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AUTH. NAME: AUTHOR AFFILIATION
BYRAM, R.G. Pennsylvania Power & Light Co.
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SUBJECT: Forwards application for amends to licenses NPF-14 & NPF-22,
proposing main steam line radiation monitor setpoint change
& change to radioactive gaseous effluent monitoring sys.

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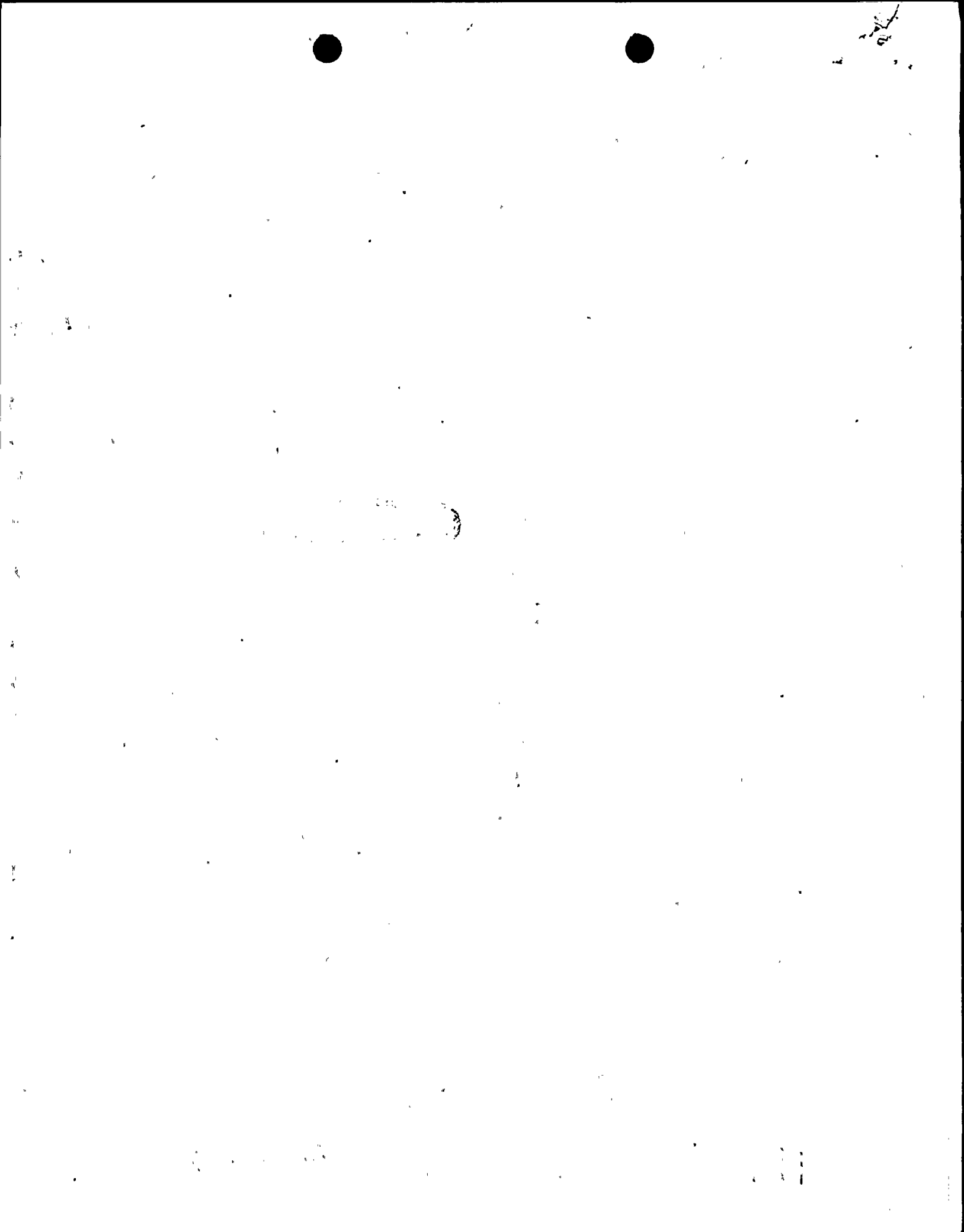
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Robert G. Byram
Senior Vice President
Generation and Chief Nuclear Officer
Tel. 610.774.7502 Fax 610.774.5019
E-mail: rgbyram@papl.com

PP&L, Inc.
Two North Ninth Street
Allentown, PA 18101-1179
Tel. 610.774.5151
http://www.papl.com/



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U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
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**SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT NO. 205 TO LICENSE NPF-14
AND PROPOSED AMENDMENT NO. 170 TO LICENSE NPF 22:
MAIN STEAM LINE RADIATION MONITOR SETPOINT CHANGE
AND CHANGE TO RADIOACTIVE GASEOUS EFFLUENT
MONITORING SYSTEM
PLA-4822**

FILE A17-2

**Docket Nos. 50-387
and 50-388**

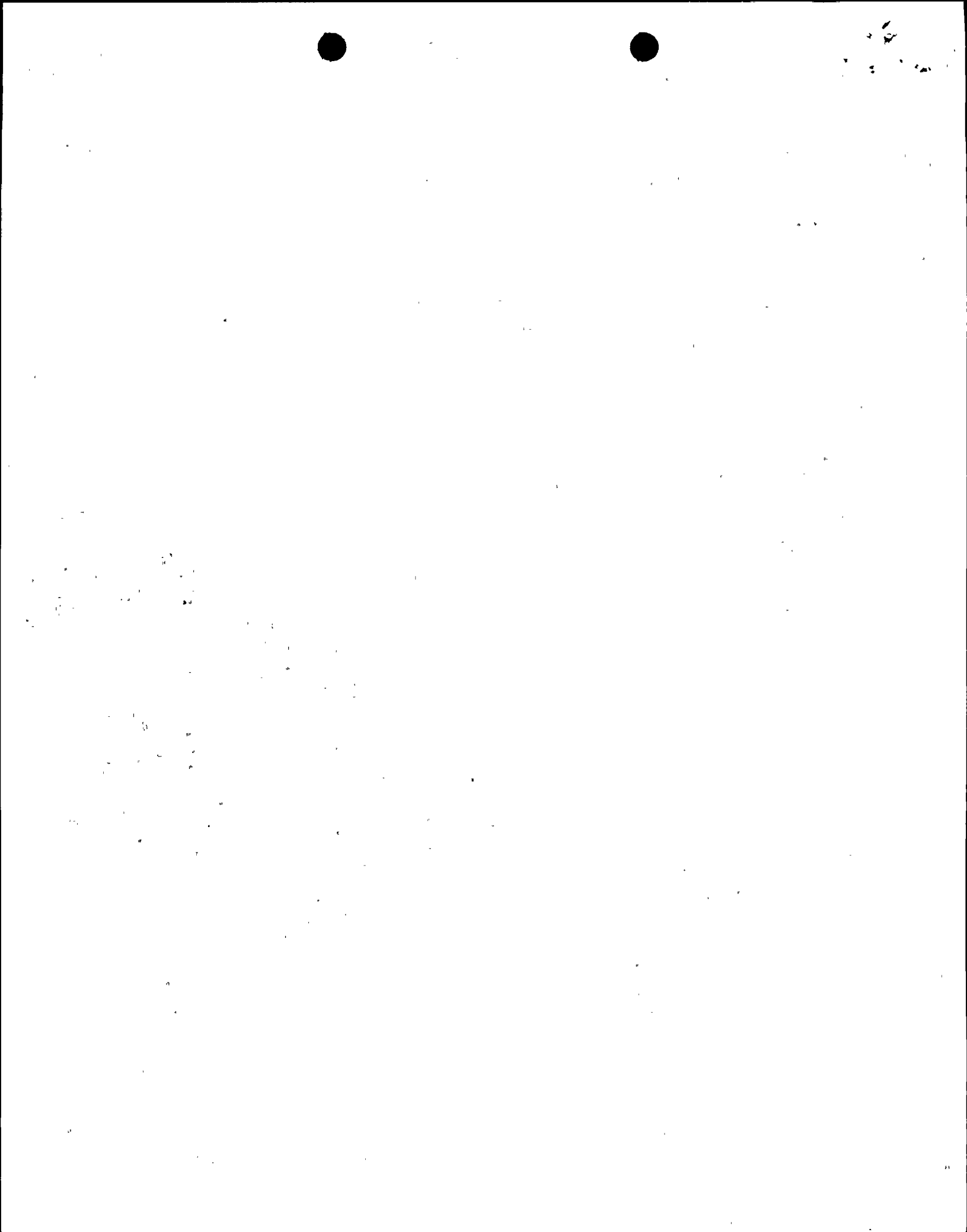
The purpose of this letter is to propose changes to the Susquehanna SES Unit 1 and Unit 2 design basis and Technical Specifications, pursuant to 10 CFR 50.90, which will support the implementation of Hydrogen Water Chemistry (HWC) for the Susquehanna Units. For reasons discussed below, PP&L requests expedited NRC review of the proposed changes. To support our schedule for starting hydrogen injection on Unit 1, we would appreciate receiving approval by July 1, 1998.

HWC is intended to mitigate Intergranular Stress Corrosion Cracking (IGSCC) of safety related stainless steel and inconel reactor vessel internals. IGSCC has already been found on a number of reactor vessel internal components, including horizontal welds of the core shroud, jet pump hold-down beams, steam separator hold-down bolts and core spray piping support brackets, as previously reported. In conformance to guidelines developed by the BWR Vessels and Internals Project (BWRVIP), PP&L, Inc. (PP&L) has performed an engineering evaluation of the risk of IGSCC of reactor vessel components and the benefits of implementing Hydrogen Water Chemistry. There is a high potential for IGSCC associated with Inconel-182 butter and weld material used extensively to join components of the Inconel-600 core support structure, control rod drives and incore instrument housings in the lower vessel head. Given the age of the units (14-15 years since Initial Criticality) and the above experience, it is believed that cracking in the lower vessel head region may become significant in the near future. The BWRVIP has performed assessments of the consequences of IGSCC of all reactor vessel internals and concluded that there is either no adverse impact, or that there is sufficient redundancy or safety margins in the design such that cracking does not present a short-term challenge to BWR safety. The injection of moderate levels of hydrogen will prevent the start of new cracks and

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significantly reduce the growth of existing cracks. Therefore, hydrogen injection will eliminate the potential of long-term challenges to safety as a consequence of an accumulation of damage to reactor vessel internals. Hydrogen water chemistry will also substantially reduce inspection and repair costs, and personnel exposure that could occur due to IGSCC.

The purpose and intent of the proposed changes are as follows:

- 1) Increase the setpoints and allowable values for the Main Steam Line Radiation Monitors to provide adequate operating margin during HWC;
- 2) Eliminate the automatic isolation of the Offgas System from the condenser on high hydrogen. This will reduce the potential for plant shutdowns due to loss of condenser vacuum. It will also reduce the risk of trapping gas containing high concentrations of hydrogen in the Offgas System in the event of a loss of oxygen feed.

PP&L proposes to eliminate the automatic isolation of offgas by plant modification under 10CFR50.59. To support this, PP&L requests NRC approval of the following changes:

- 1) Revise Technical Specifications (TS) to move/relocate requirements and associated TS Bases for Main Condenser Offgas Treatment System Explosive Gas Monitoring System and Radioactive Effluents Explosive Gas Mixture to TS Section 6.0, FSAR Section 16.3 (Technical Requirements Manual) and controlled documents.
- 2) Concur with PP&L's conclusion that the Susquehanna offgas systems are designed to withstand the effects of a hydrogen explosion.

Presently, the offgas system design basis includes automatic actuation to prevent a hydrogen explosion. Under current regulatory guidance, automatic isolation to preclude the formation of explosive gas mixtures is not necessary for systems designed to withstand the effects of a hydrogen explosion. Evaluations have been performed to demonstrate that these systems at Susquehanna SES will withstand the effects of a hydrogen explosion. Therefore, automatic isolation to preclude the formation of explosive gas mixtures is not necessary.

The proposed Technical Specification changes contained herein represent revisions to the Technical Specifications Index, Section 2.2, "Limiting Safety System Settings", Section 3/4.3.2 "Isolation Actuation Instrumentation", Section 3/4.3.7 "Monitoring Instrumentation", and Section 3/4.11.2 "Gaseous Effluents", applicable associated bases and Section 6.0 "Administrative Controls". The proposed changes follow the guidance of NUREG 1433, "Standard Technical Specifications" Revision 1, Generic Letter 95 -10 "Relocation of Selected Technical Specifications Requirements Related to Instrumentation" and SER "Guidelines for Permanent BWR Hydrogen Water Chemistry Installation" dated July 1987.

Attachment 1 of this letter provides the safety assessment of the proposed changes. Attachment 2 is the determination of no significant hazards considerations. Attachment 3 is the marked-up version of the current Technical Specifications. Attachment 4 summarizes the bases for concluding that the Offgas Systems are designed to withstand the effects of a hydrogen explosion. Calculations supporting the Offgas System design basis change have been previously submitted (PLA-4840, dated February 9, 1998).

PP&L has reviewed the proposed Technical Specification changes in accordance with 10 CFR 50.92 and concludes that the changes do not involve a significant hazards consideration. PP&L has also reviewed the proposed license amendment against the criteria of 10 CFR 51.22 for environmental considerations and concludes that the changes will not increase the types and amounts of effluent that may be released offsite, or significantly increase individual or cumulative occupational radiation exposures. Thus, PP&L concludes that the proposed changes satisfy 10 CFR 51.22(c)(9) for a categorical exclusion from the requirements for an environmental impact statement.

The Plant Operations Review Committee and the Susquehanna Review Committee have reviewed the proposed change to the Technical Specifications and concur with the above determinations. Pursuant to 10 CFR 50.91(b)(1), SSES Units 1 & 2 have provided a copy of this license amendment request and the associated analysis regarding a no significant hazards consideration to the appropriate Commonwealth of Pennsylvania representative.


PP&L requests that the NRC issue a License Amendment which will be effective upon issuance and shall be implemented within 30 days of issuance. This latitude permits appropriate procedural and program revisions and training necessary to implement the proposed changes.

These proposed changes are also consistent with the proposed Improved Technical Specification (ITS) submittal (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," dated August 1, 1996). The ITS submittal proposes to relocate the Main Steam Line Radiation Monitor setpoint and the Main Condenser Offgas Treatment System Explosive Gas Monitoring System to the Technical Requirements Manual (FSAR Section 16.3). This proposed amendment is being submitted in addition to ITS in order to expedite the relocation of the Main Condenser Offgas Treatment System Explosive Gas Monitoring System specifications, and also to obtain NRC's approval of the proposed change to the Main Steam Line Radiation Monitor setpoint.



Should you have any questions or comments regarding this submittal, please contact Mr. J. M. Kenny at (610) 774-7535.

Sincerely,



Robert G. Byram

Attachments

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



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