PRIORITY 1
(ACCELERATED RIDS PROCESSING)

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9512010263 DOC.DATE: 95/11/27 NOTARIZED: NO DOCKET #
FACIL:50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244
AUTH.NAME AUTHOR AFFILIATION
MECREDY,R.C. Rochester Gas & Electric Corp.
RECIP.NAME RECIPIENT AFFILIATION
JOHNSON,A.R.

SUBJECT: Forwards request for addl info re conversion to improved TS for pressurizer safety valve tolerance.

DISTRIBUTION CODE: A001D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5
TITLE: OR Submittal: General Distribution

NOTES:License Exp date in accordance with 10CFR2,2.109(9/19/72). 05000244

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD1-1 LA	1	1	PD1-1 PD	1	1
	JOHNSON,A	1	1			
INTERNAL:	FILE CENTER 01	1	1	NRR/DE/EMCB	1	1
	NRR/DRCH/HICB	1	1	NRR/DSSA/SPLB	1	1
	NRR/DSSA/SRXB	1	1	NUDOCS-ABSTRACT	1	1
	OGC/HDS3	1	0			
EXTERNAL:	NOAC	1	1	NRC PDR	1	1

P R I O R I T Y 1 D O C U M E N T

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 504-2083) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 12 ENCL 11

AA2

ROCHESTER GAS AND ELECTRIC CORPORATION • 89 EAST AVENUE, ROCHESTER, N.Y. 14649-0001 AREA CODE 716 546-2700

ROBERT C. MECREDY
Vice President
Nuclear Operations

November 27, 1995

U.S. Nuclear Regulatory Commission
Document Control Desk
Attn: Allen R. Johnson
Project Directorate I-1
Washington, D.C. 20555

Subject: Conversion to Improved Technical Specifications
Pressurizer Safety Valve Tolerance
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Ref.(a): Letter from R.C. Mecredy, RG&E, to A.R. Johnson, NRC, Subject: Application for Amendment to Facility Operating License Conversion to Improved Technical Specifications, dated May 26, 1995.

Dear Mr. Johnson:

RG&E requested a conversion to the Improved Standard Technical Specifications in Ref. (a). As part of the conversion, the pressurizer safety valve setpoint tolerance is being changed to +2.4%, -3.0%. During the NRC staff review of this change additional information was requested. That information is provided in Attachment A. If there are any questions, please call Bob Eliasz (716-724-8075) or George Wrobel (716-724-8070) of my staff.

Very truly yours,

Robert C. Mecredy

Robert C. Mecredy

Attachment
RWE\406

xc: U.S. Nuclear Regulatory Commission
Mr. Allen R. Johnson (Mail Stop 14B2)
Project Directorate I-1
Washington, D.C. 20555

U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Ginna Senior Resident Inspector

A001
1/1

Attachment A
Response to RAI for Pressurizer
Safety Valve Tolerance Change

1. Request - The specified setpoint range of greater than 2410 psig and less than 2545 psig is inconsistent with a tolerance of ± 2.4%.

   The tolerance change being requested is +2.4%, -3.0%. This is consistent with the range of 2410 psig to 2545 psig. Any reference to -2.4% should be replaced with -3.0%.

2. In evaluating non-LOCA events for the impact from the increasing the tolerance on the negative side of the tolerance band, you have relied the operation of the pressurizer power operated relief valves (PORVs). However, the PORVs are not designed to safety related standards and they could be isolated during power operation per TS at Ginna. Please provide the results of an evaluation without taking credit from the PORVs.

   Transient analysis assumes operation of non-safety related equipment when its operation causes a more severe transient. Therefore, minimum pressure transients assume operation of the PORVs. Peak pressure transients do not take credit for the PORVs because non-safety related equipment can not be used to mitigate a transient.

   The negative tolerance on the PSV is of little concern in transient analysis. The only possible connection to a safety parameter would be through DNB since a reduction in pressure causes a reduction in DNBR. This transient is conservatively modeled if the assumptions result in minimizing pressure. Taking credit for pressurizer PORVs results in a lower pressure which results in a lower DNBR. Neglecting the PORVs would result in a higher system pressure and more margin to the DNBR limit.

3. Provide results of your evaluation of the loss of normal feedwater transient and feedwater system pipe breaks with respect to the increasing tolerance of the PSV setting without taking credit of PORVs.

   The acceptance criteria for a Loss of Normal Feedwater event are:

   - *primary and secondary pressure are less than 110% of design*
   - *pressurizer does not go water solid*

   The peak pressure evaluation for loss of normal feedwater is bounded by the loss of load/turbine trip event. The loss of load/turbine trip evaluations used the positive PSV tolerance and the pressurizer PORVs were not modeled. Since the loss of

normal feedwater event for peak pressure is bounded by another event it is not run.

The negative PSV tolerance is not a concern in the peak pressure evaluations. It is a concern in the pressurizer filling evaluation.

For the pressurizer filling evaluation the earlier steam can be removed from the pressurizer the more likelihood the pressurizer will go water solid. Since the pressurizer PORV have a lower set pressure than the PSVs with negative tolerance it is conservative to model the PORVs. Neglecting the PORVs would result in a less severe evaluation for pressurizer filling. Since the PORVs are not required to be blocked by TS their affect must be evaluated. An evaluation without PORVs would be less limiting.

The acceptance criteria for a feedline break event is:

- *primary and secondary pressure are less than 110% of design*
- *no bulk boiling occurs in the RCS hot leg following a feedline break prior to SG heat removal exceeding NSSS heat generation*

The peak pressure evaluation for feedline break is bounded by the loss of load/turbine trip event. The loss of load/turbine trip event uses the positive PSV tolerance and the pressurizer PORVs are not modeled. Since the feedline break event for peak pressure is bounded by another event it is not run.

The negative PSV tolerance is not a concern in the peak pressure evaluations. It is a concern in the hot leg boiling evaluation.

The lower the RCS pressure the less the margin is to hot leg boiling. Since the PORVs have a lower setpoint than the PSV with negative tolerance and they are not required to be blocked by TS they must be modeled in this evaluation. An evaluation that does not model the PORVs is unconservative.

4. Demonstrate that for a peak pressure evaluation the feedline break transient is bounded by the loss of load/turbine trip event.

The peak pressure evaluation for feedline break is bounded by the loss of load/turbine trip event. This can be seen from the attached figures.

Figure 4.3-9 illustrates pressurizer pressure versus time for a loss of load/turbine trip. As can be seen the rate of pressure rise is high. The pressurizer safety valve setpoint used in this analysis is 2585 psia. No credit is taken for pressurizer PORVs. The rate of pressure rise is great enough to cause the setpoint to be overshot with the peak pressurized

pressure being greater than 2600 psia.

Figure 4.6-6 illustrates pressurizer pressure versus time for a feedline break. This transient models the pressurizer PORVs. The setpoint used in the evaluation is 2350 psia. As can be seen the pressurizer PORVs have sufficient capacity to prevent any overshoot of the setpoint. The capacity of the PORVs is 179,000 lb/hr per valve (total relief capacity is 358,000 lbs/hr). The pressurizer safety valves have a capacity of 288,000 lb/hr per valve (total relief capacity is 576,000 lb/hr).

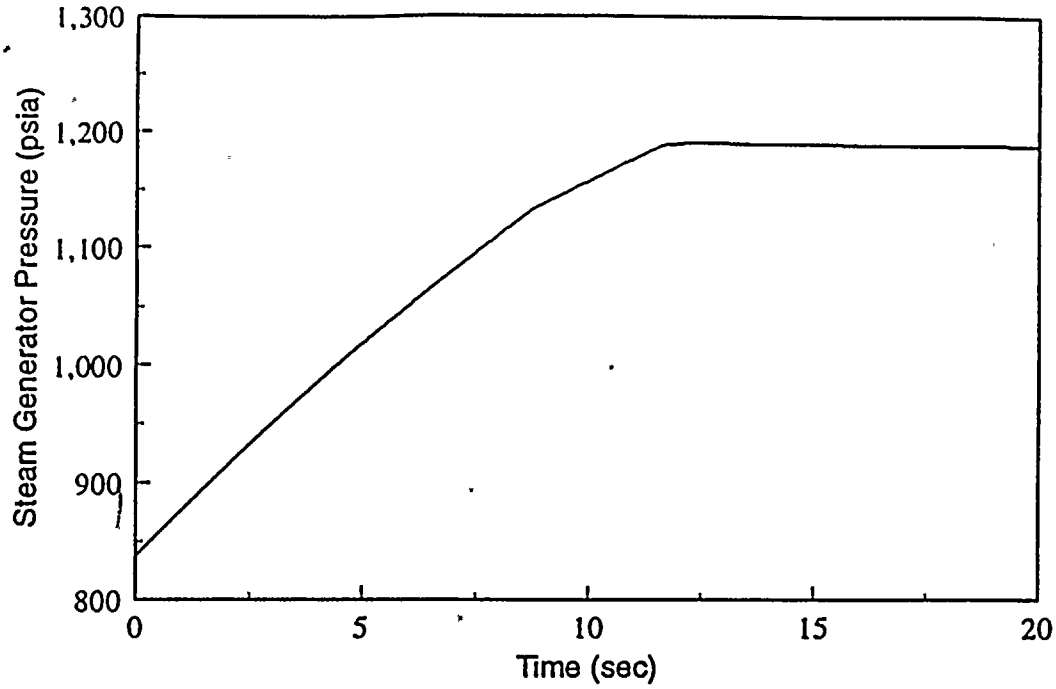
If the feedline break transient was modeled using the pressurizer safety valves versus the PORVs the pressure would increase to the safety valve setpoint (2585 psia) without any overshoot. Since the capacity of the safety valves is larger than the capacity of the PORVs and there is no overshoot of the PORV setpoint there would not be an overshoot of the safety valve setpoint. Because of the setpoint overshoot the loss of load/turbine trip event bounds the peak pressure of the feedline break event.

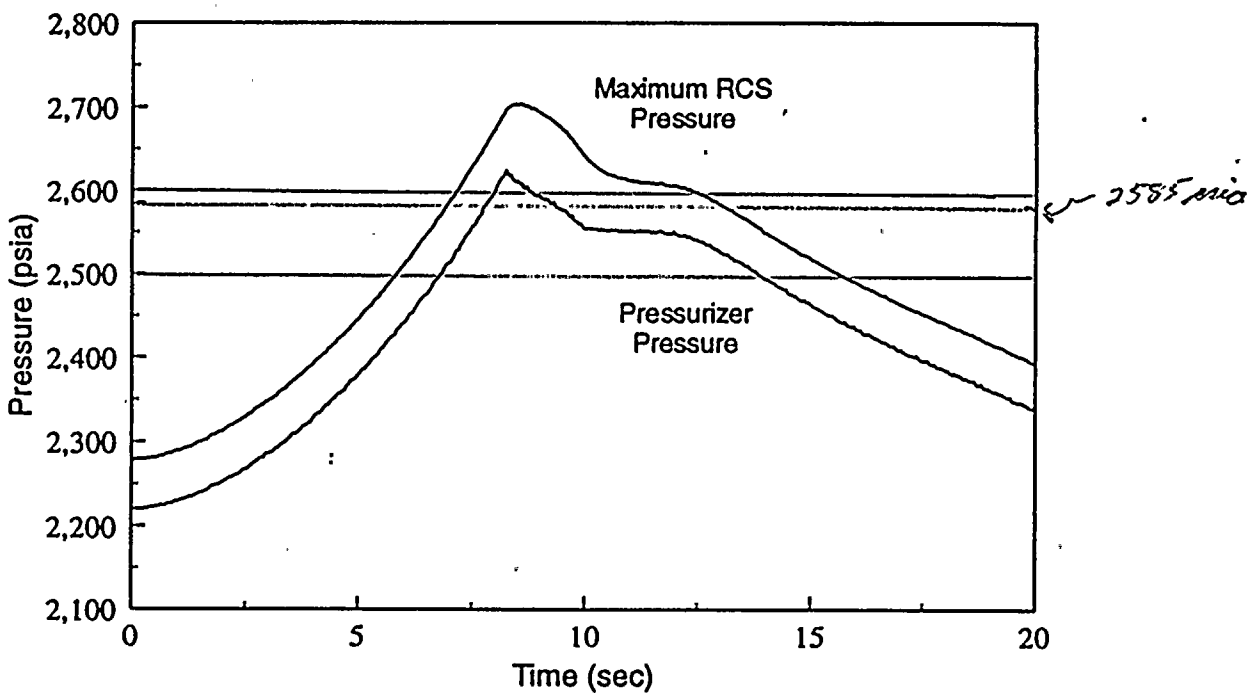
The evaluation done for Figures 4.3-9 and 4.6-6 is for the 18 Month Fuel Cycle with the new replacement SG(s). A similar evaluation was performed for the existing SG(s) however, illustrative figures were not generated. Only tabular results were generated to confirm the peak pressure criteria was not violated.

5. Provide the results of your evaluation of a small break LOCA with respect to its impact from the proposed change of tolerance to PSV settings.

SBLOCA is a RCS depressurization event. As such, the PSV setpoint is not approached. Changing the PSV setpoint tolerance has no effect on SBLOCA.

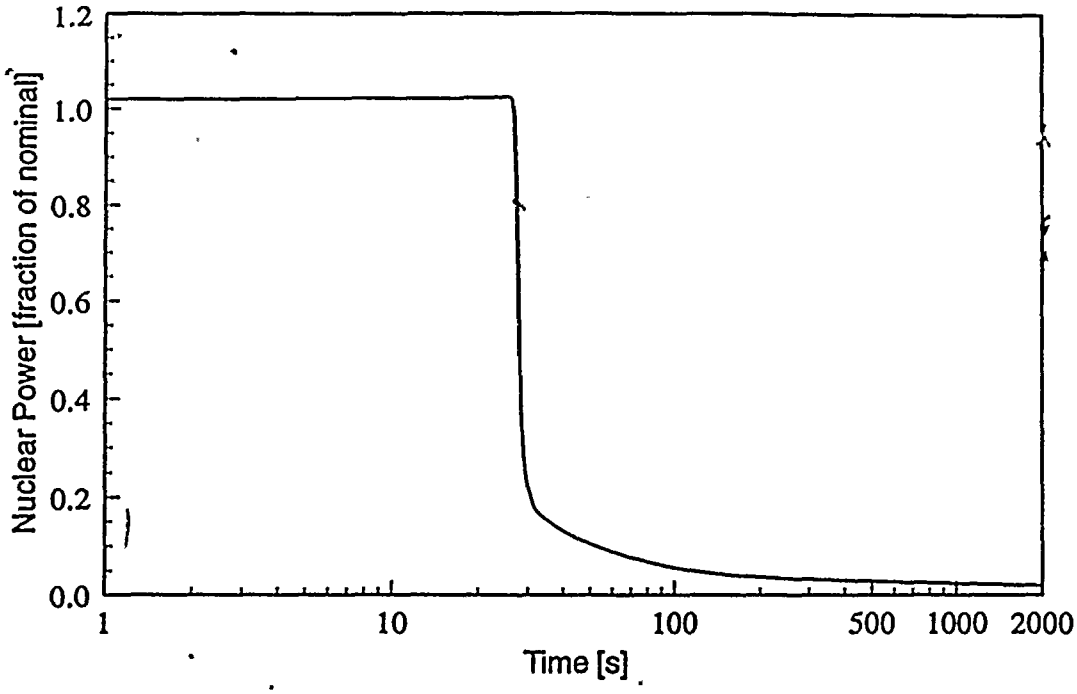
A tolerance change on the SG safety valves would effect the SBLOCA. However, the tolerance of these valves is not being changed.

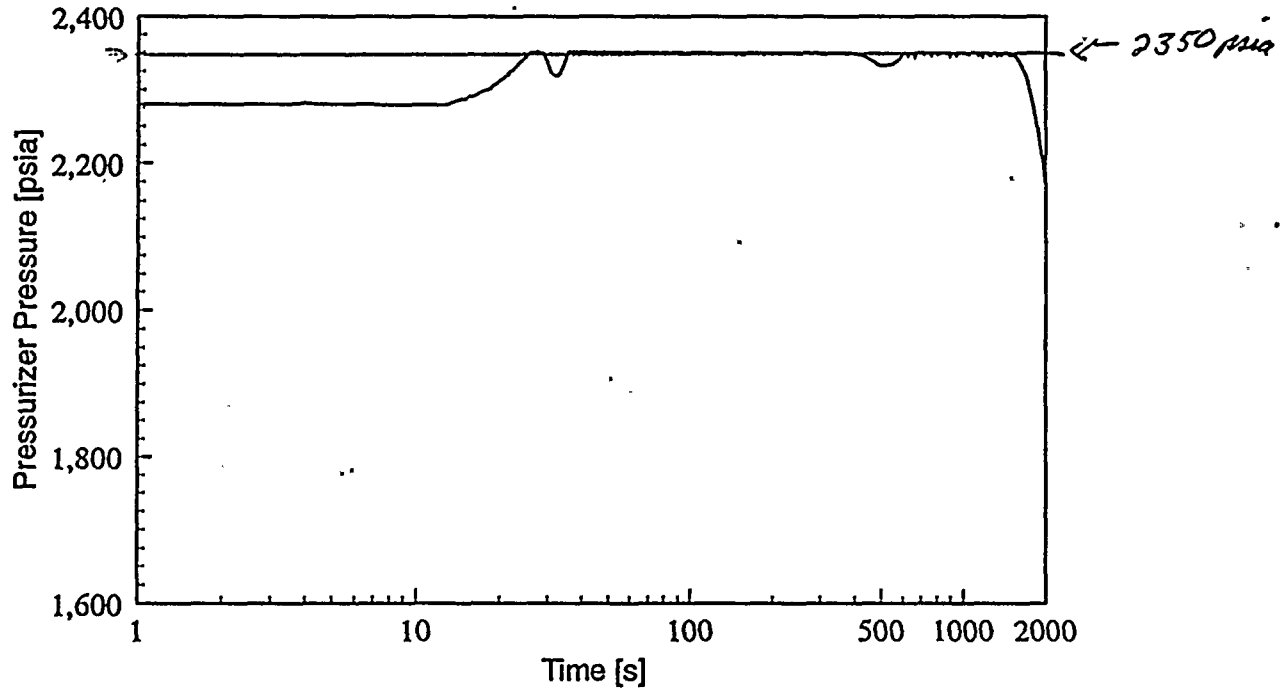




ROCHESTER GAS AND ELECTRIC CORPORATION
R. E. GINNA NUCLEAR POWER PLANT
EIGHTEEN MONTH FUEL CYCLE ANALYSIS

Figure 4.3-9
Loss of Load, Minimum Feedback
Without Pressure Control
Steam Generator Pressure and
RCS Pressures Versus Time





ROCHESTER GAS AND ELECTRIC CORPORATION
R. E. GINNA NUCLEAR POWER PLANT
EIGHTEEN MONTH FUEL CYCLE ANALYSES

FIGURE 4.6-6

Nuclear Power and Pressurizer Pressure vs. Time
Feedline Break Without Offsite Power