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 RECIPIENT NAME RECIPIENT AFFILIATION
 MILLER, C.L. Project Directorate I-2

SUBJECT: Requests extension of 921117 & 18 requests for waiver of compliance for inoperable RWCU isolation channel to support preparation of TS amend request to delete RWCU high flow isolation trip function. Schematics encl.

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Director of Nuclear Reactor Regulation
Attention: Mr. C. L. Miller, Project Director
Project Directorate I-2
Division of Reactor Projects
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

**SUSQUEHANNA STEAM ELECTRIC STATION
EXTENSION OF WAIVER REQUEST FOR
INOPERABLE RWCU ISOLATION CHANNEL
PLA-3876 FILES A17-2/R41-2**

Docket No. 50-388

- References:
1. Letter, PLA-3874, H. W. Keiser to T. T. Martin, "Request for Waiver of Compliance," dated November 17, 1992.
 2. Letter, C. W. Hehl to H. W. Keiser, "Temporary Waiver of Compliance Related to the RWCU System Isolation Actuation Instrumentation," dated November 18, 1992.

Dear Mr. Miller:

The purpose of this letter is to request an extension of the referenced waiver to support preparation of a formal Technical Specification Amendment request to delete the RWCU High Flow isolation trip function.

Justification for this waiver extension has been supplemented from that provided in Reference 1. Supplemental justification will be provided with the proposed Technical Specification Amendment, which is in process and will be submitted by 11/27/92.

DESCRIPTION OF CONDITION

A schematic of the RWCU system is attached for information. On 11/15/92, operators noted a significant decrease in the reading of the 'B' High Flow channel during the routine surveillance channel check. Although the associated instrument (PDIS-G33-2N044B) met the channel check acceptance criteria, an investigation was initiated. At 1120 on 11/17/92, the channel was taken out of service to determine the cause of this reading decrease and the appropriate LCO was entered. At 1310, the channel was confirmed to be inoperable, and it was concluded that the instrument could not be repaired in the time allotted by the Technical Specifications; therefore, operations shutdown and isolated the RWCU system. At 1930 hours on 11/17/92, the NRC

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granted a 72-hour waiver. RWCU was restored to service on 11/18/92. Additional attempts to restore the inoperable channel since that time have been unsuccessful. Observation of pertinent plant indications demonstrates no detectable leakage from the RWCU system.

REQUIREMENTS FOR WHICH WAIVER IS REQUESTED

Technical Specification 3.3.2, Action b, footnote *, requires that Action 23 of Table 3.3.2-1 be followed for the circumstances outlined above. This action requires the RWCU system to be isolated. PP&L is requesting that the requirement to follow Action 23 continue to be waived to support preparation and subsequent NRC review and approval of a Technical Specification Amendment Request to eliminate the RWCU high flow isolation trip function from the SSES Technical Specifications.

CIRCUMSTANCES REQUIRING PROMPT ACTION

The Reference 2 waiver expires at 1930 hours on 11/20/92. For the reasons described below, PP&L believes that it is safe and within the bounds of existing analyses to operate the Susquehanna units without the subject trip function (channel 'A' RWCU high flow isolation trip function is OPERABLE). If action is not taken prior to the deadline, the RWCU system will have to be isolated, and Susquehanna Unit 2 subsequently shut down in accordance with administrative controls when reactor water conductivity reaches .5 micromhos/cm. If this request is not approved, PP&L requests that shutdown be allowed to occur with the RWCU system in service in order to avoid the detrimental effects on SSES water chemistry.

SAFETY SIGNIFICANCE AND CONSEQUENCES OF PROPOSED REQUEST

PP&L believes that it is safe to operate Susquehanna Unit 2 due to the operability of the remaining diverse and redundant RWCU isolation trip functions required by Technical Specification 3.3.2. This includes (for two trip systems):

1. Ambient Temperature High - Capable of Detecting a 25 GPM (or larger) Leak

TSH-G33-2N600A	Pump Room
TSH-G33-2N600B	Pump Room
TSH-G33-2N600C	Heat Exchanger Room
TSH-G33-2N600D	Heat Exchanger Room
TSH-G33-2N600E	Penetration Room
TSH-G33-2N600F	Penetration Room
Instrument A or C or E will close the inboard valve. Instrument B or D or F will close the outboard valve.	

- 2. Differential Temperature High - Capable of Detecting a 25 GPM (or larger) Leak

TDSH-G33-2N602A	Pump Room
TDSH-G33-2N602B	Pump Room
TDSH-G33-2N602C	Heat Exchanger Room
TDSH-G33-2N602D	Heat Exchanger Room
TDSH-G33-2N602E	Penetration Room
TDSH-G33-2N602F	Penetration Room
Instrument A or C or E will close the inboard valve. Instrument B or D or F will close the outboard valve.	

- 3. Differential Flow High - Capable of Detecting a 60 GPM (or larger) Leak

FDSH-G33-2N603A	Closes inboard valve
FDSH-G33-2N603B	Closes outboard valve

- 4. Reactor Vessel Water Level Low, Low (Level 2) - Capable of Detecting Pipe Breaks Inside Containment Up to a Double-Ended Guillotine Break

LITS-B21-2N026A	Both switches must actuate to close the inboard valve
LITS-B21-2N026B	
LITS-B21-2N026C	Both switches must actuate to close the outboard valve
LITS-B21-2N026D	

Each of the above trip channels is supported by divisionalized power; each trip function has two redundant, divisionalized trip systems. These instruments cover the necessary range of potential pipe leak/break scenarios. The ambient temperature and delta temperature detection instruments are designed to detect and isolate leaks as small as 25 gpm, which are well below the flow rate corresponding to critical crack size. The delta flow, and Level 2 channels will detect and isolate increasingly larger breaks, up to and including a double-ended guillotine break, as reflected above. All of these channels except for Level 2 will detect leaks or breaks outside containment;



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1. The first part of the document
describes the general situation
of the company and its
activities. It also mentions
the main objectives of the
project and the role of the
participants.

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the Level 2 channel detects breaks inside containment. Finally, the manual isolation provides a backup to allow the operator to effect the isolation in response to control room alarms if an automatic isolation does not occur.

Leak detection can be considered as a safety function with the purpose of minimizing or precluding the potential for a high energy line break (for which independent and diverse detection and isolation systems exist). FSAR Figure 5.2-10, attached, correlates leak rates to crack size up to cracks associated with unstable piping rupture for different pipe sizes and stresses. The RWCU system piping is 6 inches in diameter. A leak rate of 25 gpm can be seen from that Figure to be less than those leak rates associated with the onset of unstable pipe rupture.

Furthermore, the alarm response procedures identify specific actions required including observation, confirmation, isolation, and repair of leaks. Visual observation of a steam leak, rising room temperatures, rising area radiation levels, or the occurrence of a pre-isolation temperature alarm in the main control room would invoke operator action without attempting to quantify the leak rate, or waiting for the temperature to reach the isolation setpoint. Prolonged operation with any significant leak is not anticipated.

The impact on the containment isolation function evaluated in the Susquehanna IPE was also reviewed. Failure of this function is dominated by valve failure and is not appreciably changed by the deletion of the high flow trip function, due to the other redundant and diverse detection capability available.

PP&L believes that although additional diversity is provided by the high flow trip function, this trip function is not required to ensure RWCU isolation for any analyzed leak or break due to the range of detection capability afforded by the other trip functions listed above. Therefore, operation without the RWCU high flow isolation trip function is not a significant degradation in the safety margin associated with RWCU isolation.

COMPENSATORY ACTIONS

In support of this waiver request, PP&L has confirmed OPERABILITY of the 'A' high flow isolation trip channel and of all other RWCU isolation trip functions, and that no detectable leakage from the RWCU system exists, based on pertinent plant indications.

NO SIGNIFICANT HAZARDS CONSIDERATIONS

1. This request does not involve a significant increase in the probability or consequences of an accident previously evaluated. Operation without the RWCU high flow trip function does not increase the probability of containment isolation malfunction as analyzed in the Susquehanna IPE. With regard to consequences, other redundant and diverse means of break detection are available, and have been determined to be adequate to cover the range of potential break scenarios evaluated in the FSAR.
2. This request does not create the possibility of a new or different kind of accident from any accident previously evaluated. It has been determined that the redundant and diverse RWCU isolation functions of Ambient High Temperature, High Delta Temperature, High Delta Flow, and Reactor Vessel Water Level - Low Low Level 2, will ensure that all analyzed breaks will be detected and isolated in accordance with previous FSAR evaluations. Therefore, the proposed action creates no new events.
3. The proposed change does not involve a significant reduction in a margin of safety. For the reasons described in 1 and 2 above, the high flow trip function represents additional, conservative diversity to support isolation. Adequate diversity to operate the Susquehanna units has been determined to exist in the remaining trip functions, and those functions have been determined to cover the complete range of analyzed break scenarios required. Therefore, an acceptable level of RWCU isolation reliability continues to exist, and a significant reduction in safety margin will not occur if the proposed waiver is approved.

ENVIRONMENTAL CONSEQUENCES

No environmental consequences that have not been previously evaluated are anticipated, because the remaining OPERABLE RWCU isolation channels have been shown to be adequate to protect the validity of the existing affected FSAR analyses.

CONCLUSION

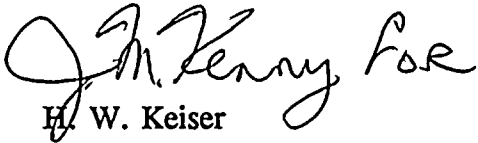
Susquehanna SES Unit 2 can be safely operated without the RWCU high flow isolation trip function. Although this trip function provides another diverse means of isolating RWCU, several other redundant and diverse means of detection are provided that will ensure this function is performed consistent with FSAR assumptions.

PP&L is therefore requesting that our previous waiver request be extended to allow for preparation and subsequent NRC review and approval of a formal Technical Specification Amendment request, which will be forwarded by 11/27/92. The Susquehanna Plant Operations Review Committee has reviewed and approved this request.

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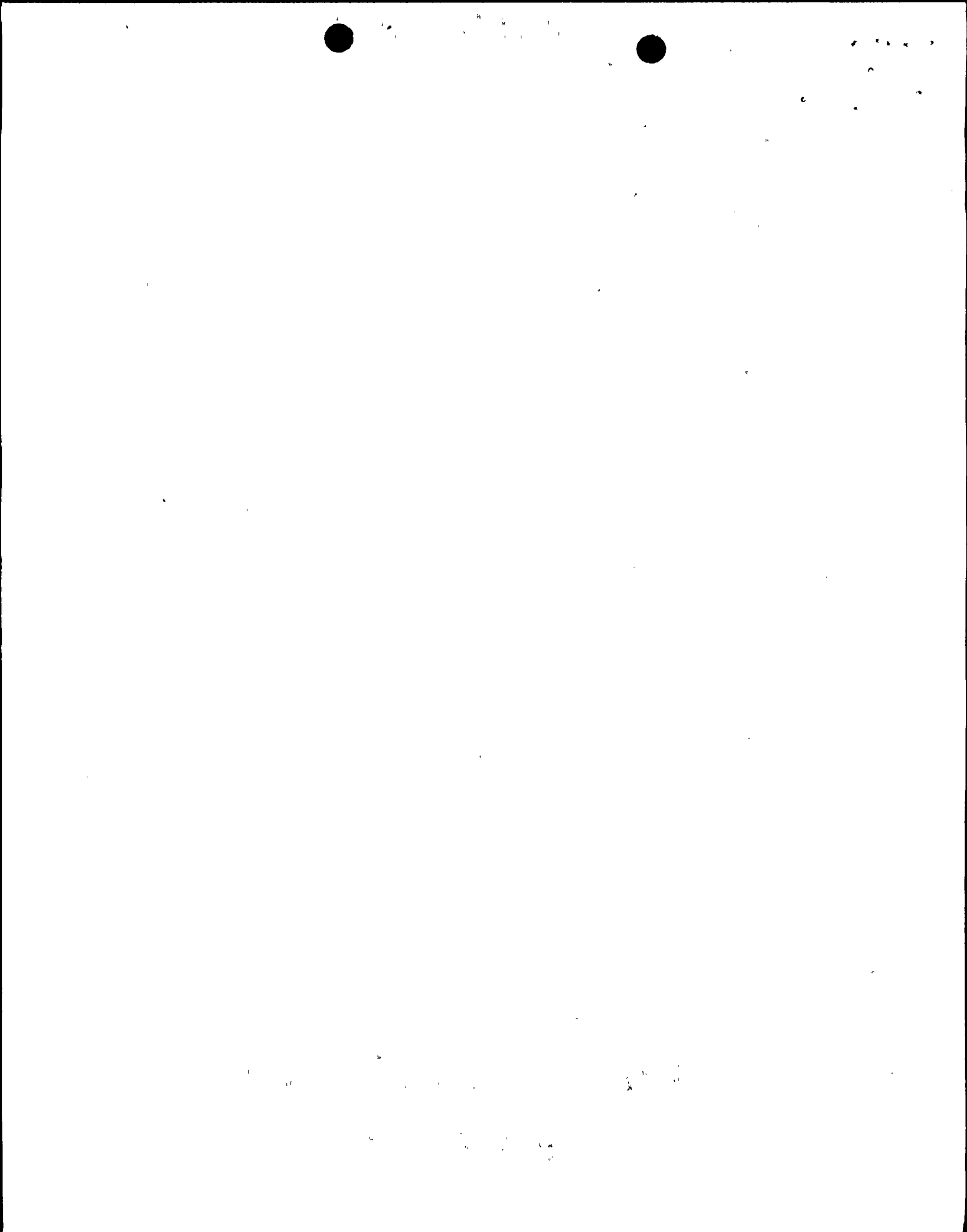
Any questions on this proposal should be directed to Mr. J.M. Kenny at (215) 774-7904.

Very truly yours,

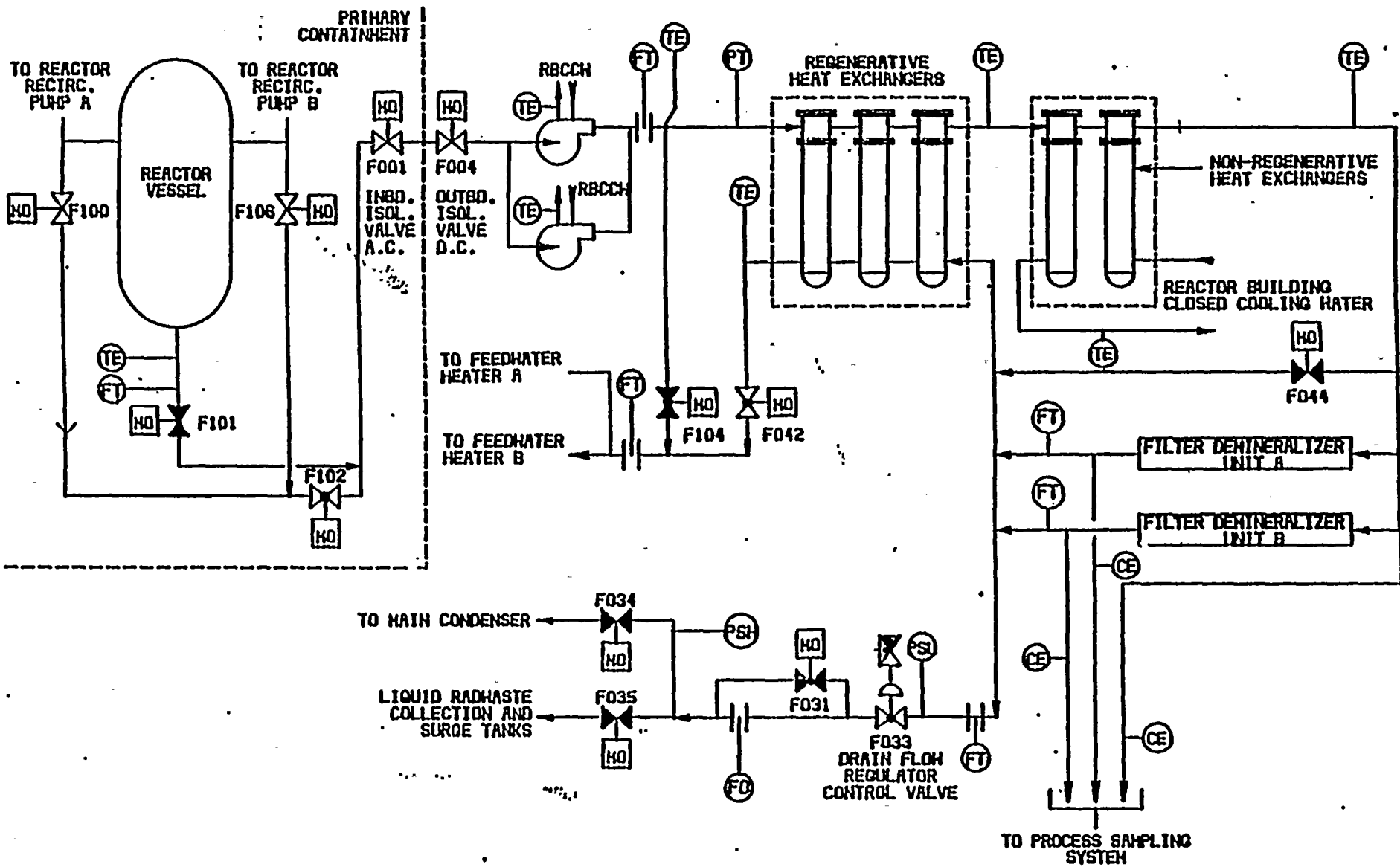

H. W. Keiser

Attachment

cc: ~~NRC Document Control Desk~~ (original)
Mr. C. L. Miller, NRC Project Director
Mr. R. J. Clark, NRC Sr. Project Manager
Mr. G. S. Barber, NRC Sr. Resident Inspector
Mr. W. P. Domsife, PA DER

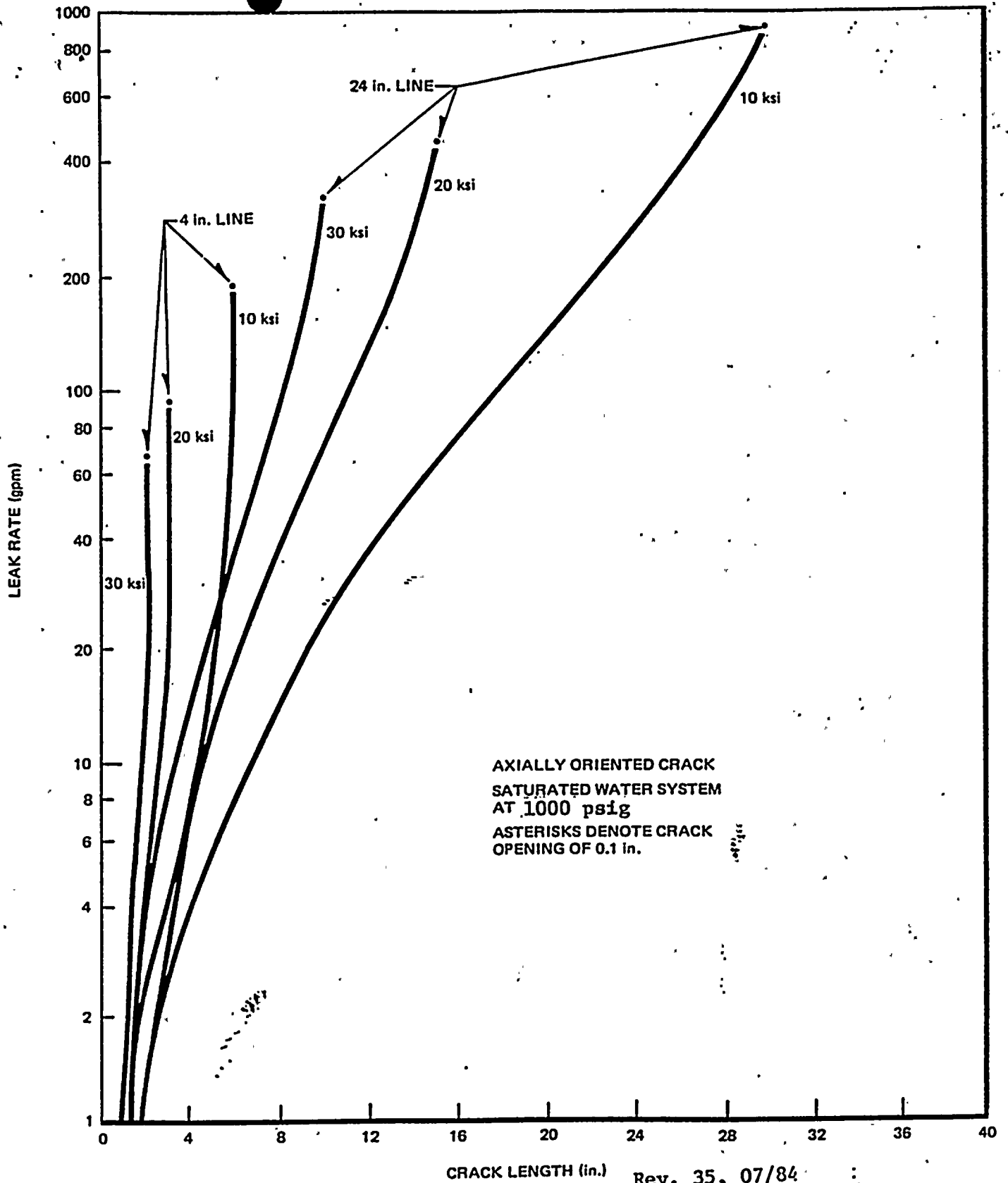


REV. 0 DATE 9/20/82



REACTOR WATER CLEANUP SYSTEM SIMPLIFIED INSTRUMENTATION DIAGRAM

FIGURE 5



Rev. 35, 07/84

SUSQUEHANNA STEAM ELECTRIC STATION
UNITS 1 AND 2
FINAL SAFETY ANALYSIS REPORT

CALCULATED LEAK RATE VERSUS
CRACK LENGTH AS A FUNCTION
OF APPLIED HOOP STRESS

FIGURE 5.2-10