

CATEGORY 1

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 FACIL: 50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244
 AUTH. NAME AUTHOR AFFILIATION
 MARTIN, J. T. Rochester Gas & Electric Corp.
 MECREDY, R. C. Rochester Gas & Electric Corp.
 RECIP. NAME RECIPIENT AFFILIATION

VISSING, G. S.

SUBJECT: LER 97-003-01: on 970730, identified that high steam flow
 bistable instrument trip setpoint plus instrument
 uncertainty could exceed. Caused by condition prohibited
 by Tech Specs. Bistable proving switches placed. W/970929 ltr.

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 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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ROBERT C. MECREDY
Vice President
Nuclear Operations

September 29, 1997

U.S. Nuclear Regulatory Commission
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Attn: Guy S. Vissing
Project Directorate I-1
Washington, D.C. 20555

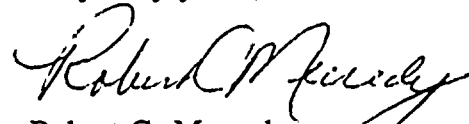
Subject: LER 97-003, Revision 1, Bistable Instrument Trip Setpoint (plus Instrument Uncertainty) Could Exceed Allowable Value, Causes a Condition Prohibited by Plant Technical Specifications
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Vissing:

In accordance with 10 CFR 50.73, Licensee Event Report System, item (a) (2) (i) (B), which requires a report of, "Any operation or condition prohibited by the plant's Technical Specifications", the attached Licensee Event Report LER 97-003 (Revision 1) is hereby submitted. A further assessment is provided in this supplement, as committed to in the original LER.

This event has in no way affected the public's health and safety.

Very truly yours,


Robert C. Mecredy

xc: Mr. Guy S. Vissing (Mail Stop 14B2)
PWR 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

9710030201 970929
PDR ADDCK 05000244
S PDR

IE221



LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS
MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS.
REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE
LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD
COMMENTS REGARDING BURDEN ESTIMATE TO THE
INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33),
U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC
20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT

FACILITY NAME (1)

R.E. Ginna Nuclear Power Plant

DOCKET NUMBER (2)

05000244

PAGE (3)

1 OF 6

TITLE (4)

Bistable Instrument Trip Setpoint (plus Instrument Uncertainty) Could Exceed Allowable Value, Causes a
Condition Prohibited by Plant Technical Specifications

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
07	30	97	97	-- 003	-- 01	09	29	97	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)		100	20.2201(b)		20.2203(a)(2)(v)		X		50.73(a)(2)(i)	50.73(a)(2)(viii)
			20.2203(a)(1)		20.2203(a)(3)(i)				50.73(a)(2)(ii)	50.73(a)(2)(x)
			20.2203(a)(2)(i)		20.2203(a)(3)(ii)				50.73(a)(2)(iii)	73.71
			20.2203(a)(2)(ii)		20.2203(a)(4)				50.73(a)(2)(iv)	OTHER
			20.2203(a)(2)(iii)		50.36(c)(1)				50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iv)		50.36(c)(2)				50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME

John T. St. Martin - Technical Assistant

TELEPHONE NUMBER (Include Area Code)

(716) 771-3641

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On July 30, 1997, at approximately 1430 EDST, the plant was in Mode 1 at approximately 100% steady state reactor power. It was identified that the High Steam Flow Bistable Instrument Trip Setpoint plus the Instrument Uncertainty could exceed the "Allowable Value" listed in the Ginna Station Improved Technical Specifications.

Immediate corrective action was to declare all four channels of High Steam Flow inoperable and enter Limiting Condition for Operation 3.0.3. When action was taken to place the affected bistable proving switches in the tripped position, the plant exited Limiting Condition for Operation 3.0.3.

The cause of this condition was that the existing margin between the Trip Setpoint and the Allowable Value is insufficient to account for process and instrument uncertainties.

Corrective action to prevent recurrence is outlined in Section V.B. Additional corrective actions are identified in this supplement.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

I. PRE-EVENT PLANT CONDITIONS:

Personnel from Nuclear Engineering Services (NES) had been evaluating the impact of instrument uncertainties, including validation of actual plant-specific data. On July 30, 1997, at approximately 1430 EDST, the plant was in Mode 1 at approximately 100% steady state reactor power. In activities unrelated to plant conditions, NES personnel identified that the High Steam Flow Bistable Instrument Trip Setpoint, when added to the Instrument Uncertainty, could exceed the "Allowable Value" listed in the Ginna Station Improved Technical Specifications (ITS).

II. DESCRIPTION OF EVENT:

A. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

- July 30, 1997, 1430 EDST: Event date and time.
- July 30, 1997, 1430 EDST: Discovery date and time.
- July 30, 1997, 1527 EDST: High Steam Flow Bistable proving switches are placed in the tripped position, thus restoring the channels to operable status.

B. EVENT:

On July 30, 1997, at approximately 1430 EDST, the plant was in Mode 1 at approximately 100% steady state reactor power. In activities unrelated to plant conditions, NES personnel reported to Operations supervision that the current High Steam Flow Bistable Instrument Trip Setpoint, when added to the Instrument Uncertainty, could exceed the Allowable Value for this Engineered Safety Feature Actuation System (ESFAS) Instrumentation, as listed in ITS Table 3.3.2-1, Function 4.d.

Since the specified Trip Setpoint plus the uncertainty could be nonconservative with respect to the Allowable Value, all four channels of High Steam Flow were declared inoperable at approximately 1438 EDST. There is no ITS Limiting Condition for Operation (LCO) to address the condition of four channels inoperable, so ITS LCO 3.0.3 was entered.

The Plant Operations Review Committee (PORC) reviewed this condition. The High Steam Flow Trip Setpoint is normally met at approximately 10% reactor power (increasing), since steam flow per steam generator (SG) at full power is approximately 3.3E6 lbm/hr. Thus the bistables are automatically tripped when above 10% power. PORC determined that it was acceptable to place the bistable proving switches for the affected bistables in the tripped position.

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The Control Room operators placed the affected bistable proving switches in the tripped position. This action ensured that any variation in the Trip Setpoint would not affect the completion of affected functions for High Steam Flow. Since the four affected channels of High Steam Flow were now performing their intended function by being maintained in the tripped configuration and all ITS required surveillances were met, these four channels were declared operable at approximately 1527 EDST on July 30, 1997.

C. INOPERABLE STRUCTURES, COMPONENTS, OR SYSTEMS THAT CONTRIBUTED TO THE EVENT:

None

D. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

None

E. METHOD OF DISCOVERY:

This condition was self-identified by an NES engineer while performing validation of calculated instrument uncertainties.

F. OPERATOR ACTION:

When notified of the results of the impact of the instrument uncertainty on operability of the High Steam Flow Bistables, Operations supervision notified the Shift Supervisor of this condition. Operations supervision also notified the NRC Resident Inspector.

Following notification, the Control Room operators declared all affected functions provided by the four channels of High Steam Flow inoperable and entered ITS LCO 3.0.3. After the affected bistable proving switches were placed in the tripped position and holds placed on these switches, they returned the four channels to operable status and exited ITS LCO 3.0.3.

G. SAFETY SYSTEM RESPONSES:

None

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III. CAUSE OF EVENT:

A. IMMEDIATE CAUSE:

The immediate cause of the condition prohibited by Technical Specifications was entry into ITS LCO 3.0.3 due to four channels of High Steam Flow being declared inoperable.

B. INTERMEDIATE CAUSE:

The intermediate cause of all four channels of High Steam Flow being declared inoperable was a potential for instrument uncertainty to allow the Trip Setpoint to exceed the Allowable Value as listed in ITS Table 3.3.2-1 for ESFAS Instrumentation.

C. ROOT CAUSE:

The underlying cause of the potential to exceed the Allowable Value was that the existing margin between the High Steam Flow Trip Setpoint and the ITS Allowable Value is insufficient to account for process and instrument uncertainties

IV. ANALYSIS OF EVENT:

This event is reportable in accordance with 10 CFR 50.73, Licensee Event Report System, item (a) (2) (i) (B), which requires a report of, "Any operation or condition prohibited by the plant's Technical Specifications." Having all four channels of High Steam Flow inoperable is a condition prohibited by the Ginna Station Improved Technical Specifications.

An assessment was performed considering both the safety consequences and implications of this condition with the following results and conclusions:

- The current Trip Setpoint and Allowable Value parameters for High Steam Flow had not changed since September 1969. However, the power rating for Ginna Station was uprated from 1300 MWt to the current 1520 MWt in the early 1970s. There was no change to the High Steam Flow setpoints, even though other main steam isolation functions (e.g., the HIGH-HIGH Steam Flow Trip Setpoint and Allowable Value) were changed at that time. The affected High Steam Flow setpoints should also have been changed at that time.

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- There are three coincident parameters which must be reached in order for this function to cause a main steam line isolation: high steam flow, safety injection, and low average temperature in the reactor coolant system. A License Amendment Request (LAR) has been submitted to change the ITS Allowable Value, while maintaining the same Trip Setpoint. It has been demonstrated that the change to the high steam flow parameter does not delay the time at which this isolation signal would be reached for any analyzed accident, since the steam flow value is reached much earlier in the accident scenario than the other parameters. Consequently, assuming worst case drift considerations, there was no impact on any analyzed accident.
- A review of the operating history of Ginna Station did not identify any occurrence of a steam line break requiring main steam isolation.
- Increases in heat removal by the secondary system are discussed in the Ginna Station Updated Final Safety Analysis Report (UFSAR), Chapter 15.1. Accidents analyzed included inadvertent opening of a Steam Generator relief/safety valve and steam system piping failures. Protection is provided by:

- a. safety injection system actuation
- b. reactor trip
- c. isolation of main feedwater lines
- d. trip of MSIVs

Below 15% reactor thermal power, a reactor trip would occur with smaller load changes. However, steam line isolation is not credited for terminating uncontrolled power excursions for small steam breaks. Also, the fact that a 10% load increase could be accommodated implies that steam line isolation would not occur or be required between 15% and 100% RTP.

- The Ginna Station setpoint analyses have been primarily based on using manufacturer recommended instrument drift and uncertainty values. As a result of converting to the ITS, Ginna Station changed the definition of "fuel cycle" from 18 months to 24 months, which required a verification of instrumentation historical performance data. This review indicated that the instrumentation subjected to ITS surveillances bounded (and in most cases greatly exceeded) the manufacturer recommended values.

Based on the above, it can be concluded that the public's health and safety was assured at all times.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

V. CORRECTIVE ACTION:

A. ACTION TAKEN TO RETURN AFFECTED SYSTEMS TO PRE-EVENT NORMAL STATUS:

The bistable proving switches were placed in the tripped configuration, and the affected functions for High Steam Flow were restored to operable status at approximately 1527 EDST on July 30, 1997.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

- The affected bistable proving switches are held in the tripped configuration.
- The Trip, Setpoint, Instrument Uncertainty, and Allowable Value for High Steam Flow have been evaluated. The ITS Allowable Value, as stated in ITS LCO Table 3.3.2-1, Function 4.d, will be changed to reflect an appropriate and achievable setpoint.
- The affected bistable proving switches will be placed in their normal configuration after NRC approval of the License Amendment Request for the change in the Allowable Value.

VI. ADDITIONAL INFORMATION:

A. FAILED COMPONENTS:

None

B. PREVIOUS LERs ON SIMILAR EVENTS:

A similar LER event historical search was conducted with the following results: No documentation of similar LER events with the same root cause at Ginna Nuclear Power Station could be identified.

C. SPECIAL COMMENTS:

None

