NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98

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

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
R.E. Ginna Nuclear Power Plant	05000244	1 OF 6

TITLE (4)

Verification of Boron Concentration Not Performed Due to Misinterpretation of Event Sequence, Resulted in Condition Prohibited by 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
11	03	97	97	-- 006 --	01	02	06	98	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	6
POWER LEVEL (10)	000

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

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	TELEPHONE NUMBER (Include Area Code)
John T. St. Martin - Technical Assistant	(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)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On November 3, 1997, at approximately 1708 EST, the plant was in Mode 6, and refueling activities had been completed two days earlier. The reactor coolant system being maintained at a temperature of 75 degrees F, and the reactor cavity filled to greater than 23 feet. It was discovered that the nuclear instrumentation system audible count rate function was inoperable.

Immediate action was to ensure future compliance to the Ginna Technical Specifications for loss of this function. This included verifying that the most recent boron concentration was within specified limits and formally tracking the time for future verification of boron concentration.

Due to a misinterpretation of the event sequence, the verification of boron concentration may not have been performed within the time period specified by Ginna Technical Specifications Required Actions for the most limiting event sequence.

Corrective action to prevent recurrence is outlined in Section V.B.

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

I. PRE-EVENT PLANT CONDITIONS:

On November 3, 1997, the plant was in Mode 6 with the reactor coolant system (RCS) being maintained at a temperature of approximately 75 degrees F, and the reactor cavity filled to greater than 23 feet. The plant was shut down for refueling, and refueling activities (core alterations) had already been completed two days earlier. At approximately 0753 EST, the nuclear instrumentation system (NIS) Comparator and Rate drawer was removed from service for calibration per procedure CPI-COMP/RATE-N46/37 (Calibration of Comparator and Rate Drawer N46/37). At this time, the audible count rate function was operable.

II. DESCRIPTION OF EVENT:

A. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

- November 3, 1997, 0025 EST: RCS boron concentration verified at 2463 PPM.
- November 3, 1997, 0753 EST: NIS Comparator and Rate drawer is removed from service.
- November 3, 1997, 1300 EST: RCS boron concentration verified at 2453 PPM.
- November 3, 1997: Event date.
- November 3, 1997, 1708 EST: Discovery date and time.
- November 4, 1997, 0100 EST: RCS boron concentration verified at 2470 PPM.
- November 4, 1997: NIS audible count rate is restored to operable status.

B. EVENT:

At the beginning of the afternoon shift on November 3, the operability of the NIS audible count rate function was questioned, since the normal audible beeping did not seem to be occurring. At this time, it was assumed that the audible count rate function had been made inoperable at the time procedure CPI-COMP/RATE-N46/37 was initiated. For convenience, this time was documented as the time administrative tracking had been initiated for the Comparator and Rate Drawer, at approximately 0753 EST on November 3. Therefore, using this event sequence and the assumed time of inoperability, the initial administrative tracking (which did not address the loss of audible count rate function) was supplemented by administrative procedure A-52.4 (Control of Limiting Conditions for Operating Equipment) at approximately 1708 EST. The A-52.4 tracking was initiated effective at 0753 EST as a "late entry".

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

Based on the event sequence that inoperability occurred at 0753 EST, the Control Room operators concluded that the plant continued to be in compliance with Ginna Improved Technical Specifications (ITS) Limiting Condition for Operation (LCO) REQUIRED ACTIONS 3.9.2.C.1 and 3.9.2.C.2, since there had been no core alterations or positive reactivity additions during this time. However, REQUIRED ACTION 3.9.2.C.3, for RCS boron concentration verified to be within the limits specified in the Core Operating Limits Report (COLR), had only been accomplished at approximately 0025 EST and 1300 EST on November 3.

Thus, at approximately 1708 EST on November 3, it was discovered that the NIS audible count rate was inoperable. Due to the assumed event sequence, it was concluded that inoperability occurred at 0753 EST, and the Control Room operators immediately entered ITS LCO 3.9.2 at 1708 EST. The RCS boron concentration had been verified at approximately 1300 EST. Since the operators concluded that RCS boron concentration had not been verified within 4 hours of the assumed time of inoperability, the 1300 EST boron concentration was used to initiate the 12 hour time requirement of ITS LCO REQUIRED ACTION 3.9.2.C.3. Subsequent RCS boron concentration verification would be required every 12 hours. The next RCS boron concentration verification was performed at approximately 0100 EST on November 4, and the NIS audible count rate function was restored to operable status later that morning.

Upon further review, activities performed per procedure CPI-COMP/RATE-N46/37 did not render the NIS audible count rate inoperable. Therefore, the event sequence concluding that inoperability occurred at 0753 EST is incorrect. The precise time that the NIS audible count rate function became inoperable on November 3 is not known, but the most limiting event sequence is if it occurred after 1300 EST, or between 0753 and 0900 EST. In either of these scenarios, ITS LCO REQUIRED ACTION 3.9.2.C.3 was not performed within 4 hours of the event.

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 event was indicated during routine operations review of plant status during a shift turnover meeting, and was formally discovered shortly after shift turnover. However, the actual event sequence, including the fact that the precise time of inoperability is not known, was not discovered until several days later.

F. OPERATOR ACTION:

The Control Room operators identified that there was no administrative tracking of the audible count rate function, and submitted administrative procedure A-52.4 for formal tracking of the audible count rate function. Based on their assumed event sequence, ITS LCO REQUIRED ACTION 3.9.2.C.3 had not been performed within 4 hours of inoperability, but a subsequent (1300 EST) boron concentration verification was used to initiate the 12 hour time requirement. Future RCS boron concentration verification would be performed every 12 hours, per this REQUIRED ACTION. The Control Room operators notified higher supervision.

A Control Room operator manually restored the NIS audible count rate function during the midnight shift on November 4, 1997.

G. SAFETY SYSTEM RESPONSES:

None

III. CAUSE OF EVENT:

A. IMMEDIATE CAUSE:

The immediate cause of the condition prohibited by Technical Specifications was not verifying RCS boron concentration within 4 hours after discovering that the audible count rate function was inoperable, using the most limiting event sequence for loss of this function.

B. INTERMEDIATE CAUSE:

The intermediate cause of not verifying boron concentration was a misinterpretation of the event sequence. This misinterpretation occurred during the performance of procedure CPI-COMP/RATE-N46/37, which was initially (but incorrectly) assumed to be the cause of NIS audible count rate inoperability.

C. ROOT CAUSE:

The misinterpretation of the event sequence led to an incorrect determination of the precise time that the NIS audible count rate function became inoperable. The ITS LCO should have been entered at the time of discovery, and the ITS LCO Required Actions should have been performed at that time.

This misinterpretation was made possible because there is no positive indication of when the audible count rate function became inoperable. Procedures were deficient in that the applicability of ITS LCO 3.9.2 at all times while in Mode 6 was not addressed in plant operating procedures. Procedures were also deficient in that actions needed to verify the operability of the NIS audible count rate were not specified in calibration and test procedures.

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". With the NIS audible count rate inoperable, not verifying RCS boron concentration within 4 hours after discovery is not permitted by ITS LCO REQUIRED ACTION 3.9.2.C.3.

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

There were no operational or safety consequences or implications attributed to the delayed verification of boron concentration because:

- No core alterations and no positive reactivity additions occurred during this time period.
- RCS boron concentration verification was being performed every 12 hours. Previous RCS boron samples had confirmed consistent boron concentrations that were well within the limit specified in the COLR.

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

V. CORRECTIVE ACTION:

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

- The most recent RCS boron concentration was verified to be within the limit specified in the COLR.
- Subsequent boron verification occurred every 12 hours, as per ITS LCO Required Action 3.9.2.C.3.
- After investigation of the cause for loss of this function, the audible count rate function was restored to operable status.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

- The requirement to have audible count rate operable at all times while in Mode 6 appears to be conservative. The High Flux at Shutdown alarm may provide adequate assurance of no adverse changes in core reactivity while in Mode 6 (and no core alterations or positive reactivity additions are occurring). Nuclear Safety and Licensing will be requested to evaluate a License Amendment to change this requirement in ITS.
- Appropriate calibration and test procedures will be reviewed, and changed as necessary, to ensure audible count rate operability after completion of calibrations or tests.
- Operating procedures will be reviewed, and changed as necessary, to ensure audible count rate operability is verified when in Mode 6.
- The misinterpretation of the event sequence was reviewed with the affected shift supervision. For this event, the immediate application of the ITS LCO Required Actions, at the time of discovery, would have been the proper response. Affected shift supervision concurred with this conclusion.
- A Training Work Request was initiated. This event, and the need to apply the most conservative ITS LCO Required Action at the time of discovery, will be discussed with all operating shifts in a future training cycle.

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 Station could be identified.

C. SPECIAL COMMENTS:

None