

NON-PUBLIC?: N
ACCESSION #: 9003280401

LICENSEE EVENT REPORT (LER)

FACILITY NAME: Three Mile Island - Unit 2 PAGE: 1 OF 4

DOCKET NUMBER: 05000320

TITLE: Heavy Load Handling in Containment Building Outside the Bounds of
a Docketed, NRC-approved Safety Evaluation Report

EVENT DATE: 02/19/90 LER #: 90-001-00 REPORT DATE: 03/21/90

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: N POWER LEVEL: 000

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR
SECTION:

Other (Special Report)

LICENSEE CONTACT FOR THIS LER:

NAME: Edward D. Schrull, TMI-2 Licensing TELEPHONE: (717) 948-8461
Engineer

COMPONENT FAILURE DESCRIPTION:

CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE NPRDS:

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT:

On Monday, February 19, 1990, during evolutions related to the NRC-sponsored lower head sampling project, two-man Temporary Change Notice (TCN-2) 4210-3255-90-022 was issued to TMI-2 Operating Procedure 4210-OPS-3555.04, Withdrawing Incore Instrument Strings with Polar Crane, that changed the intent of the procedure and violated Safety Evaluation Report (SER) 4700-3882-89-01, Revision 0, regarding use of the polar crane auxiliary hook above the incore instrument seal table to withdraw incore instrument strings. Specifically, the polar crane was moved over an exclusion zone with the main hoist energized. The existing SER analysis permitted such movement only with the main hoist de-energized. Per the Action Statement of TMI-2 Technical Specification (Tech. Spec.) 3.10.1, this event report is being submitted as a Special Report pursuant to Tech. Spec. 6.9.2. The TCN-2 was canceled and corrective actions to

prevent recurrence have been undertaken. During the review of this event, it was discovered that the polar crane had been moved over the exclusion zone with the main hoist energized one other time on January 4, 1990. The root cause in both cases was determined to be personnel error on the part of the supervisors who misinterpreted the operating procedure Limit and Precaution. This event and the appropriate long-term corrective actions are being reviewed with all Fuel Handling Senior Reactor Operators (FHSRO) and Senior Reactor Operators (SRO).

END OF ABSTRACT

TEXT PAGE 2 OF 4

I. PLANT OPERATING CONDITIONS BEFORE THE EVENT

The TMI-2 facility was in a long-term cold shutdown state; the defueling evolution was in progress. The reactor decay heat was being removed via loss to ambient. Throughout this event there was no affect 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

On Monday, February 19, 1990, during evolutions related to the NRC-sponsored lower head sampling project, two-man Temporary Change Notice (TCN-2) 4210-3255-90-022 was issued to TMI-2 Operating Procedure 4210-OPS-3555.04, Withdrawing Incore Instrument Strings with Polar Crane, that changed the intent of the procedure and violated Safety Evaluation Report (SER) 4700-3882-89-01, Revision 0, regarding use of the polar crane auxiliary hook above the incore instrument seal table to withdraw incore instrument strings. Specifically, the polar crane was moved over an exclusion core with the main hoist energized. The existing SER analysis permitted such movement only with the main hoist de-energized. Per the Action Statement of TMI-2 Technical Specification (Tech. Spec.) 3.10.1, this event report is being submitted as a Special Report pursuant to Tech. Spec. 6.9.2.

It was during the post-implementation review of the TCN-2 that the Safety Review Group (SRG) determined the procedure change was in violation of the SER. The TCN-2 was canceled and corrective actions

to prevent recurrence were undertaken. During the review of the February 19, 1990 event, it was discovered that the polar crane had been moved over the exclusion zone with the main hoist energized another time on January 4, 1990. The root cause in both instances was determined to be the misinterpretation of the Limit and Precaution in the operating procedure regarding movement of the polar crane with the main hoist de-energized.

IV. ROOT CAUSE OF THE EVENT

The root cause of both events was personnel error (i.e., a misinterpretation of the operating procedure Limit and Precaution by the personnel supervising operations in support of the lower head sampling project).

TEXT PAGE 3 OF 4

On February 19, 1990, in an attempt to remove an apparent ambiguity in the operating procedure (i.e., to remove an apparent incorrect restriction which was, in fact, required by the SER), the Fuel Handling Senior Reactor Operator (FHSRO) wrote the TCN-2 to permit movement of the polar crane over the exclusion zone with the main hoist energized. The FHSRO believed that the main hoist had to be energized to move the crane. Concurrence by the cognizant engineer and the Responsible Technical Reviewer (RTR) (the same person) was obtained via telecon along with approval to implement the TCN-2. The revised procedure was implemented immediately thereafter and the polar crane was moved over the exclusion zone with the main hoist energized.

A contributing cause was the misinterpretation of the applicable SER restriction by the FHSRO when he was reviewing the TCN-2 change. A second contributing cause was an inadequate technical review of the TCN-2 by the cognizant engineer. The cognizant engineer concurred telephonically without independently verifying the information provided by the document preparer. The cognizant engineer had recently been assigned that responsibility which included cognizance for Procedure 4210-OPS-3555.04. However, he was not well versed in the polar crane operations, assumed that the FHSRO was appropriately knowledgeable and assumed that the information given to him by the FHSRO was accurate.

With respect to the January 4, 1990, event discovered during the review of the February 19, 1990 event, it was determined that the task supervisor incorrectly implemented the Limit and Precaution in the procedure, in that the main hoist was not de-energized until

after the crane was in position over the seal table.

V. CORRECTIVE ACTION

The immediate corrective action was to cancel the TCN-2. The following long term corrective actions to prevent recurrence are being accomplished:

1. The FHSROs and SROs are being counseled concerning the importance for supervisory personnel to check and verify information prior to the preparation of a procedure change that may impact plant operations.
2. All RTRs will be informed that they are required to expend the time and effort necessary to ensure a proper, independent review of a change is performed.

TEXT PAGE 4 OF 4

3. The SRG will track subsequent incidents to determine whether personnel errors are becoming a more significant factor resulting from the availability of fewer qualified personnel in the variety of necessary operating disciplines and a concomitant over-reliance on telephonic approval.

Since the lower head sampling project is complete, the SER and the operating procedure in question are no longer applicable.

Therefore, no action is necessary to improve the clarity of the relevant statement in the SER or the Limit and Precaution.

VI. COMPONENT FAILURE DATA

N/A.

VII. AUTOMATIC OR MANUALLY INITIATED SAFETY SYSTEM RESPONSES

N/A.

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

The purpose of the Limit and Precaution that required the main hoist to be de-energized when the polar crane was moved over an exclusion area was to preclude any credible situation in which the main hoist block would be driven into its upper stops and then dropped onto the

exclusion area. SER 4700-3882-89-01, Revision 0, contains a heavy load drop evaluation that addresses this specific occurrence. The scenario presented assumes that the polar crane auxiliary hook and block fall on the incore instrument seal table which causes a rupture somewhere along the length of one or more incore instrument string guide tubes. The worst case result would be a small leak in less than six (6) incore tubes below the Reactor Vessel water level. The resultant leakage rate is within the bounds of incore leakage rates described in NRC-approved SER for Heavy Load Handling Over the TMI-2 Reactor Vessel, 4350-3153-85-2, Revision 0. Based on the analysis in the referenced Heavy Load Handling SER, leaks of this nature do not jeopardize plant safety nor present undue risk to the health and safety of the public. Thus, this event did not pose a potential public health and safety concern.

ATTACHMENT 1 TO 9003280401 PAGE 1 OF 1

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

(717) 948-8400

March 21, 1989
4410-89-L-0022/0525P

US Nuclear Regulatory Commission
Washington, DC 20555

Attention: Document Control Desk

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
Licensee Event Report 90-01

Dear Sirs:

Attached is Licensee Event Report 90-01 concerning a heavy load handling activity in the Containment Building outside the bounds of a docketed Safety Evaluation Report approved by the NRC.

This event report is being submitted as a Special Report per the Action Statement of TMI-2 Technical Specification 3.10.1.

Sincerely,

M. B. Roche
Director, TMI-2

EDS/emf

Attachment

cc: W. T. Russell - Regional Administrator, Region I
J. F. Stolz - Director, Plant Directorate I-4
L. H. Thonus - Project Manager, TMI Site
F. I. Young - Senior Resident Inspector, TMI

GPU Nuclear Corporation is a subsidiary of the General Public Utilities Corporation

*** END OF DOCUMENT ***
