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ACCESSION NBR: 9411020075 DOC. DATE: 94/10/25 NOTARIZED: YES DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylva 05000387
 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylva 05000388

AUTH. NAME AUTHOR AFFILIATION
 BYRAM, R.G. Pennsylvania Power & Light Co.
 RECIPIENT NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Application for amends to licenses NPF-14 & NPF-22, proposing
 TS, adding isolation signals to Table 3.6.3-1 for containment
 isolation valves on sample lines for Containment Radiation
 Monitoring & wetwell sample lines.

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Pennsylvania Power & Light Company

Two North Ninth Street • Allentown, PA 18101-1179 • 610/774-5151

Robert G. Byram
Senior Vice President—Nuclear
610/774-7502
Fax: 610/774-5019

OCT 25 1994

U.S. Nuclear Regulatory Commission
Attn.: Document Control Desk
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**SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT NO. 172 TO
LICENSE NO. NPF-14 AND NO. 126 TO
LICENSE NO. NPF-22 : ADDITION OF ISOLATION
SIGNALS FOR CONTAINMENT ISOLATION VALVES
FOR CRM AND WETWELL SAMPLE LINES
PLA-4214**

FILES A17-2/R41-2

Docket Nos. 50-387
and 50-388

Dear Sir:

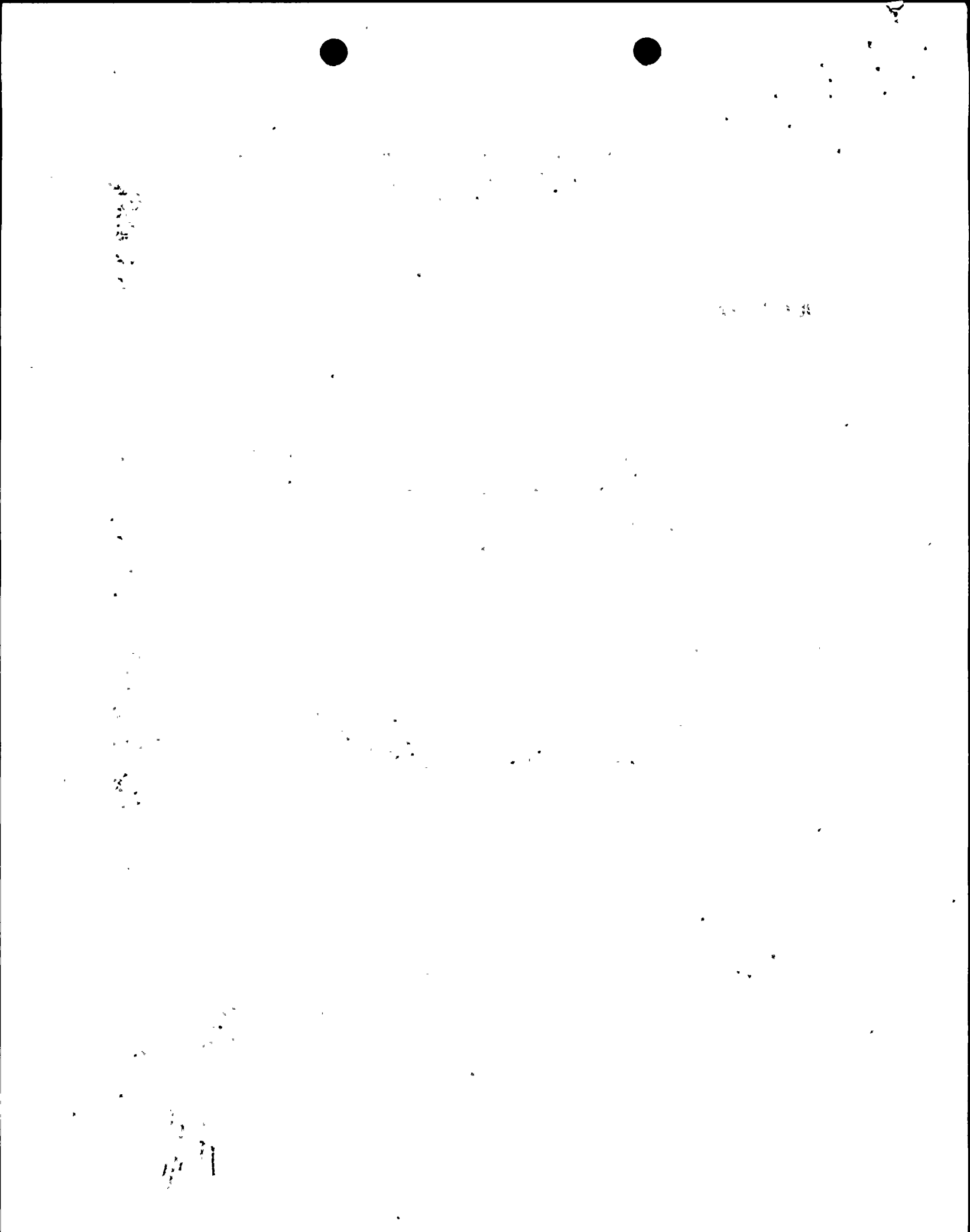
The purpose of this letter is to propose changes to the Susquehanna SES, Units 1 and 2, Technical Specifications. The isolation valves for the Containment Radiation Detection System were previously added to the plant and the SSES Technical Specifications. However, electrical power was not connected at that time resulting in a footnote being placed under the column "Isolation Signal" indicating this absence. (See attached marked-up Technical Specifications for details.) Electrical power is now proposed to be provided to these isolation valves requiring the applicable isolation signal be incorporated into the Technical Specifications. The proposed Technical Specification Change adds isolation signals to Table 3.6.3-1 for the containment isolation valves on the sample lines for the Containment Radiation Monitoring (CRM) and wetwell sample lines.

The attached assessment provides the safety basis for this proposed change and concludes that the change involves no significant hazards. The change has been reviewed by the Plant Operations Review Committee (PORC) and the Susquehanna Review Committee (SRC).

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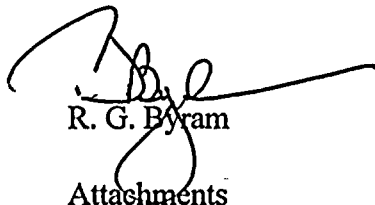
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The modifications associated with this proposed change are currently scheduled to be performed during the upcoming Unit 1 8th and Unit 2 7th Refueling and Inspection Outages. In order to avoid performing this modification "at risk" PP&L requests that your approval be completed by February 10, 1995, with the condition that the amendment become effective upon unit restart. Any questions on this submittal should be directed to Mr. A. K. Maron at (610) 774-7852.

Very truly yours,



R. G. Byram

Attachments

cc: NRC Region I
Mr. C. Poslusny, Jr., NRC Sr. Project Manager - OWFN
Ms. M. Banerjee, NRC Sr. Resident Inspector - SSES
Mr. W. P. Dornsife, PA DER

SAFETY ASSESSMENT***CONTAINMENT ISOLATION VALVES FOR CRM AND WETWELL SAMPLE LINES***

BACKGROUND

The Containment Radiation Monitors (CRM's) are included in the Reactor Coolant Pressure Boundary (RCPB) Leak Detection System. The CRM's are two 100% redundant systems, each consisting of a single cabinet structure containing a particulate monitor, iodine monitor, and noble gas monitor. Persistent operational and maintenance problems have occurred in the past with the CRM system, resulting in the system being modified through the installation of a new system.

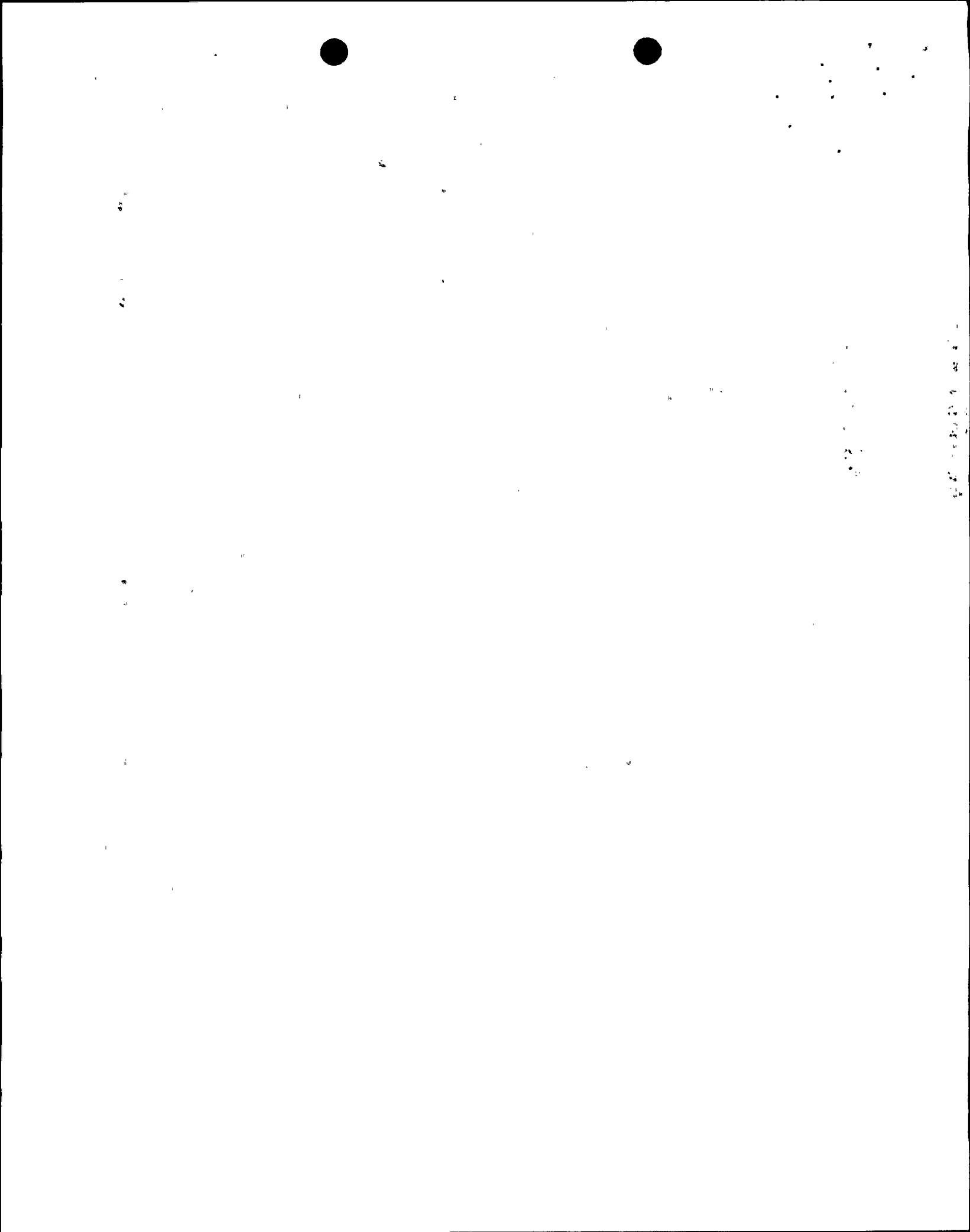
The CRMs share the containment drywell and wetwell sample piping with the H₂/O₂ analyzers and Post Accident Sample System (PASS). The proposed action is to add a new CRM and Wetwell Sample System with separate containment sample lines which will replace the existing CRMs. This new CRM and Wetwell Sample System is being installed to significantly reduce the maintenance effort, to eliminate the operational problems caused by the degraded condition of the existing CRM system and its effects on the Containment Atmospheric Control (CAC) system, and to provide a representative containment air sample to the new CRMs within acceptable plateau limits.

DESCRIPTION OF CHANGES

It is proposed to delete the footnote on Table 3.6.3-1 and add the actual isolation signals as shown on the attached marked up pages.

SAFETY ANALYSIS**Analysis**

The proposed action is to add a new CRM and Wetwell Sample System with separate containment sample lines which will replace the existing CRMs. Removal of the existing CRMs from the CAC system sample lines will also be performed as part of the associated plant modifications. The new supply and return sample lines for the CRMs or Wetwell Sample Rack each have an inboard isolation valve supplied with Division I control power and outboard isolation valves in the same lines supplied with Division II control power. The control schemes for the isolation valves are on a divisional basis for each CRM and the Wetwell Sample Rack. The control scheme for each set of isolation valves consists of a LOCA signal in series with the manual controls which energizes or de-energizes an auxiliary relay. The isolation signal for the new valves is either Reactor Vessel Water Level - Low, Low, Level (-38.0 inches) or Drywell Pressure - High (1.72 psig) which is the same isolation signal for the existing CAC isolation valves. The auxiliary relay provides the seal-in



for the manual (spring return to normal-momentary contact) control switch when the valves are open. The relay also energizes another auxiliary relay located in the new local component boxes which energizes both solenoid isolation valves to open or de-energizes both solenoids to close the valves. All of the control logic for the isolation valves is fail safe so that the solenoid isolation valve(s) close on de-energization of the logic.

The new CRM and Wetwell Sample Rack containment isolation valves and all of the components which comprise the valve control circuitry including the accident signal and the position indication circuitry are qualified devices. Therefore, a random single failure of only one device at a time need be postulated. A failure of a valve or a single failure in the valve control circuitry which resulted in failure of a valve to close would not prevent the line from being isolated. Containment integrity would not be affected by a single device failure. Failure of the auxiliary relay added to the containment isolation logic represents a single failure for that division of isolation logic. The random single failure is not a common mode failure since the circuitry for each division is designed to Class 1E criteria. The consequences of the random single failure of the auxiliary relay is no different than the consequences of a failure of the existing isolation logic. A failure in the valve position indication circuitry does not represent a single failure for the division. A failure within the circuitry which does not affect the valve position switches has no impact. A failure within the circuitry which affects the valve position switches does not represent any impact to the valve operation. The position switches on the valve are reed switches actuated by a magnet assembly attached to the valve plunger. Failure of the reed switches would not prevent the valve plunger from operating.

CONCLUSION

The fail safe position for the CRM and Wetwell Sample Rack containment isolation valves is the closed position. Inadvertent operations which opened both the Division I and the Division II isolation valves on the sample lines to a CRM or the Wetwell Sample Rack would have no impact. An inadvertent operation which closed either the Division I or Division II isolation valves or closed a single valve in either the supply or return lines while the CRM was operating would result in shutdown of the CRM. The CRM mass flow controller or sample pump discharge pressure switch would sense low flow or high pump discharge pressure and send a signal to the Local Detection Panel to shutdown the CRM sample pump. For the Wetwell Sample Rack, inadvertent closure of isolation valve(s), while a grab sample was being taken, would be indicated locally as low flow on a flow indicator at the grab sample rack and require operator action to turn off the sample pump for the grab sample.

The CRMs are only an informational system which is not important to safety. The CRMs do not generate any signals used for any Safety Systems actuation.

NO SIGNIFICANT HAZARDS CONSIDERATIONS

The proposed changes do not:

- I. *Involve a significant increase in the probability or consequences of an accident previously evaluated.*

The addition of the new CRM and Wetwell Sample System does not affect any of the postulated initiating events identified in Chapter 6 and 15 of the FSAR, the Design Assessment Report, the current Reload Analysis or the NRC Safety Evaluation Report (NUREG 0776).

The new CRM and Wetwell Sample System with separate containment sample lines is isolated from the primary containment under accident conditions. The power and control-power to the CRM from the Class 1E Division I and Division II sources is through electrical isolation schemes so that failure(s) in the CRM under accident conditions is isolated from the Class 1E systems.

The addition of a new CRM and Wetwell Sample System with separate sample lines and isolation valves does represent a change in the probability of occurrence of a malfunction of equipment. The addition of the auxiliary relay to the Division I and Division II CAC System containment isolation logic does represent the source of another potential malfunction in the logic due to the additional relay in the circuit. However, the increase in probability due to the additional relay is considered to be so small or insignificant that the change is within the error bounds associated with the original design calculations and does not constitute a significant increase in probability of the overall system malfunction.

Thus, the addition of a new CRM and Wetwell Sample System does not significantly increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety, as previously evaluated in the SAR.

- II. *Create the possibility of a new or different kind of accident from any accident previously evaluated.*

Chapter 6 and 15 of the FSAR, the Design Assessment Report, the current Reload Analysis and NUREG-0776 were reviewed to determine if the proposed action had the potential of creating a postulated initiating event which was not within the spectrum of events which transient or anticipated operational occurrences and accident conditions were analyzed. The review did not identify a postulated initiating event which would create the possibility for an accident of a different type.

A random single failure in the CRM A or CRM B does not create a malfunction of a different type. A random single failure in the existing containment isolation circuitry, the new isolation valve control circuitry or the new valve position indication circuitry for the new containment isolation valves does not create a malfunction of a different type. The



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consequences of random single failure of the CRM or the CRM and Wetwell containment isolation valve isolation signal, control and indication circuitry is the same as the existing consequences.

Thus, the addition of a new CRM and Wetwell Sample System does not create a possibility for an accident or malfunction of a new or different type.

III. Involve a significant reduction in a margin of safety.

The operability of the primary containment isolation valves for the sample lines to the new CRMs and Wetwell Sample Rack is governed by Technical Specification Section 3/4.6.3 entitled "Containment Systems, Primary Containment Isolation Valves" with Table 3.6.3-1 establishing the maximum isolation time. The bases for operability of the primary containment isolation valves is to ensure that the containment atmosphere is isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. This is consistent with GDC 54 through 57 of 10 CFR 50, Appendix A. The bases for the containment isolation within the time limits specified in Table 3.6.3-1 is for those isolation valves designed to close automatically to ensure that the release of radioactive material to the environment is consistent with the assumptions used in the analyses for a LOCA. The new CRM and Wetwell Sample Rack sample line isolation valves are solenoid valves which close immediately on an accident signal. The proposed action does not affect the operability requirements of Section 3/4.6.3. The margin of safety as defined in the Technical Specification for the containment isolation valves is not affected.

ENVIRONMENTAL CONSEQUENCES

This request is consistent with the Susquehanna design basis, in that the new CRM and Wetwell Sample System enhances the overall operability of the existing CRM system . Therefore, no environmental consequences that have not been previously considered are anticipated.

IMPLEMENTATION

The modifications associated with this proposed change are currently scheduled to be performed during the upcoming Unit 1 8th and Unit 2 7th Refueling and Inspection Outages. In order to avoid performing this modification "at risk" PP&L requests that your approval be completed by February 10, 1995, with the condition that the amendment become effective upon unit restart.

**BEFORE THE
UNITED STATES NUCLEAR REGULATORY COMMISSION**

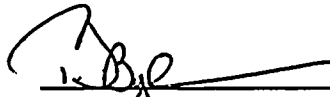
In the Matter of _____ : Docket No. 50-387
PENNSYLVANIA POWER & _____ :
LIGHT COMPANY _____ :

**PROPOSED AMENDMENT No. 172
FACILITY OPERATING LICENSE NO. NPF-14
SUSQUEHANNA STEAM ELECTRIC STATION
UNIT NO. 1**

Licensee, Pennsylvania Power & Light Company, hereby files proposed Amendment No. 172 to its Facility Operating License No. NPF-14 dated July 17, 1982.

This amendment contains a revision to the Susquehanna SES Unit 1 Technical Specifications.

PENNSYLVANIA POWER & LIGHT COMPANY
BY:



R. G. Byram
Sr. Vice President - Nuclear

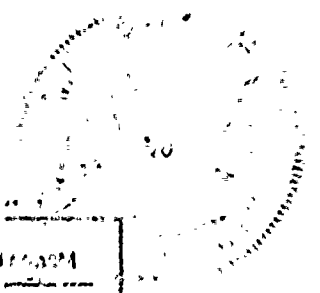
Sworn to and subscribed before me
this 25th of October, 1994.



Notary Public

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Martha C. Sedora, Notary Public
Allentown, Lehigh County
My Commission Expires Jan. 15, 1998
Member, Pennsylvania Association of Notaries

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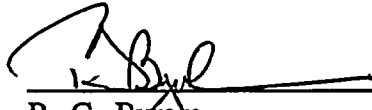
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PENNSYLVANIA POWER & LIGHT COMPANY :
Docket No. 50-388

**PROPOSED AMENDMENT No. 126
FACILITY OPERATING LICENSE NO. NPF-22
SUSQUEHANNA STEAM ELECTRIC STATION
UNIT NO. 2**

Licensee, Pennsylvania Power & Light Company, hereby files proposed Amendment No. 126 to its Facility Operating License No. NPF-22 dated March 23, 1984.

This amendment contains a revision to the Susquehanna SES Unit 2 Technical Specifications.

PENNSYLVANIA POWER & LIGHT COMPANY
BY:



R. G. Byram
Sr. Vice President - Nuclear

Sworn to and subscribed before me
this 25 of October, 1994.



Notary Public

Notarial Seal
Martha C. Sedora, Notary Public
Allentown, Lehigh County
My Commission Expires Jan. 13, 1998
Member, Pennsylvania Association of Notaries



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