

OCT 23 1984 311

NRC Form 306 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

191642

B&W

FACILITY NAME (1) Three Mile Island Unit 2 DOCKET NUMBER (2) 0500031201 PAGE (3) 1 OF 014

TITLE (4) Non-representative RCS Samples in support of IIF Processing

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 NAMES		DOCKET NUMBER(S)
08	17	84	84	014	000	09	24	84			05000

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

OPERATING MODE (9) N	20.402(b)	20.406(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0100	20.406(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
	20.406(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.406(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
	20.406(a)(1)(iv)	X 50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
	20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME John C. Auger, TMI-2 Licensing Engineer TELEPHONE NUMBER 717 948-1824

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)

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

On August 24, 1984, an event considered reportable to the NRC was determined to exist. At this time, it was identified that the six (6) Reactor Coolant System (RCS) samples taken during the initial stages of Internals Indexing Fixture (IIF) processing were not representative of the reactor vessel volume. The representative sampling of the reactor vessel volume was required by the IIF Processing Safety Evaluation Report (SER) to verify RCS boron concentration. This event resulted from the failure to verify "open" a manually operated valve required by the sampling procedure. The result of obtaining non-representative RCS samples was to place the unit in a condition outside the bounds of the IIF Processing SER and could have resulted in failure to detect a boron dilution event. Once this condition was discovered, the manually operated valve was opened and representative sampling was established. The individuals responsible for this event have been counseled. Also, the document controlling the sampling has been modified to provide additional guidance.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Three Mile Island Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 2 0	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8 4	- 0 1 4	- 0 0	0 2	OF 0 4

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

I. PLANT OPERATING CONDITIONS BEFORE THE EVENT

The TMI-2 facility is in a long-term cold shutdown state. The reactor decay heat is being removed via loss to ambient. Throughout this event there was no effect on the Reactor Coolant System or the core.

II. STATUS OF STRUCTURES, COMPONENTS, OR SYSTEMS THAT WERE INOPERABLE AT THE START OF THE EVENT AND THAT CONTRIBUTED TO THE EVENT

N/A

III. EVENT DESCRIPTION

The Safety Evaluation Report (SER) for the Internals Indexing Fixture (IIF) (no applicable IEEE Code) processing through the Submerged Demineralizer System (SDS) (no applicable IEEE Code) committed to sampling of the Reactor Coolant System (RCS) (IEEE Code A.B.) on a periodic basis to provide adequate detection capability for RCS boron dilution incidents. To accomplish this sampling, Special Operating Procedure (SOP) 4212-3558-84-226, Temporary Nuclear Sampling System (TNSS) - Post Head Lift, is used. In order to establish flow to the sampling point, a number of valves must be opened. Prior to proceeding to the sampling point, the chemistry technician informs the Control Room personnel which valves must be opened. Once these valves are verified open to the technician, he/she may then proceed to the sampling point. Once there, the chemistry technician performs the sampling point valve lineup and requests the Control Room personnel to energize the IIF pump, thus establishing flow. The chemistry technician then allows for a fifty (50) gallon purge by observing the letdown flowrate to the sampling point and allowing for the appropriate amount of time to pass. A grab type sample is then taken.

At 0400 hours on August 17, 1984, a chemistry technician attempted to obtain a RCS sample in the above described manner. However, the flowrate indication, SNS-FI-6, showed a sampling flowrate of only one half (0.5) gallon per minute (gpm) instead of the expected three (3) gpm flowrate. The chemistry technician notified the Control Room personnel of the situation and requested that they reverify the position of the required valves they were responsible for manipulating. The Control Room personnel notified the chemistry technician that all required valves were in the correct positions. The chemistry technician also verified the position of the valves located at the sampling point. At this

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Three Mile Island Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 2 0	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8 4	- 0 1 4	- 0 0	0 3	OF

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

point, it was concluded that the flowrate indication, SNS-FI-6, was malfunctioning and that the normal flowrate of three (3) gpm actually existed. A fifty (50) gallon purge was allotted for (using the 3 gpm flowrate instead of the observed 0.5 gpm flowrate) and the grab sample was taken. This scenario was repeated five (5) additional times between 1200 hours on August 17, 1984 and 1800 hours on August 18, 1984.

At 2300 hours on August 18, 1984, an Auxiliary Operator (A.O.) was dispatched by the Control Room to verify the position of one of the valves associated with the sampling. The valve, WDL-V-18B (a manually operated valve), was discovered closed by the A.O.. The valve was immediately opened and the chemistry technician was informed. The chemistry technician reported that the flowrate at the sampling point was the expected three (3) gpm. In light of this discovery, it was determined that the samples obtained earlier were not representative of the reactor vessel volume because the required fifty (50) gallon purge of the sampling lines was not performed correctly or completely. Once WDL-V-18B was opened, representative sampling was established.

The root cause for this event was the failure by Control Room personnel to properly align and verify the position of the manually operated valve, WDL-V-18B. A contributing cause for this event was the failure by the chemistry technician to believe the flowrate indication, SNS-FI-6.

IV. CORRECTIVE ACTIONS PLANNED

Immediate:

1. The manually operated valve WDL-V-18B was opened.
2. A representative RCS sample was obtained to verify that no boron dilution incident was occurring.
3. A Caution Tag was placed on WDL-V-18B to keep it in the open position.
4. The SOP, 4212-3558-84-226, was replaced with SOP 4212-3558-84-268. This new SOP provided additional guidance concerning flowrate indication.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Three Mile Island Unit 2	DOCKET NUMBER (2) 05000321084	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Long-Term:

1. The event will be reviewed with all Operations and Chemistry personnel to preclude recurrence.
2. Plant Operations will review plant operating procedures to resolve conflicts concerning proper positioning of valve WDL-V-18B.
3. Chemistry personnel will be retrained on the use of the Temporary Nuclear Sampling System.

V. COMPONENT FAILURE DATA

N/A

VI. AUTOMATIC OR MANUALLY INITIATED SAFETY SYSTEM RESPONSES

N/A

VII. ASSESSMENT OF THE SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

During the duration of the non-representative sampling from the SER committed sampling point, the unit had an alternative means by which a significant boron dilution event could have been detected. This alternate means was the sampling of the IIF by means of the SDS pre-filter influent high-rad filter glove box. An analysis performed after the completion of IIF processing indicated that this sampling point also gave representative samples of the reactor vessel volume and hence probably would have shown any significant boron dilution. Also, the licensee had stringent volume/inventory controls in place which would have shown any unintentional influx of liquid. Therefore, this event had no adverse affect on the health and safety of the public.



GPU Nuclear Corporation

Post Office Box 480
Route 441 South
Middletown, Pennsylvania 17057-0191
717 944-7621
TELEX 84-2386
Writer's Direct Dial Number:

(717) 948-8461

4410-84-L-0155
Document ID 0074A

September 24, 1984

US Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
Licensee Event Report 84-014

Attached is Licensee Event Report 84-014 concerning the failure to obtain representative Reactor Coolant System (RCS) samples in support of Internals Indexing Fixture (IIF) processing. This event was determined to be reportable on August 24, 1984.

This event is considered reportable pursuant to Title 10 of the Code of Federal Regulations, Section 50.73(a)(2)(ii)(A).

Sincerely,

F. R. Standerfer
Vice President/Director, TMI-2

FRS/JCA/jep

Attachments

cc: Regional Administrator - Office of I & E, Dr. T. E. Murley
Program Director - TMI Program Office, Dr. B. J. Snyder
Deputy Program Director - TMI Program Office, Dr. W. D. Travers

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