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SUBJECT: Forwards amends & TS,revising SSES Unit 1 & 2 TS to be consistent w/NUREG-1433,Rev 1 "STS for GE Plants,BWR 4."

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SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT NO. 203 TO LICENSE NPF-14
AND NO. 161 TO LICENSE NPF-22: CONVERSION OF THE
SSES TECHNICAL SPECIFICATIONS TO THE IMPROVED
STANDARD TECHNICAL SPECIFICATIONS, NUREG 1433

PLA-4488 **FILES R41-1/A17-2** **Docket Nos. 50-387 and 50-388**

The purpose of this letter is to propose changes to the Susquehanna Steam Electric Station (SSES) Unit 1 and Unit 2 Technical Specifications. The proposed amendment will revise the SSES Unit 1 and Unit 2 Technical Specifications to be consistent with NUREG-1433, Revision 1, "Standard Technical Specifications for General Electric Plants, BWR 4." The proposed amendment will also extend the required Frequency of selected Surveillance Requirements (SR) to 24 months as needed to support the adoption of a 24 month fuel cycle. In addition, Pennsylvania Power and Light Company (PP&L) is requesting an amendment to the Environmental Protection Plan for SSES Unit 1 and Unit 2 (Appendix B). The proposed changes to Appendix B will re-format and re-number the Environmental Protection Plan to be consistent with proposed changes to Appendix A, to incorporate several administrative changes associated with studies and evaluations that have been completed, and to clarify existing requirements.

The detailed description and justification for the proposed Technical Specification amendment consists of 15 volumes. The submittal is designed to facilitate distribution of individual sections for review to the appropriate organizational units within the NRC. Because of the size and complexity of this submittal, the NRC SSES Project Manager, Chester Poslusny, has agreed to distribute the document within the NRC. Six additional copies of all 15 volumes have been forwarded for distribution of individual sections of this submittal.

A detailed description of the contents and organization of the 15 volumes is included as Attachments 1 through 4 of this letter which are described below:

Attachment 1, SSES Unit 1 and Unit 2 Improved Technical Specification (ITS) Submittal Synopsis, describes the organization and content of the submittal and the organization and content of each of the volumes included in the submittal. This Attachment is designed to

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facilitate distribution of each section within the NRC and to familiarize reviewers with the content and organization of each section.

Attachment 2, SSES Unit 1 and Unit 2 ITS Conversion Document Status, describes and provides the status of pending changes to the Current Technical Specifications (CTS) that are incorporated into this SSES amendment request and a list of the proposed generic changes to NUREG-1433, Rev. 1, that are incorporated into this SSES amendment request. In addition, Attachment 2 includes a list of anticipated changes to the CTS that may be submitted during the NRC review. This information is intended to facilitate PP&L and NRC document control during the review and approval process.

Attachment 3, Significant Changes to the SSES CTS and Deviations from NUREG-1433, provides a list of significant deviations from NUREG 1433 that maintain the SSES Current Licensing Basis, and significant deviations from NUREG 1433 that are also changes to SSES CTS. The purpose of this enclosure is to facilitate the NRC review and clearly identify the significant changes contained in this submittal.

Attachment 4, "Evaluations Used to Justify 24 Month SR Frequencies", is a description of the methodology used to justify the extension to a 24 month fuel cycle. The purpose of this enclosure is to provide a detailed explanation of the methodology used in PP&L's justification for 24 month SR Frequencies.

The implementation of the SSES ITS will require the performance of a number of new Surveillance Requirements. Pennsylvania Power & Light intends to treat these new requirements as being "met" at the time of implementation of the ITS, with the first performance scheduled to be completed within the required Frequency from the implementation date. Several other Surveillance Requirement Frequencies will be extended from 18 to 24 months. Upon implementation of the ITS, the due date will be changed to reflect the new required Frequency based on the last performance date. Any revisions to the FSAR necessitated by the conversion to the ITS will be submitted in accordance with the requirements of 10 CFR 50.71(e).

There are 2 open items associated with this submittal:

1. Calculations to support the following allowable values are required to be completed and are being tracked through our deficiency management program:

   - Reactor Steam Dome Pressure-Low (Upper Limit)
   - Main Control Room Outside Air Intake Radiation-High

2. Completion of calculations to support extending the Channel Calibration Frequency for certain Barton Instrumentation to 24 Months.

Closure of these Open Items is planned for the third quarter of this year.

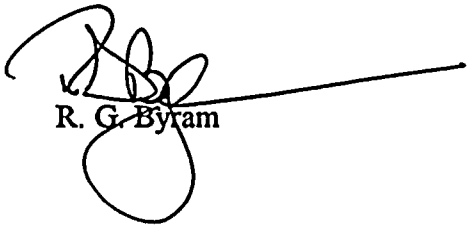
Implementation of the proposed amendment is tentatively scheduled for the Third Quarter of 1997. This date is based on the training schedules for both licensed and non-licensed personnel, the timing of the implementation with respect to the refueling outage, the licensed operator examination schedule, and the time required for procedure revisions, including the development of the new programs. Pennsylvania Power & Light will inform the NRC when the ITS implementation actions are complete. The implementation date is also predicated on NRC issuance of an SER in January 1997.

The evaluations contained in individual sections of this proposed amendment concluded that the proposed changes to the SSES Unit 1 and Unit 2 Technical Specifications do not involve a significant hazards consideration. In addition, the proposed changes do not create a potential for a significant change in the types or a significant increase in the amount of any effluent that may be released off-site, nor do the changes involve a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the changes meet the eligibility criteria for a categorical exclusion as set forth in 10 CFR 51.22(c)(9). Therefore, in accordance with 10 CFR 51.22 (b), an environmental assessment of the changes is not required.

This Technical Specification amendment request was approved by the Plant Operations Review Committee and reviewed by the Susquehanna Review Committee. In accordance with 10 CFR 50.91, the State of Pennsylvania has been provided a copy of this letter.

Pennsylvania Power & Light requests a meeting at your earliest convenience to discuss a review schedule and the content of the submittal package. Any questions regarding this proposed amendment should be directed to Mr. Andrew K. Maron at (610) 774-7727.

Very truly yours,



R. G. Byram

Attachment 1: SSES Unit 1 and Unit 2 Improved Technical Specification (ITS) Submittal Synopsis

Attachment 2: SSES Unit 1 and Unit 2 ITS Conversion Document Status

Attachment 3: Significant Changes to the SSES CTS and Deviations from NUREG-1433

Attachment 4: Justification of 24 Month Surveillance Requirement Frequencies

Enclosure: Volumes 1 through [15] of the SSES Unit 1 and Unit 2 Improved Technical Specification (ITS) Submittal (described in Attachment 1)

copy: NRC Region I
Mr. C. Poslusny, Jr., NRC Sr. Project Manager - OWFN
Mr. K. M. Jenison, NRC Sr. Resident Inspector - SSES
Mr. W. P. Dornsife, Pa. DEP

ATTACHMENT 1:

SSES UNIT 1 AND UNIT 2 IMPROVED TECHNICAL SPECIFICATION SUBMITTAL SYNOPSIS

The PP&L Improved Technical Specifications (ITS) submittal consists of 6 separate documents organized into 15 volumes. This Attachment describes each of the documents and the organization and content of each volume. This Attachment is designed to facilitate distribution of each section within the NRC and to familiarize reviewers with the content and organization of each section.

Part A: **DESCRIPTION OF EACH DOCUMENT INCLUDED IN THE PP&L IMPROVED TECHNICAL SPECIFICATIONS (ITS) SUBMITTAL**

1. **APPLICATION OF TECHNICAL SPECIFICATION SELECTION CRITERIA**

   This document lists each of the SSES Current Technical Specifications and shows the results of PP&L's application of the NRC Final Policy Statement criteria for retention of requirements in Technical Specifications. For each of the SSES Current Technical Specifications, this document identifies whether or not the requirement is retained in the SSES ITS and the basis for its retention or exclusion. For those SSES CTS line items that are retained in the SSES ITS, the equivalent SSES ITS number is listed. For SSES CTS line items that did not meet the selection criteria and have not been retained in the proposed ITS, a detailed explanation of the application of the selection criteria and justification for relocation is provided.

2. **SSES UNIT 1 AND UNIT 2 IMPROVED TECHNICAL SPECIFICATIONS**

   This document is the proposed SSES Improved Technical Specifications & Bases.

3. **MARKUP OF SSES UNIT 1 AND UNIT 2 CURRENT TECHNICAL SPECIFICATIONS, DISCUSSIONS OF CHANGES, AND NO SIGNIFICANT HAZARDS CONSIDERATIONS**

   These documents are a copy of the Unit 1 and Unit 2 SSES CTS pages annotated to provide a cross reference to the equivalent SSES ITS requirement showing the disposition of the existing requirements into the SSES ITS. The annotated copy of the SSES CTS pages are also marked with sequentially numbered "bubbles" which provide a cross reference to the Discussion of Changes between the SSES CTS and SSES ITS.

The ITS number is noted on the top right corner of each CTS page identifying the ITS LCO where the CTS requirement is located. Items on the CTS page that are located in a different ITS location have the appropriate location noted adjacent to the item. When the ITS requirement differs from the CTS requirement, the CTS being revised is annotated with an alpha-numeric designator. This designator relates to the appropriate Discussion of Change (DOC). Each DOC provides a justification for the proposed change. As discussed, the DOC associated with each ITS section immediately follows the marked up CTS pages. The alpha-numeric designator also relates the proposed change to the applicable No Significant Hazards Consideration (NSHC) evaluation.

When a CTS page contains requirements that are located in more than one ITS section, the CTS page is annotated to indicate the associated ITS Sections. Where necessary, DOCs which affect other ITS Specifications are identified with the appropriate ITS Section Number where the DOC can be found.

The alpha-numeric designator is based on the category of the change and a sequential number within that category. The changes to the CTS are categorized as follows:

A ADMINISTRATIVE - associated with restructuring, interpretation, or rearranging of requirements, and other changes that do not revise existing requirements.

R RELOCATED - specific LCO requirements that do not satisfy the NRC Final Policy Statement selection criteria.

TECHNICAL CHANGES

M MORE RESTRICTIVE - proposed changes to the CTS that result in added restrictions or eliminated flexibility.

L LESS RESTRICTIVE - proposed changes to the CTS that result in relaxed or eliminated requirements or new flexibility. The less restrictive technical changes have been categorized as specific or generic. Each less restrictive specific change has a specific NSHC. The less restrictive generic changes have been divided into four groups; each group has a single NSHC. The generic groups are:

LA relocation of details from the CTS to a licensee controlled document;

LB increasing the surveillance interval of 'R' from eighteen months to twenty four months, for surveillances other than CHANNEL CALIBRATIONS;

LC eliminates the CTS requirement to perform various Surveillance Requirements "within x hours prior to the start of . . ."

LD increasing the surveillance interval of 'R' from eighteen months to twenty four months for CHANNEL CALIBRATIONS.

4. Markup of NUREG-1433, Revision 1 and Discussion of Deviations from NUREG-1433, Revision 1

This section contains a copy of NUREG-1433, Revision 1, which has been annotated to indicate deviations between NUREG-1433, Revision 1, and the proposed SSES Improved Technical Specifications. The deviations are based upon Revision 1 of the NUREG as modified by generic changes identified in Attachment 2 of this submittal letter. Justifications for each of the deviations is provided in a document attached to each Section of the annotated copy of NUREG-1433. The annotated copy of NUREG-1433 and the discussion of the deviations are cross referenced by the use of small "bubbles" which are numbered sequentially for each Limiting Condition of Operation (LCO) or Section.

For the convenience of the NRC reviewers, each line item in this annotated copy of NUREG-1433, Revision 1, contains a cross reference to the equivalent SSES CTS requirement or SSES CTS discussion of change, as appropriate. This is intended to allow reviewers to very quickly locate the equivalent SSES CTS requirement.

The documents identified as NO SIGNIFICANT HAZARDS CONSIDERATION provides the 10 CFR 50.92 NSHCs for the proposed changes and shows that the changes associated with the corresponding ITS Section do not constitute significant hazard considerations. As described for the DOC, the NSHC evaluations are categorized as Administrative, Relocated, More Restrictive, Less Restrictive - Generic, and Less Restrictive - Specific and are identified by an alpha-numeric designator relating the marked up CTS and the DOC to the applicable NSHC evaluation.

PART B: DESCRIPTION OF THE CONTENT AND ORGANIZATION OF EACH VOLUME OF IMPROVED TECHNICAL SPECIFICATIONS (ITS) SUBMITTAL

Volume 1:		Application of Selection Criteria Relocation Matrix including markup of relocated CTS pages

Note: The following Volumes are ordered on a per Section basis to allow for ease in dividing by the NRC for review. All documents discussing the conversion of a particular Section have been grouped together.

Volume 2:	SSES ITS Sections	1.0, Use and Application 2.0, Safety Limits 3.0, Limiting Condition for Operation Applicability Surveillance Requirement Applicability
Volume 3:	SSES ITS Sections	3.1, Reactivity Control System 3.2, Power Distribution
Volume 4, 5 & 6:	SSES ITS Section	3.3, Instrumentation
Volume 7:	SSES ITS Section	3.4, Reactor Coolant System
Volume 8:	SSES ITS Section	3.5, Emergency Core Cooling System and Reactor Core Isolation Cooling System
Volume 9 & 10:	SSES ITS Section	3.6, Containment System
Volume 11:	SSES ITS Section	3.7, Plant Systems
Volume 12 & 13:	SSES ITS Section	3.8, Electrical Systems
Volume 14:	SSES ITS Sections	3.9, Refueling Operations 3.10, Special Operations
Volume 15:	SSES ITS Sections	4.0, Design Features 5.0, Administrative Controls
	Appendix B	Environmental Protection Plan

ATTACHMENT 2

SSES UNIT 1 AND UNIT 2 ITS CONVERSION DOCUMENT STATUS

This enclosure identifies a listing of Current Technical Specification Changes pending approval from the NRC which are included in the SSES ITS Submittal, the Generic changes which are included in the SSES ITS Submittal, and the future SSES submittals that will be submitted during the course of the NRC review.

1. **TECHNICAL SPECIFICATION (TSCR) PENDING NRC APPROVAL INCORPORATED INTO THE SSES ITS SUBMITTAL:**

TSCR 279	Remove the Rod Block Monitor System
TSCR 95-007	250V Battery Load profile
TSCR 95-009	Relocation of fire protection requirements from Technical Specification to the Technical Requirements Manual
TSCR 95-010	Relocate current refueling platform requirements to the Technical Requirements Manual
TSCR 95-011	Delete relief valves PSV 151 F0555 A & B, PSV 151 F097. Removal of extraneous valves associated with steam condensing mode of RHR. (Amendment 157 for Unit 1 only)
TSCR 95-012	Deletion of surveillance requirement in 4.7.2.d.2 in accordance with deletion of the use of gaseous chlorine as a biocide at SSES.
TSCR 96-001	Suppression Pool Bypass Leakage, Change 40 +/- 10 month intervals during each 10 year service period to correspond with the conduct of the Type A test as defined in 10 CFR 50 Appendix J Option B.
TSCR 96-002	To incorporate in Technical Specification testing MSIVs (LLRTs) at either 22.5 PSIG between inboard and outboard or at Pa (45 psig) in the accident direction.
TSCR 96-004 To (Unit 2 Only)	Eliminate HPCI suction transfer on high suppression pool level. be incorporated on Unit 2 only because the modification on Unit 1 will not be performed until after SSES ITS Implementation.
TSCR 96-010	Administrative changes for titles-Section 6.0.

2. **TECHNICAL SPECIFICATION TASK FORCE (TSTF) GENERIC CHANGES INCORPORATED INTO THE SSES ITS SUBMITTAL:**

TSTF- 02: Relocate the 10 year sediment cleaning of the fuel oil storage tank to licensee control.

TSTF-03 Relocate references to thyroid dose conversion factors.

TSTF-05 Delete safety limit violation notification.

TSTF-16 Add Action to LCO 3.8.9 (3.8.7) to require entry into LCO 3.0.3 when there is a loss of function.

TSTF-17 Extension of testing frequency of containment airlock interlock mechanism from 184 days to 24 months.

TSTF-32 Slow/Stuck Control Rod Separation Criteria.

TSTF-33 Specification 3.1.3, Required Action A.2 Completion Time Note.

TSTF-36 Addition of LCO 3.0.3 N/A to shutdown electrical power specifications.

TSTF-37 Generic Letter 94-01 Implementation, REMOVAL OF ACCELERATED TESTING AND SPECIAL REPORTING REQUIREMENTS FOR EMERGENCY DIESEL GENERATORS.

TSTF-38 Revise visual surveillance of batteries to specify inspection is for performance degradation.

3. **TECHNICAL SPECIFICATION CHANGES WHICH HAVE BEEN/WILL BE SUBMITTED TO THE NRC DURING ITS REVIEW PERIOD:**

TSCR 96-005 Allows performance of hydrostatic testing at reactor coolant temperatures > 200°F and < 310°F

TSCR 96-006/
TSCR 96-007 MCPR Safety Limits & Bases changes to reflect limits calculated using SPC methodology & ANFB Critical Power Correlation.

TSCR 96-008 Revises the differential temperature allowable values and trip setpoints for the RWCU penetration room leak detection function

TSCR 96-009 Increase trip setpoints and allowable values for Secondary Containment Instrumentation to accommodate the Hydrogen Water Chemistry Project

TSCR 96-012 Provide Technical Specification Limit of Secondary Containment Bypass Leakage

ATTACHMENT 3:

SIGNIFICANT CHANGES TO THE SSES CTS AND DEVIATIONS FROM NUREG-1433

This attachment provides a list of significant deviations from NUREG 1433 that maintain SSES Current Licensing Basis, and significant deviations from NUREG 1433 that are also changes to SSES CTS.

1. SIGNIFICANT CHANGES TO NUREG 1433 WHICH MAINTAIN SSES CURRENT LICENSING BASIS:

a. SSES ITS 3.1.8 eliminates the allowance in NUREG 1433 LCO 3.1.8 which allows operation to continue with the Scram Discharge Volume (SDV) vent and drain valves shut.

b. SSES ITS 3.4.3 eliminates the NUREG 1433 LCO 3.4.3 Surveillance Requirement (SR 3.4.3.2) to verify each S/RV opens when manually actuated.

c. SSES ITS 3.5.1 modifies NUREG 1433 3.5.1 to incorporate the design of SSES ECCS systems.

d. SSES ITS 3.5.2 modifies NUREG 1433 SR 3.5.2.4 to allow both LPCI subsystems to be considered Operable if available but not aligned for automatic operation.

e. SSES ITS 3.6.4.3 modifies NUREG 1433 3.6.4.3 Actions to allow a 4 hour Allowed Out of Service Time for both Standby Gas Treatment subsystems inoperable instead of LCO 3.0.3.

f. SSES ITS 3.8.6 modifies NUREG 1433 Table 3.8.6-1 footnote (c) to measure battery charging current and not measure specific gravity when on float charge with no restriction on time.

g. SSES ITS eliminates the allowance provided in NUREG 1433 LCO 3.9.7 "RPV Water Level--New Fuel or Control Rods to allow new fuel and control rod movement with less than 22 feet above the RPV flange.

h. SSES ITS 3.10.1 eliminates the NUREG 1433 3.10.1 allowance to perform the Inservice Leak and Hydrostatic testing operation at temperatures greater than 212°F.

2. **SIGNIFICANT CHANGES TO NUREG 1433 WHICH RESULT IN CHANGES TO SSES CURRENT TECHNICAL SPECIFICATIONS:**

a. SSES ITS 3.2.1, 3.2.2, 3.2.3, and 3.2.4 modify NUREG 1433 SR 3.2.1.1, SR 3.2.2.1, SR 3.2.3.1, and SR 3.2.4.1 to extend the initial performance of the SR to 24 hours after start-up but not allow power to increase above 50% until the initial performance of the SR is completed.

b. SSES ITS 3.3.3.1 modifies NUREG 1433 LCO 3.3.3.1 to provide an allowance for removing PAM instruments from service to perform a surveillance without entering the Conditions and Actions, provide the associated monitoring Function is maintained.

c. SSES ITS 3.3.6.1 modifies NUREG 1433 Action B to allow isolation of the affected penetration flow path.

d. SSES ITS 3.6.1.3 modifies NUREG 1433 SR 3.6.1.3.10 to add a note which allows an associated instrument to be made inoperable for 6 hours to perform this SR.

e. SSES ITS 3.6.1.3 modifies NUREG 1433 SR 3.6.1.3.13 to include Main Steam Line drain valve leakage in the MSIV Leakage estimate and not a part of the overall containment leakage.

f. SSES ITS 3.8.6 modifies NUREG 1433 SR 3.8.6.1 to allow a temporary deferral of the performance when the battery is on equalizing charge

g. SSES ITS 5.5.9 modifies NUREG 1433 5.5.10 to relocate reference to specific testing standards.

ATTACHMENT 4:

JUSTIFICATION OF 24 MONTH SURVEILLANCE REQUIREMENT FREQUENCIES

I. PURPOSE:

To accommodate a planned change to a 24 Month Fuel Cycle for the Susquehanna Steam Electric Station (SSES) Units 1 and 2, Pennsylvania Power & Light (PP&L) is integrating the necessary changes to the SSES Units 1 and 2 Technical Specifications into the documents being used to convert to NUREG 1433, Standard Technical Specification for General Electric BWR 4. To facilitate the review of the 24 Month Fuel Cycle portion of this submittal, the following overview document is being provided to identify the scope of changes and the methodology used to justify the changes.

The proposed Technical Specification changes were evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24 Month Fuel Cycle," dated April 2, 1991.

II. SCOPE:

The 24 Month Fuel Cycle portion of this submittal includes a justification, when the SR Frequency is being changed, for all existing SSES Current Technical Specification (CTS) Surveillance Requirements (SRs) that are being retained in the SSES Improved Technical Specifications (ITS) which have a SSES CTS Frequency of 18 months.

These changes have been divided into two categories. The categories are: (1) changes involving the Channel Calibration Frequency identified as "Instrumentation Changes" (identified in the ITS Conversion document discussion of changes as "LDs"), and (2) other changes identified as "Non-Instrumentation Changes" (identified in the ITS Conversion document discussion of changes as "LBs").

III. METHODOLOGY:

In Generic Letter 91-04, dated April 2, 1991, the Nuclear Regulatory Commission (NRC) provides generic guidance for evaluating going to a 24 Month Surveillance Test Interval for Technical Specification SRs. Generic Letter 91-04 specifies the steps for the evaluation needed to justify a 24 month surveillance interval. The following defines each step outlined by the NRC and provides a description of the methodology used by PP&L to complete the evaluation for each specific Technical Specification SR line item.

A. Non-Instrumentation (LBs):

Generic Letter 91-04 identifies three steps to evaluate Non-Instrumentation:

STEP 1:

"...licensees should evaluate the effect on safety of the change in surveillance intervals to accommodate a 24 month fuel cycle."

PP&L EVALUATION

PP&L has evaluated each SR being changed. This evaluation provides a specific justification for each SSES CTS non-instrumentation SR which is being retained in SSES ITS. The evaluation is summarized in the discussion of change identified as "LBs". The following information provides a description of the purpose of surveillance testing and a general description of the methodology utilized.

The purpose of surveillance testing is to verify through the performance of the specified SRs that the tested Technical Specification Function/Feature will perform as assumed in the associated safety analysis or in accordance with the associated Function's design. By periodically testing the Technical Specification Function/Feature, the availability of the associated Function/Feature is confirmed. As such, with the extension of SSES's operating cycle and the associated extension of the refueling cycle surveillance test interval (Frequency), a longer period of time will exist between performances of the surveillance test. If a failure resulting in the loss of a Safety Function occurs during the operating cycle and that failure would be detected only by the performance of the periodic Technical Specification SR, then the increase in the surveillance testing interval would result in a decrease in the associated Function's availability and thus have a potential impact on safety.

PP&L evaluated each associated SR to demonstrate that the potential impact, if any, on availability is small as a result of the change to a 24 month Frequency. The evaluations were based on the fact that the Function/Feature is tested on a more frequent basis during the operating cycle (e.g., functionally tested quarterly), is designed to be single failure proof, or is highly reliable.

STEP 2

"Licensees should confirm that historical maintenance and surveillance data do not invalidate this conclusion".

PP&L EVALUATION

PP&L has evaluated the surveillance test history of the affected SRs. This evaluation consisted of a review of the surveillance test results. Only SR test failures were evaluated

because failures detected by other plant activities such as Preventative Maintenance Tasks or Surveillance Tests that are more frequent than 18 months were assumed to continue to detect failures. This review of surveillance test history validated the conclusion that the impact, if any, on system availability will be small as a result of the change to a 24 Month Fuel Cycle.

STEP 3

"Licensees should confirm that the performance of surveillances at the bounding surveillance interval limit provided to accommodate a 24-month fuel cycle would not invalidate any assumption in the plant licensing basis."

PP&L EVALUATION

As part of the evaluation of each SR, PP&L reviewed the impact of these changes against assumptions in SSES licensing basis. In general, these changes have no impact on the plant licensing basis. However, in some cases, the change does require a change to commitments described in the SSES Final Safety Analysis Report (FSAR). FSAR changes have been identified in the associated discussion of change and will be made when this Technical Specification amendment is approved.

B. Instrumentation (Channel Calibrations (LDs)):

Generic Letter 91-04 identifies 7 steps for the evaluation of Instrumentation changes (LDs).

STEP 1

Confirm that instrument drift as determined by as-found and as-left calibration data from surveillance and maintenance records has not, except on rare occasions, exceeded acceptable limits for a calibration interval.

PP&L EVALUATION

PP&L evaluated the effect of longer calibration intervals on the TS instrumentation by performing a review of the surveillance test history for all instrumentation including, where necessary, instrument drift. The failure history evaluation and drift study demonstrates, except on rare occasion that, instrument drift has not exceeded the current allowable limits.

STEP 2

Confirm that the values of drift for each instrument type (make, model, and range) and application have been determined with a high probability and a high degree of confidence. Provide a summary of the methodology and assumptions used to determine the rate of instrument drift with time based upon historical plant calibration data.

PP&L EVALUATION

PP&L has performed a drift evaluation, where necessary, using SSES setpoint methodology for each affected SSES ITS instrument by make and model number.

The PP&L drift evaluation was performed using a computer model for drift determination developed by General Electric (GE) and based on NEDC-31336, "GE Instrument Setpoint Methodology". This document was submitted to the NRC, and approved.

The Boiling Water Reactor Owners' Group (BWROG) committee for Calibration Interval Extension determined that the drift module of the GE Instrument Setpoint Methodology could be used to determine instrument drift for periods longer than 18 months based on actual instrument performance in plant environments. GE, under the direction of the BWROG Calibration Interval Extension committee, developed the "General Electric Instrument Trending Analysis System" (GEITAS). This quality assured program has been used to determine the drift for other plants including Limerick Generating Station and Peach Bottom Atomic Power Station, which both received approval for the extension of Channel Calibration SRs using this program.

A copy of the verified and validated GEITAS program was obtained from GE and was used to project the thirty month drift number. The as-found and as-left data was taken from instrument calibration surveillance tests and was analyzed. The analysis produced values at intervals from one to thirty months. The drift value was then compared with the drift uncertainty associated with the specific instrument setpoint analysis or in the case of instruments with no specific setpoint analysis, such as monitoring instruments (e.g. Post Accident Monitoring Instruments (SSES ITS 3.3.3.1)) a comparison was made to appropriate instrument design criteria.

The results of the GEITAS evaluations showed acceptable 30 month drift values that were within surveillance test drift allowances in those cases where there was a sufficient amount of historical data to satisfy the computer algorithms and the majority of the as-found and as-left values were within acceptable limits.

In some cases, a different methodology was utilized to demonstrate that the drift was acceptable. These cases included instruments that were recently installed or where the GEITAS program could not be applied. For each instrument where the GE program was not utilized to evaluate the drift data, a summary of the methodology is contained in the specific discussion of change ("LD").

STEP 3

Confirm that the magnitude of instrument drift has been determined with a high probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument type (make, model number, and range) and application that performs a safety function. Provide a list of the channels by TS section that identifies these instrument applications.

PP&L EVALUATION

In accordance with the methodology described in the previous section, the magnitude of instrument drift has been determined with a high degree of probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument make and model number. The associated instruments for each affected SSES ITS SR are listed in the corresponding discussion of change ("LDs").

STEP 4

Confirm that a comparison of the projected instrument drift errors has been made with the values of drift used in the setpoint analysis. If this results in revised setpoints to accommodate larger drift errors, provide proposed TS changes to update trip setpoints. If the drift errors result in revised safety analysis to support existing setpoints, provide a summary of the updated analysis conclusions to confirm that safety limits and safety analysis assumptions are not exceeded.

PP&L EVALUATION

The calculated drift was compared to the present allowance for the associated instrument. If the calculated drift for an instrument fell outside the present allowance, the surveillance interval was either left at an 18 month calibration surveillance interval or was extended to a 30 month calibration surveillance interval based on other justification. If an instrument was not inservice long enough to establish a calculated drift number, the surveillance interval was extended to a 24 month interval based on other, more frequent testing or justification obtained from the instrument manufacturer. In no case, was the setpoint of an instrument changed to accommodate a drift error larger than previously evaluated.

STEP 5

Confirm that the projected instrument errors caused by drift are acceptable for control of plant parameters to effect a safe shutdown with the associated instrumentation.

PP&L EVALUATION

As discussed in the previous sections, the calculated drift values were compared to drift allowances in setpoint analysis. In all cases, it was found that the calculated drift fell within the assumptions of the safety analysis or the SR Frequency was not increased, or the SR Frequency was increased based on other justification. Therefore, in no case was it necessary to change the existing safe shutdown analysis to accommodate a larger drift error.

STEP 6

Confirm that all conditions and assumptions of the setpoint and safety analyses have been checked and are appropriately reflected in the acceptance criteria of plant surveillance procedures for Channel Checks, Channel Functional Tests, and Channel Calibrations.

PP&L EVALUATION

PP&L has not changed any setpoint Allowable Value, based on the evaluations performed for the 24 month cycle project, because the 30 month projected drift values fell within the bounds of the current setpoint analysis. Otherwise, the SR Frequency was not increased to 24 months, or was extended to 24 months based on other justifications. Therefore, there is no need reverify established acceptance criteria specified in the surveillance tests.

STEP 7

Provide a summary description of the program for monitoring and assessing the effects of increased calibration surveillance intervals on instrument drift and its effect on safety.

PP&L EVALUATION

Instruments with Technical Specification calibration surveillance frequencies extended to 24 months will be monitored to identify occurrences of instruments found outside of Allowable Value. As-found and as-left calibration data will be recorded for each calibration activity. When as-found conditions are outside allowable value, an evaluation will be performed to determine if the assumptions made to extend the calibration frequency are still valid and to evaluate the effect on plant safety.

As described in the above discussion, PP&L has completed the evaluations necessary to justify a change in surveillance intervals needed to support a 24 Month Fuel Cycle, and PP&L has determined that these evaluations conform to guidance provided in Generic Letter 91-04. The specific evaluations for each SSES CTS SR being changed is contained in the associated ITS conversion discussion of change identified as "LB.x" and "LD.x". In addition, a No Significant Hazards Evaluation 10 CFR 50.92 for "LBs" and "LDs" has been performed for these changes.