

CATEGORY 1

REGULATOR INFORMATION DISTRIBUTION SYSTEM (RIDS)

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SUBJECT: Forwards proposed Amend 192 to License NPF-14, deleting relief valves from RHR sys.

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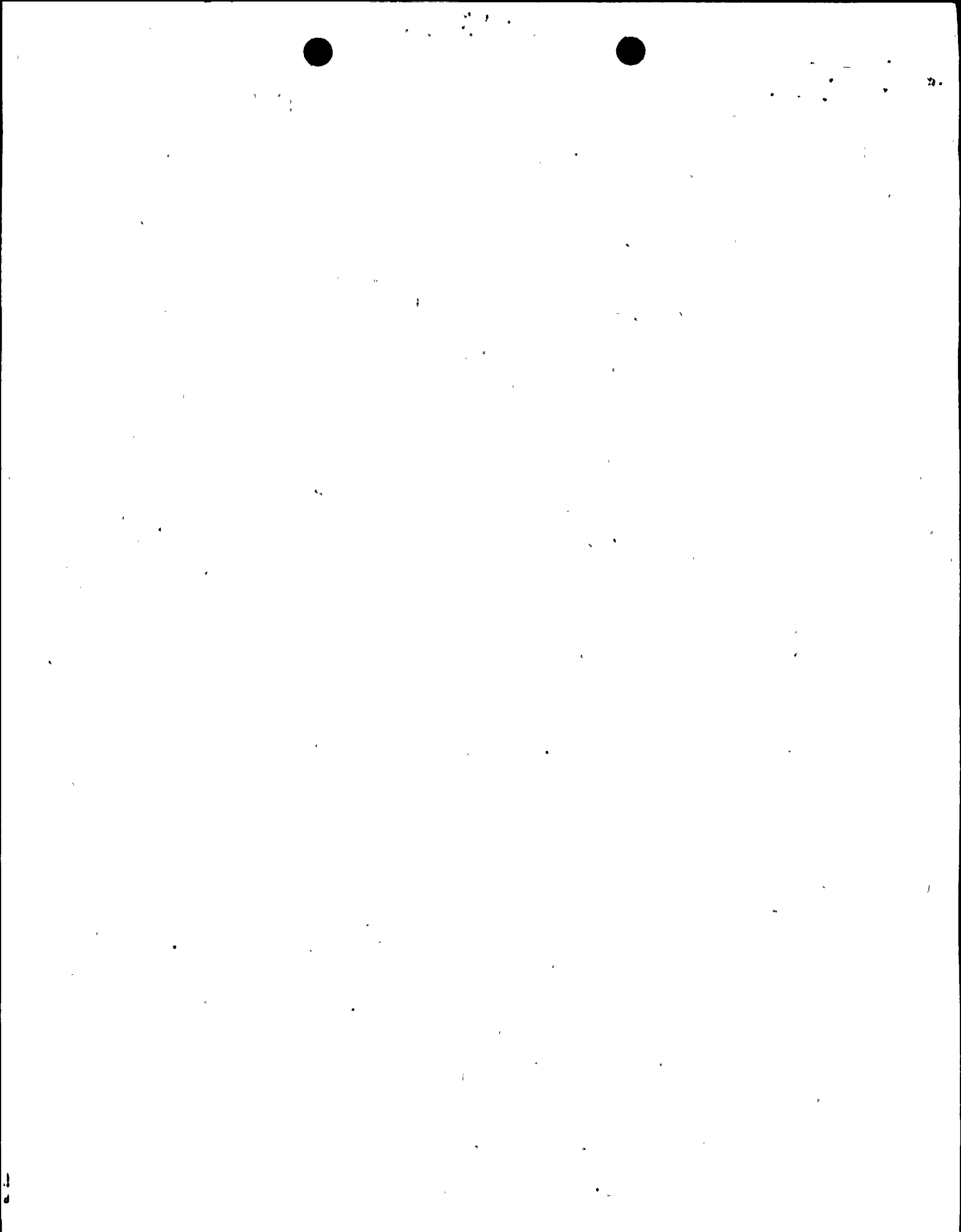
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SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT NO. 192 TO
LICENSE NPF-14: DELETION OF RHR
RELIEF VALVES
PLA-4401

FILE R41-2

Docket No. 50-387

The purpose of this letter is to transmit a proposed amendment to the Susquehanna SES Unit 1 Technical Specifications. This proposed change deletes three relief valves from the Residual Heat Removal (RHR) system. The deletion of the Unit 2 RHR relief valves was approved in Amendment No. 123, dated September 11, 1995.

BACKGROUND

During the original design and construction of Susquehanna SES, one of the modes of operation of the RHR System was the Steam Condensing Mode. This mode of operation was eliminated from the plant several years ago. However, when this mode of operation was eliminated, not all of the piping and valves were removed at that time. As part of a design change package, three RHR relief valves are being removed and the piping pressure boundary is being restored with blind flanges or the equivalent. These valves are located on the RHR system steam supply line from the HPCI steam supply and on the RHR system condensate discharge line to the RCIC pump suction. The flanges will be tied together structurally to the extent necessary to maintain support qualifications. The piping between RHR and RCIC pump suction will be isolated by using blind flanges or the equivalent to ensure leakage through normally closed valves cannot pressurize RCIC pump suction piping.

DESCRIPTION OF CHANGE

This proposed change removes three relief valves from Table 3.6.3-1, "Primary Containment Isolation Valves" since these valves are no longer needed to support the Steam Condensing Mode of RHR and are being removed from the plant during the Unit 1 9th RIO.

Refer to the attached marked up Technical Specifications.

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SAFETY ANALYSIS

Valves PSV-151F055A & B are pressure relief valves located on the RHR system steam supply line from HPCI steam supply between the RHR heat exchanger and the steam supply pressure control valves. This steam supply line was previously isolated by welded caps between the pressure control valves and the RHR system. These relief valves were originally provided to protect the RHR heat exchanger and its shell side inlet piping in the event both pressure control valves failed to open during the steam condensing mode of RHR. The discharge of the relief valves is directed to the suppression pool. These valves were designed to remain closed to maintain RHR system integrity during all RHR modes except when the pressure in the piping exceeds the relief setpoint that could occur during the steam condensing mode. The size of these valves was established based on the design pressure of the piping and heat exchanger such that the design pressure would not be exceeded by more than 10% during the pressure transient with the pressure control valves in the full open position. These valves are no longer required for the following reasons:

- The steam condensing mode has been eliminated from the RHR system. Since the HPCI steam supply piping to the RHR heat exchangers was cut and capped, the potential for the overpressure condition due to pressure control valve failure in the steam line no longer exists.
- The RHR heat exchanger and associated piping are still protected from a pressure transient caused by thermal expansion by the thermal relief valves provided as part of the original design. The protection is provided by the heat exchanger shell relief valve when the RHR heat exchanger is isolated and by an additional relief valve when the heat exchanger is not isolated.
- The system and containment boundary integrity will be maintained by installing blind flanges or equivalent.

A post-modification local leak rate test (LLRT) will be performed on the blind flanges that are part of the primary containment boundary. In addition these blind flanges will continue to be local leak rate tested in accordance with 10 CFR 50 Appendix J requirements.

The third pressure relief valve to be removed is PSV-151F097 and is located on the RHR system condensate discharge line to RCIC pump suction. This valve was provided for overpressure protection in the event either control valve failed open during the steam condensing mode of operation. This valve was designed to remain closed to maintain the pressure integrity of the piping and to open when the pressure in the piping exceeds the relief setpoint. The size of this valve was established based on the design pressure of the RCIC pump suction piping such that the piping design pressure would not be exceeded by more than 10% during the pressure transient with the control valve in the full open position. This valve is no longer required for the following reasons:

- The steam condensing mode has been eliminated from the RHR system. The potential for an overpressure condition during or following a steam condensing mode of operation does not exist.
- In order to eliminate the potential for RHR pressurizing RCIC pump suction piping, the piping between the two systems will be isolated via blind flange or equivalent.
- The RCIC suction piping is still protected from an overpressure condition by a pressure relief valve. This relief valve was provided to protect the RCIC pump suction piping from over-pressurization

during Standby conditions due to leakage into the RCIC system from higher pressure systems such as the Feedwater System.

- The system and containment boundary integrity will be maintained by installing a blind flange or equivalent.

A post-modification local leak rate test (LLRT) will be performed on the blind flange that is part of the primary containment boundary. In addition the blind flange will continue to be local leak rate tested in accordance with 10 CFR 50 Appendix J requirements.

NO SIGNIFICANT HAZARDS CONSIDERATIONS

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

With the prior deletion of the steam condensing mode of RHR and the isolation of the high and low pressure interfaces, the three pressure relief valves that are being removed from the plant have no active function. Their passive function of maintaining system or containment integrity will be fulfilled by blind flanges. Also, the RHR and RCIC piping are provided with overpressure protection from other pressure relief valves. Therefore, the removal of these pressure relief valves does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The pressure relief valves that are being removed had two primary functions. First, they provided overpressure protection for the RHR and RCIC piping during the steam condensing mode of RHR. Since the steam condensing mode has been deleted from the plant, these valves no longer have that function. Also, overpressure protection of the RHR and RCIC piping is provided by other existing pressure relief valves. Second, these valves maintained system or containment integrity. When the pressure relief valves are removed from the plant, they will be replaced with blind flanges or equivalent that will maintain system or containment integrity. Therefore, the removal of the three pressure relief valves does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. **Involve a significant reduction in a margin of safety.**

Since the steam condensing mode of RHR has been eliminated, the three pressure relief valves have no active function. Their passive function of maintaining system or containment integrity will be fulfilled by blind flanges or equivalent. Also, overpressure protection of RHR and RCIC piping is provided by other existing pressure relief valves. Therefore, the removal of the three pressure relief valves does not involve a significant reduction in a margin of safety.

LEAK TESTING

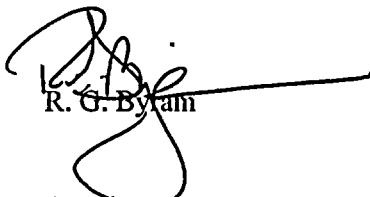
A post-modification local leak rate test (LLRT) will be performed on the blank flanges that are part of the primary containment boundary. In addition these blank flanges will continue to be local leak rate tested in accordance with 10 CFR 50 Appendix J requirements.

IMPLEMENTATION

Pennsylvania Power & Light Company requests that this change be approved by August 2, 1996, in order to support the removal of the three pressure relief valves during the Unit 1 9th RIO that is scheduled to begin in September 1996.

If you have any questions, please contact Mr. C. T. Coddington at (610) 774-7531.

Very truly yours,


R. G. Byram
Attachment

cc: NRC Region I

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