

NON-PUBLIC?: N  
ACCESSION #: 8806140445

LICENSEE EVENT REPORT (LER)

FACILITY NAME: Three Mile Island Unit 2 PAGE: 1 of 4

DOCKET NUMBER: 05000320

TITLE: Removal of Trash From a Radiologically Controlled Area Without Proper Survey.

EVENT DATE: 05/04/88 LER #: 88-008-00 REPORT DATE: 06/03/88  
&05/08/88

OPERATING MODE: N POWER LEVEL: 000

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

20.405(a)(1)(v)

LICENSEE CONTACT FOR THIS LER:

NAME: Edward D. Schrull, TMI-2 Licensing Engineer

TELEPHONE #: 717-948-8461

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT: This LER describes two (2) events involving removal of trash containing solid contaminated debris in excess of established limits. The first event involved a housekeeping activity in a radiologically clean area and the second involved removal of trash from a Radiologically Controlled Area (RCA) without proper release surveys. The GPU Nuclear Corporation Radiation Protection Plan, a TMI-2 Licensing Basis Document per the TMI-2 Technical Specifications, establishes limits for unrestricted release of 1000 dpm/100 square centimeter loose surface contamination and 5000 dpm/100 square centimeter total (fixed plus removable). Therefore, this event is reportable pursuant to 10 CFR 20.405(a)(1)(v) since the contamination levels discovered at the trash compactor were in excess of ten (10) times the limit set forth in the plan. The earliest event date of this LER is May 4, 1988; thus, the due date of this report is June 3, 1988 (i.e., 30 days from determination of reportability).

In both events, a Radiological Controls Technician was performing a routine survey at the trash compactor and discovered several bags of trash contaminated to various levels in excess of allowable limits. The bags were removed to a controlled area and surveyed; the contaminated material was removed and identified. The primary cause for the first event was the

concentration of contamination during housekeeping activities that had accumulated over time across a large area; the primary cause for the second event was personnel error resulting from a lack of awareness of survey requirements for material removed from an RCA and/or inattention to requirements posted at all exits to RCAs requiring frisking/survey of such material. The measured contamination levels did not constitute a significant personnel exposure hazard.

This event is similar in nature to LER 88-05.

(End of Abstract)

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## 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

A. On May 4, 1988, a Radiological Controls Technical was performing routine survey at the trash compactor and discovered four (4) bags of trash containing material contaminated to levels of up to 35,000 dpm. The bags were removed to a controlled area and surveyed. A teri-towel in one bag read 35,000 dpm over an area of approximately 3 square centimeter and 5,000 dpm uniformly distributed over an additional area of about 50 square centimeter; the remainder of the towel read less than 5,000 dpm. A cotton swab in another bag read 10,000 dpm by direct frisk. A smear survey performed on the inside surfaces of the four (4) bags revealed contamination levels of less than 1,000 dpm/100 square centimeter.

The material in three (3) of the bags consisted of teri-towels, tape, and other miscellaneous trash determined to be from the cleanup activity in the Service Building. For several days preceding this event, workers had been wiping down cable trays,

support beams, and walls in this area. Although this is a radiologically clean area, it is possible that the contamination accumulated over time and was distributed over a large area. Therefore, contamination surveys performed in this area indicated levels below the release limits. Wipedowns in this area concentrated the residual contamination that had accumulated in the several years since this area was thoroughly cleaned. The fourth bag contained broken instrument parts, paper towels, and cotton swabs. The contamination level of the cotton swab in this bag was less than the reportability limit.

The root cause of this event is an unforeseen condition resulting from the housekeeping activity. The corrective action to prevent recurrence is the implementation of a requirement for a Radiological Controls Field Operations survey of any area that has not been cleaned or occupied regularly prior to any major housekeeping.

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B. On May 8, 1988, a Radiological Controls Technician was performing a routine survey at the trash compactor and discovered three (3) bags of trash containing contaminated material. In one bag a cotton glove liner was contaminated to levels of up to 300,000 dpm. In the remaining two (2) bags, from 2,000 dpm to 5,000 dpm levels were detected by direct frisk of teri-towels. The bags were removed to a controlled area and surveyed. A smear survey performed on the contaminated cotton liner yielded 2,000 dpm/100 square centimeter; therefore, this material is not considered removable contamination.

The bag containing cotton glove liners and other assorted trash came from the RCA outside the Reactor Building Personnel Airlock. This bag was removed from the area by a Laborer on a trash pickup. The area is posted to require frisking of personnel and materials prior to exit; however, the individual violated this posting by not obtaining a survey of the trash bag prior to its removal from the RCA. The material in the other two bags consisted of teri-towels, tape, and other miscellaneous trash determined to be from the same cleanup activity in the Service Building as in the May 4 event (III.A.). It should be noted that the contamination levels of the trash originating from the housekeeping activity in this event were below the reportability limits given in the GPU Nuclear Radiation Protection Plan.

The root cause of the reportable event (i.e., contaminated cotton

glove liner) was personnel error on the part of the Laborer.

The immediate corrective actions to prevent recurrence were administrative and included memoranda detailing the steps necessary for removal of any material from an RCA and personnel discussions at staff safety meetings. The material presented will also be part of future general employee training. As a positive means for ensuring trash is surveyed properly prior to release to uncontrolled areas, dedicated Laborers were designated to perform trash pickup from RCAs. Finally, trash is staged in a locked storage receptacle and surveyed prior to release daily by radiological controls personnel. It should be noted that a radiological controls survey identified the material as contaminated before it left the protected area of the site.

#### IV. ROOT CAUSE OF THE EVENT

The root causes of each event have been detailed in Section III, "Event Description."

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#### V. CORRECTIVE ACTIONS

##### Immediate

- o The bags of trash were removed to an RCA and surveyed.
- o The contaminated material was isolated and analyzed.
- o Two (2) memorandas were written which detailed the steps necessary for removal of any material from an RCA.

##### Long-Term

- o Prior to any major housekeeping effort, Radiological Controls Field Operations shall be notified and survey shall be conducted, as noted.
- o Discussions were held at various staff safety meetings.
- o Clean trash staging areas were established.
- o Decontamination Operations has dedicated Laborers to perform trash pickup in RCAs.

o A Radiological Controls Technician was dedicated, as necessary, to perform release surveys of trash.

#### 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

This event did not result in excessive exposure to any individual. Therefore, GPU Nuclear has concluded that the reporting requirements of 10 CFR 20.405(b) do not apply to this event.

A routine survey at the trash compactor located inside the protected area resulted in the discovery of contaminated material. This occurrence involved the removal of trash from an RCA without a proper release survey. The measured contamination level did not constitute a significant personnel exposure hazard.

ATTACHMENT # 1 TO ANO # 8806140445 PAGE: 1 of 1

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June 3, 1988  
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US Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

Dear Sirs:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)  
Operating License No. DPR-73

Docket No. 50-320  
Licensee Event Report 88-08

Attached is Licensee Event Report 88-08 concerning radiological occurrences on May 4 and May 8, 1988. Both occurrences involved the removal of trash; one event involved a housekeeping activity in a radiologically clean area and the other involved removal of trash from a Radiologically Controlled Area without proper release surveys.

This event is considered reportable pursuant to Title 10 of the Code of Federal Regulations, Section 20.405(a)(1)(v).

Sincerely,

/s/ F. R. STANDERFER  
F. R. Standerfer  
Director, TMI-2

EDS/emf

Attachment

cc: Senior Resident Inspector, TMI - R. J. Conte  
Regional Administrator, Region 1 - W. T. Russell  
Director, Plant Directorate IV - J. F. Stolz  
Systems Engineer, TMI Site - L. H. Thonus

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