ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9402020292 DOC.DATE: 94/01/24 NOTARIZED: NO DOCKET #
FACIL:50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylva 05000388
AUTH.NAME AUTHOR AFFILIATION
BYRAM,R.G. Pennsylvania Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
MILLER,C.L. Project Directorate I-2

SUBJECT: Documents enforcement discretion verbally requested & granted on 940121 from Unit 2 TS re post accident monitoring instrumentation.Enforcement discretion will allow Unit 2 to operate until next outage w/one acoustic monitor inoperable.

DISTRIBUTION CODE: A001D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 7
TITLE: OR Submittal: General Distribution

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD1-2 LA	1	1	PD1-2 PD	1	1
	CLARK,R	2	2			
INTERNAL:	ACRS	6	6	NRR/DE/EELB	1	1
	NRR/DORS/OTSB	1	1	NRR/DRCH/HICB	1	1
	NRR/DRPW	1	1	NRR/DSSA/SPLB	1	1
	NRR/DSSA/SRXB	1	1	NUDOCS-ABSTRACT	1	1
	OC/LFDCB	1	0	OGC/HDS2	1	0
	REG FILE 01	1	1			
EXTERNAL:	NRC PDR	1	1	NSIC	1	1

R I D S / A D D S

R I D S / A D D S

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 22 ENCL 20

IA4

PP&L 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

JAN 24 1994

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
REQUEST FOR ENFORCEMENT DISCRETION :
INOPERABLE ACOUSTIC MONITOR
PLA-4084 FILES A17-2/R41-2 **Docket No. 50-388**

Dear Mr. Miller:

The purpose of this letter is to document the enforcement discretion verbally requested and granted on January 21, 1994 at 3:00 pm from the Susquehanna SES (SSES) Unit 2 Technical Specifications regarding Post Accident Monitoring Instrumentation. This enforcement discretion will allow Unit 2 to operate until the next outage of sufficient length to allow for containment entry, not to exceed the sixth refueling and inspection outage, with the "S" Safety Relief Valve's (SRV) Acoustic Monitor inoperable.

BACKGROUND

On January 20, 1994, SSES Unit 2 experienced a scram from 100% power due to a turbine/generator trip on high stator cooling water temperature. A problem with the stator cooling temperature control valve controller linkage caused the valve to reposition such that all flow bypassed the heat exchanger.

During the startup from this scram, the acoustic monitor for the "S" SRV spuriously alarmed, indicating an open valve and flow greater than 25%. The "S" SRV was verified closed through numerous other indications. An I&C investigation, along with a discussion with the equipment vendor revealed the problem to be with the acoustic monitor system components located inside containment. Repair would require shutdown and containment entry. Since the acoustic monitor could not be relied upon to provide accurate indication, it was declared inoperable on January 21, 1994 at 6:05 am and the appropriate Limiting Condition for Operation (LCO) was entered.

A001
1/1

REQUIREMENTS FOR WHICH ENFORCEMENT DISCRETION IS REQUESTED

PP&L is requesting enforcement discretion for the applicability requirements of Unit 2 Technical Specification (TS) 3.0.4, 4.0.4, 3.3.7.5 Action 80, 4.3.7.5, 3.4.2 Action c, and 4.4.2 so that Unit 2 could continue its ascension to Operational Condition 1 while a proposal to amend the Technical Specifications is processed. Specifically, it is requested that the requirements of TS 3.3.7.5 Action 80, and 3.4.2 Action c. (including the associated surveillance requirements) be amended to allow continued operation with the "S" SRV acoustic monitor inoperable. With these Limiting Condition of Operations requirements amended, the requirements of 3.0.4 and 4.0.4 will be satisfied and Operational Condition changes allowed to continue.

CIRCUMSTANCES REQUIRING PROMPT ACTION

Due to the extreme cold weather (the Commonwealth of Pennsylvania was under an emergency energy declaration) leading to higher than normal loads and the loss of generation equipment on the Pennsylvania-New Jersey-Maryland Interconnection (PJM), the PJM initiated its emergency mode of operation (on 1/19/94) under the following Emergency Loads Procedures: Primary Reserve Alert, Voltage Reduction Alert, Voluntary Customer Load Curtailment Alert, Primary Reserve Warning, and Interruptible Service Customer Loads. As of 12:00 noon on 1/21/94 the PJM load was 36,710 MW, with PJM's generation being 35, 510 MW and maintaining an operating capacity of 41,900 MW. PP&L's status was a load of 5758 MW, generating only 5130 MW and maintaining an operating capacity of 5425 MW. Other PP&L generating units are currently experiencing frozen fuel problems. Additionally, Unit 2 was in Operational Condition 2 with only a few hours remaining to reach Operational Condition 1. To perform an adequate investigation of this inoperable acoustic monitor would require returning to cold shutdown, de-inerting the containment, making a containment entry to repair/replace the acoustic monitor and beginning the restart process upon completion of these repairs, resulting in several days of delay during these emergency situations.

SAFETY SIGNIFICANCE AND CONSEQUENCES OF PROPOSED REQUEST

Technical Specifications 3.3.7.5 Action 80 and 3.4.2 Action c, both require that the inoperable acoustic monitor be restored to its operable status or be in Hot Shutdown within 48 hours and 7 days respectively. Additionally, TS 3.0.4 and 4.0.4 do not allow entry into an Operational Condition or other specific condition if the Limiting Condition for Operation is not met and the associated ACTION statements requires a shutdown if not met within the specified time interval. The purpose for the safety/relief valve position indication system is to provide the indication of a stuck open safety/relief valve. The requirement for the safety/relief valve position indication system is contained in TMI Item II.D.3. This item requires the operator be provided with an unambiguous indication of valve position (open or closed) so that appropriate action can be taken. The valve position should be indicated in the control room. An alarm should be provided in conjunction with this indication. The valve position indication system may be safety grade. If

the valve position indication system is not safety grade, a reliable single-channel direct indication power from a vital instrument bus may be provided if backup methods of determining valve position are available and are discussed in the emergency procedures as an aid to operators diagnosis of an action.

As described in the SSES Final Safety Analysis Report, the safety/relief valve position indication system is a safety grade system, indicated and alarmed on a control room panel, and powered from a Class 1E vital instrument bus. Also, backup methods of determining valve position are available and are discussed in the off normal procedures.

Specifically, off normal procedure ON-283-001, "Stuck Open Safety Relief Valve," revision 12, dated 3/16/93 provides a list of indications and symptoms for determining safety relief valve position indication. These alternate indications and symptoms are:

Suppression Pool Temperature
Loss of Generator MWe
RPV Pressure
RPV Level Swell
Suppression Pool Level
Suppression Pool Pressure
Indicated Feedwater Flow greater than Steam Flow

This off normal procedure is included as part of current operator training and has been trained on by the SSES Operators.

For the "S" SRV, Suppression Pool Temperature Elements TE 25757 thru 25761 are in proximity to the SRV discharge line quencher and would see an elevated temperature if the SRV were open. In addition, tail pipe temperature also provides indication that the SRV is open.

NUREG-0783 requires that a postulated stuck open relief valve (SORV) transient be analyzed to verify that the maximum pool temperature remains below the quencher instability temperature. The SORV analysis assumes that the operator will take actions to trip the reactor, initiate RHR pool cooling and initiate reactor depressurization in accordance with Technical Specification 3.6.2.1. The suppression pool temperature monitoring system (SPOTMOS) provides the operator with safety grade, redundant pool temperature information from which to take actions in accordance with TS 3.6.2.1. The plant computer system is also used to derive bulk pool temperature. The inoperable acoustic monitor for the "S" SRV is not required to provide the operator with pool temperature information in the event of a SORV for the "S" SRV. The SPOTMOS and plant computer system provides the necessary information to take actions that are

consistent with NUREG-0783 pool temperature analysis. This analysis indicates that the maximum pool temperature complies with the NUREG-0783 requirements. Therefore, this requested TS enforcement discretion has no adverse impact on the containment SORV analysis.

The Emergency Operating procedure for reactor Pressure Control (EO-200-102) provides a control step alerting the operator to the consequences and steps to control SRV cycling. In addition to the potential damage to the valve itself, there are reactor water level fluctuations and significant dynamic loads imposed on the RPV, on the SRV tail pipes and on the primary containment structures when a SRV cycles. The operator is directed to lower the pressure to below the relief pressure setpoint. This lowering of pressure would stop any SRV from cycling, and does not require identification of the operating valve.

The primary means available of detect SRV cycling is the acoustic monitor. Secondary indication from reactor pressure would distinctly indicate a cycling SRV, as would the level fluctuations. Switch setpoint hysteresis would create pressure fluctuations with a relatively long period, on the order of one minute open (depressurizing), five minutes closed (repressurizing).

Review of the Improved Technical Specifications (ITS), NUREG 1433, for these same Accident Monitoring Instrumentation reveals that these requirements (TS 3.3.7.5, 3.4.2, and associated surveillance requirements) did not satisfy the NRC Interim Policy Statement technical specification screening criteria and are no longer Tech Spec requirements under ITS.

COMPENSATORY ACTIONS

A Procedure Change Approval Form (PCAF) has been issued to procedure ON-283-001 identifying the condition of the acoustic monitor for the "S" SRV and identifying the Suppression Pool Temperature Monitoring channels that are located most closely to its discharge line. High temperature at the Suppression Pool Temperature Monitoring channels will provide specific indication of a discharge of steam through the "S" SRV.

JUSTIFICATION FOR DURATION OF PROPOSED REQUEST

PP&L is proposing an Emergency Amendment under separate cover (to be submitted January 24, 1994) and is therefore requesting that this enforcement discretion remain in effect until the NRC acts on that submittal. The proposed amendment submittal will request permission to operate until the Unit 2 6th refueling and inspection outage (currently scheduled to begin on March 12, 1994) or until the next forced outage of sufficient duration to allow for containment entry.

BASIS FOR CONCLUSION THAT THE ENFORCEMENT DISCRETION WILL NOT BE OF POTENTIAL DETRIMENT TO THE PUBLIC HEALTH AND SAFETY AND THAT A SIGNIFICANT SAFETY HAZARD IS NOT INVOLVED.

As discussed above, a procedure to provide several different indications of valve position is in place and has been trained on by Operations as a part of their normal operator training. This procedure has been updated to reflect the current status of the "S" SRV acoustic monitor and to provide direction for alternate means of valve position indication. Review of these other indications has revealed that this valve did lift during the recent Unit 2 scram and has reseated to the fully closed position.

No Significant Hazards Consideration

1. This proposal does not involve a significant increase in the probability or consequences of an accident previously evaluated. The acoustic monitors do not affect the operation of the safety/relief valves. The valve functions safety-related Safety Function (TS 3.4.2), safety-related ADS function (six selected valves-TS 3.5.1) and non-safety related automatic and manual relief functions are independent of the acoustic monitoring function. No failure or misoperation of the acoustic monitoring system can affect the ability of these valves to perform their design functions.

   Failure of the acoustic monitoring system to actuate in the event of an actual valve actuation does not affect the consequences of that action. The consequences of an undetected SRV failure to close or to remain closed when desired or required is unacceptable; the purpose of the monitoring system is to increase the probability that a failure of the valve actuation mechanism is detected.

   Operation without this detection system will not significantly increase the plant vulnerability to the event. Operation without this detection system would also not create any condition where the reliability of the valve is reduced.

   The SSES IPE assigns a conservative 1% probability to the stuck open safety relief valve. This valve is specifically designed and specified for the intended function, and is operated and maintained in accordance with the requirements of the design. The lack of position monitoring will not affect the valve's ability to perform its intended operational and safety function.

Operation without the SRV acoustic monitor will not affect the plant response to the stuck open relief valve at power or hot shutdown conditions. The stuck open SRV transient as analyzed in the Design Assessment Report (DAR) (Appendix I) indicates that the maximum pool transient temperature (185°F) does not approach the NUREG 0783 accepted limit (208°F bulk pool temperature). This is assured by using SPOTMOS in accordance with off normal procedure ON-283-001.

SRV tail pipe temperature rise is a true early indication of SRV actuation and a reliable indication of closure. Alarms generated by this sensor will alert the operator to the open SRV and start the two minute period mandated by Tech Spec 3.4.2. The Suppression Pool Temperature Elements located closest to the "S" SRV discharge quencher will also indicate heat input to the pool from that line. Other indications can be used to infer an open relief valve and to confirm a closed valve (i.e. by demonstrating pressure integrity).

The probability of a Stuck Open SRV Event is not affected by the presence of position indication for the SRV. The ability to detect the stuck open SRV condition is adequately covered by the tail pipe temperature indication and secondary reactor vessel and steam cycle parameter indications, and will not result in an increase in the probability or consequences of an accident previously evaluated.

2. This proposal does not create the possibility of a new or different type of accident from any previously evaluated. The SRV Acoustic Monitor performs no control or active protective function other than indication. Failure or misoperation of this device will not cause an unanalyzed failure or misoperation of an engineering safety feature. Because of the diverse and redundant indication system described above, misoperation of this system will not cause the operator to take unanalyzed actions, nor will it cause the operator to commit errors of commission or omission, and as such will not create the possibility of a new or different type of accident.

3. This change does not involve a significant reduction in a margin of safety. Operating without the "S" SRV position indication does not reduce the design or operating basis margin to safety. Primary Containment controls are in place that can effectively deal with the operating condition. In the unlikely event that the "S" SRV should cycle, sufficient indication would be available to identify and mitigate the occurrence. Thus, this change of Applicability has been demonstrated to have no safety significance and will result in no change to the margin of safety.

ENVIRONMENTAL CONSEQUENCES

This request is consistent with the Susquehanna design basis, in that adequate controls exist to ensure proper valve position indication during all Operational Conditions. Therefore, no environmental consequences that have not been previously considered are anticipated.

This proposed enforcement discretion has been reviewed and approved by the Susquehanna Plant Operations Review Committee (PORC Meeting #94-015). Questions regarding this information should be directed to Mr. A. K. Maron at (610) 774-7852.

Very truly yours,

R. G. Byram

cc: NRC Document Control Desk (original)
NRC Region I
Mr. G. S. Barber, NRC Sr. Resident Inspector - SSES
Mr. R. J. Clark, NRC Sr. Project Manager - Rockville
Mr. W. P. Dornsife, PA DER/BRP