lift forces) and fallback loads. Impact loads are not applicable, since the strainers are not located above the initial pool level. The RHR and CS piping and the lower strainer baskets are not subject to pool swell, impact, or fallback loads since the piping is located below the pool swell region.

The pool swell drag and fallback loads on the strainers are calculated using methods that are in conformance with the SSES licensing basis as described in the DAR. Unsteady flow and wall proximity effects on the velocity and acceleration drag loads are also accounted for in

compliance with the SSES licensing basis. The velocity drag coefficients and acceleration volumes for the strainers are provided by GE using methods presented in "Licensing Topical Report, Application Methodology for the General Electric Stacked Disk ECCS Suction Strainer," NEDC-32721P.

LOCA and SRV Building Inertial Loads

The LOCA and SRV actuation produce pressure loads on the pool boundary and resultant building dynamic motion. A set of design basis building response spectrum have been developed for LOCA and SRV based on the methodologies described in the SSES DAR. The structural evaluation of the piping and the new strainers uses the design basis LOCA and SRV building response spectrum.

CO and Chugging Drag Loads

Chugging and CO produce drag loads on the new strainers (so-called LOCA drag loads). The LOCA drag loads for the new strainers are based on the licensing basis acoustic load methodology described in the SSES DAR. Consistent with the SSES licensing methodology, only acceleration drag loads are calculated on the strainers. The velocity drag component is shown to be negligible. The LOCA drag loads are calculated using strainer acceleration volumes obtained for stacked disk strainers and the local suppression pool acceleration field derived from the acoustic analysis methodology applied in the DAR. As required by the SSES licensing basis, a factor of two multiplier was applied to LOCA drag loads to account for the modification of the flow field due to the structure's presence.

Chugging and CO drag loads on the piping are based on the acoustic load methodology. The piping loads do not change from those previously evaluated.

The licensing basis acoustic load methodology has been compared with the loads measured in the JAERI LOCA tests. The acoustic load methodology envelops the JAERI loads by more than a factor of 2 (Reference SSES DAR). LOCA drag loads on the strainers due to chugging and CO are based on the GKM 306 test data, which is consistent with the SSES licensing basis for submerged drag loads on piping structures in the suppression pool.

SRV Drag Loads

The actuation of the main steam SRVs produces air bubble submerged drag loads on the new strainers and existing piping. Bounding SRV drag loads are calculated on the new strainers based on the SRV drag loads derived from the licensing basis potential flow methodology described in the SSES DAR. Consistent with the SSES licensing methodology, only acceleration drag loads are calculated, since the velocity drag component has been found to be negligible for SRV air bubble loads. The SRV acceleration drag loads on the strainers are based on local acceleration fields calculated using the SSES DAR potential flow methodology, and acceleration volumes derived for stacked disk strainers using the methodology described in NEDC-32721P.

ECCS Pump Suction Piping Analysis

The pipe stress analyses were performed in accordance with existing design basis requirements. The analyses provide the following:

1. Qualification of the ECCS pump suction piping and associated fittings, including the portion of the containment penetration sleeve extending beyond the suppression chamber wall, to ASME Section III Code requirements.
2. Comparison of loads imposed on the containment penetrations to existing allowable limits based on penetration sleeve, structural concrete, and liner plate capacities.
3. Determination of loads acting on the strainers for use by the strainer vendor in performing structural analyses and qualifications of the replacement strainers.

The ECCS pump suction piping system was analyzed using approved linear elastic finite element piping analysis methods. The piping system model includes all piping and associated fittings, including the portion of the containment penetration sleeve, from the suppression chamber wall up to and including the new replacement strainers.

Equivalent beam models were developed for the new strainers which reflect the weight distribution, hydrodynamic mass, and frequency response of the strainers. It is important to note that the strainer models were developed to duplicate the response of the strainers to applied loads rather than to calculate stresses in them. The simple beam models are not of sufficient detail to perform structural evaluations of the strainers.

Existing design basis load definitions were utilized for the seismic and hydrodynamic inertial (building response) load conditions. Submerged structure load definitions were extracted from the design basis load calculations for the stacked disk strainers described in the preceding sections.

The analysis and qualification of the ECCS Pump Suction Piping System (within the suppression chamber; excluding the suction strainers) was performed in accordance with the following existing design basis requirements: The applicable design requirements were selected in

accordance with SSES FSAR Table 3.9-10, 'Design Criteria for ASME Code Class 2 and 3 Piping'. Table 3.9-10 specifies ASME Section III, Subsection NC, 1971 Edition with Addenda through Winter 1972. Structural damping values were selected in accordance with FSAR Table 3.7b-2, 'Damping Values for Non-NSSS Materials', for seismic conditions, and with DAR Section 7.1.7.4.1.2, 'BOP Equipment Assessment Methodology', for hydrodynamic conditions. Loads from the various design conditions were combined in accordance with FSAR Table 3.9-6, 'Design Loading Combinations for ASME Code Class 1, 2, and 3 Components (Non-NSSS).

The loads calculated at the containment penetration sleeve were also compared to the existing design limits. These limits take into consideration the capacity of the penetration sleeve, bearing plate and associated welds, concrete bearing load capacity, and the penetration sleeve to suppression chamber liner plate weld capacity.

The loads acting on the strainers, as determined in the pipe stress analysis, were provided to General Electric for use in their analyses and qualifications.

Strainer Stress Analysis

The replacement strainers have been analyzed for the design loads determined by the piping analysis, including seismic, hydrodynamic, and submerged structure loads using a finite element analysis. Although the strainers are outside the ASME Section III code boundary, the strainers have been designed to meet ASME code stress allowables in order to assure design adequacy. Inertial loads due to building response to seismic and hydrodynamic loads were applied to the finite element model of the strainer as uniform accelerations. Submerged structure drag loads were applied as uniform pressures. Load combinations considered in the evaluation of the strainers are consistent with those considered for the associated pump suction piping.

Hydraulic Considerations

As discussed in the cover letter, significant uncertainty remains regarding final regulatory compliance with NRC Bulletin 96-03 with respect to hydraulic considerations.

PP&L has been proceeding with development of debris loading assumptions for the replacement strainers which are based on a conservative application of the URG methodologies. The URG methodologies have also been reviewed in light of the plant unique aspects of Susquehanna Units 1 and 2 and, where appropriate, conservative adjustments have been made to the URG recommendations. PP&L will also be conducting performance testing to assure that the strainers perform as designed. An overview of the preliminary considerations used in sizing the replacement strainers is provided below. However, this information is subject to change pending the outcome of the final NRC approved methodology.

In general, the objective in sizing the replacement strainers has been to assume 100% destruction and 100% transport of the insulation in the drywell to the suppression pool. PP&L has reduced the amount of fibrous insulation in the drywell in order to reach this goal. While some limited amounts of fibrous insulation remain, the insulation in the drywell is predominantly reflective metallic insulation (RMI).

For our preliminary approach, PP&L has also established conservative amounts of sludge and coating debris in the suppression pool.

As a result of additional testing PP&L has sponsored, we have learned that the head loss caused by Min-K insulation debris can be significant even when only a small quantity of Min-K is present. PP&L has limited amounts of Min-K installed at SSES, typically in the areas of pipe whip restraints. Based on this new information, PP&L is re-evaluating the feasibility of maintaining an assumption of 100% destruction and transport. PP&L may pursue a target based zone of influence (ZOI) analysis in order to reduce the overly conservative assumption of 100% destruction. We will continue to evaluate other assumptions related to debris loadings to assure that they are not excessively conservative.

PP&L is also evaluating complete or partial removal or replacement of the Min-K insulation with consideration given to the effect on containment heat loads during operation in the summer. Other options being considered are to credit the existing jacketing for reducing the amount of debris generated. We note that the limited BWROG tests of Min-K insulation to determine the destruction pressure were for unjacketed Min-K insulation. The Min-K insulation installed at SSES is of a jacketed design. If adequate assurance can be established that the jacket will stay in place, it is expected that a much higher destruction pressure would be required to generate transportable debris. This would result in much less debris being generated and transported to the suppression pool. We are aware of the issues raised by the NRC staff in the draft SER on the URG that relate to the crediting of jacketing and banding to increase the destruction pressure for a given insulation material and will consider those concerns in our final evaluation.

Finally, PP&L will require GE to conduct full scale performance tests of the replacement strainers at the EPRI facility in Charlotte. This testing will be performed in order to confirm that the performance capability of the replacement strainers reflects our design requirements.

Attachment 2: Request for Three Month Deferral of SSES Unit 2 Strainer Installation

PP&L originally requested deferral of the strainer installation for SSES Unit 2 in Reference 2. The NRC response (Ref. 4) granted a partial deferral, but requested that we "install passive suction strainers in each unit and make them operational on or before December 31, 1998." Based on the information provided below, PP&L requests that NRC reconsider their initial position and grant a three-month deferral from the end of 1998 to the Unit 2 9th refueling outage, which is currently scheduled to begin in March, 1999.

On March 6, 1998, the NRC has approved a four month deferral beyond the end of 1998 for Limerick Generating Station Unit 2. The NRC summarized their agreement by the following statement:

> "In view of the precautionary activities completed and contemplated, your commitments to continue to evaluate and trend ECCS pump suction strainer pressure drop data, and monitoring the LGS, Unit 2 suppression pool water for the presence of fibrous material, we agree with your request to defer installation of the ECCS suction strainers at Limerick Unit 2 until April 1999."

In order to provide the NRC staff with sufficient information to judge the applicability of a similar conclusion for this request, the numerous actions completed and ongoing in response to NRC communications related to ECCS suction strainer concerns are discussed below.

Bulletin 93-02 and Supplement

As noted in Bulletin 96-03, licensee responses to Bulletin 93-02 and its supplement demonstrated that appropriate interim measures have been implemented to ensure adequate protection of public health and safety to allow continued operation until the final actions are implemented. The event identified by Bulletin 93-02 involved the deposition of fibrous material on an RHR strainer, shortly after the pool had been thoroughly cleaned. The material was traced to temporary drywell cooling filters which had been inadvertently introduced to the suppression pool during outage activities, apparently before the pool cleaning. In response to Bulletin 93-02 and its supplement, PP&L verified that no fibrous air filters or other temporary sources of fiber were installed in either unit's containment, and that controls were sufficient to minimize the possibility of debris intrusion. Additionally, PP&L prepared a briefing package for operations and appropriate emergency response personnel, including internal evaluations of the issue and operator guidance. This was supplemented by a requalification training module presented to operators.

Bulletin 95-02

PP&L has performed the following actions, consistent with the commitments made in our November 15, 1995 response to Bulletin 95-02:

* Perform water and sludge sampling, and inspect strainers, for the presence of fiber. Conduct desludging as necessary based upon inspection/sampling results. **

* Inspect suppression pool floor for the presence of foreign material. Remove and evaluate material. Evaluate and disposition any discernible remaining material, including corrosion products, for their potential impact on strainer performance. This activity was most recently performed in the Unit 2 1997 refueling outage (RFO), and is being performed in the ongoing Unit 1 1998 RFO.

* Conduct daily walkdowns of the drywell and wetwell during refueling outages for the presence of foreign material.**

* Install temporary covers during refueling outages to provide additional assurance that debris could not be introduced to the pool via downcomers.**

* Utilize fittings to provide positive protection against introducing foreign material (e.g., hoses) into the pool during draining evolutions.**

* Reinforce containment worker awareness of foreign material exclusion through various communications media, and increased supervisory presence.

* Implement plant-specific training on INPO SOER 95-1, "Reducing Events Resulting from Foreign Material Intrusion."

* Establish a pool cleaning program based upon pool cleanliness assumptions embedded in PP&L's final strainer design, i.e., upon final compliance with Bulletin 96-03.

* Investigate potential means of taking unfiltered pool water samples while at power.

* Evaluate pump suction pressure indication trended data. This continues to be performed during quarterly pump surveillance testing.

As noted in our October 4, 1996 response to Bulletin 96-03, PP&L also decided to conduct feed-and-bleed operations to reduce corrosion products during operations, and to perform "multiple-pump runs" to confirm the absence of fiber accumulations in the pool. The former activity has been curtailed because it has not proven to be effective. The latter activity involved extended

** This was performed during the 1995 refueling outages (RFOs) of both units, the 1996 Unit 1RFO, and the 1997 Unit 2 RFO. It is being performed during the ongoing Unit 1 1998 RFO.

runs of multiple RHR pumps in order to achieve sufficient agitation, such that any fibers would be suspended and then drawn to the suction strainer. This testing most recently was performed during the Unit 1 ninth and the Unit 2 eighth refueling outages, and revealed no accumulations of fibrous material, thus confirming the absence of fiber in the pool. It will be performed again during the Unit 1 tenth (ongoing) and Unit 2 ninth refueling outages (Spring, 1999).

Bulletin 96-03

PP&L will install new, larger, passive strainers in Unit 1 during the ongoing Spring 1998 refueling outage (RFO) and proposes to perform the same modification on Unit 2 during its next RFO in Spring, 1999. The replacement strainers are of a design and size that significantly improves their ability to accommodate additional debris and will improve the NPSH available to the Residual Heat Removal (RHR) and Core Spray (CS) pumps. Installation of these strainers will enhance the safety margin of the low pressure ECCS systems. Additional information is provided in Attachment 1 to this letter.

PP&L's October 4, 1996 response to Bulletin 96-03 addressed the following additional actions that PP&L implemented in the Unit 2 1997 RFO that were primarily focused toward reducing the potential strainer "source term". Each of these actions is also being performed in the ongoing Unit 1 RFO:

* Minimize the potential fibrous insulation source term. Although this could entail replacement of the remaining fibrous insulation, this will also include evaluation of the feasibility of jacketing fibrous insulation and securing with banding determined via BWROG testing to be effective at containing the fibrous debris.

  Implementation consisted of replacement of most remaining fibrous insulation with reflective metallic insulation; this will be performed in the ongoing Unit 1 RFO.

* Minimize the potential debris source term from the vapor barrier paper backing on the Koolphen-K foam insulation currently installed on the RBCW chilled water piping.

* Conduct a walkdown of the drywell and remove non-metallic tags, stickers, and other "fixed" debris sources, where possible. Document and technically justify any "fixed" debris sources that remain.

* Desludge and/or filter the Unit 2 suppression pool (only a slight accumulation was observed in 1995), and conduct an FME inspection of the suppression pool by divers.

* Review programmatic controls to ensure any further introductions of potential debris sources are limited and evaluated.

* Inspect all strainers, and collect water and sludge samples to confirm the absence of fiber in the pool, consistent with BWROG guidelines.

* Conduct multiple ECCS pump runs to verify the absence of fiber accumulation in the suppression pool.

* Continue performance of twice-daily drywell and wetwell walkdowns during outages (i.e., periods of containment access) to confirm the absence of foreign material.

* Continue installation of covers over downcomers during outages to provide additional assurance that debris could not be introduced via this pathway.

BWROG Safety Assessment

The BWROG provided a submittal to the NRC in December 1994 that established:

* the low probability of the initiating event;

* the fact that only a small fraction of total ECCS flow is required to provide makeup following reflood of the vessel;

* the availability of alternate sources of makeup water should ECCS provide insufficient flow;

* the conservatism of current licensing basis analyses of available ECCS; and

* the fact that realistic analyses of fuel temperature response indicate that significant time is available for operator action to establish alternate water injection, even if ECCS performance is compromised early following a LOCA.

Based on this rationale and the mitigative actions described above, PP&L believes that the proposed three month deferral will have no adverse impact on the safe operation of SSES Unit 2.