

U.S. NUCLEAR REGULATORY COMMISSION

Region I

Report No. 50-320/82-06  
Docket No. 50-320  
License No. DPR-73 Priority -- Category C  
Licensee: GPU Nuclear Corporation  
P.O. Box 480  
Middletown, Pennsylvania 17057

Facility Name: Three Mile Island Nuclear Station, Unit 2

Inspection At: Middletown, Pennsylvania

Inspection Conducted: May 12 - 28, 1982

Inspector: M. Shanbaky 6/23/82  
M. Shanbaky, Senior Radiation Specialist date signed

Approved by: A. Fasano 6/23/82  
A. Fasano, Chief, Three Mile Island Section date signed  
Projects Branch No. 2

Inspection Summary:

Inspection conducted May 12 - 28, 1982, (Inspection Report Number 50-320/82-06)

Areas Inspected: General Public Utilities (GPU) Nuclear Corporation was the originator of a radioactive waste shipment which was examined by a State of Washington inspector on May 5, 1982, at the U.S. Ecology, Inc., burial site in Richland, Washington. Upon examination of the shipment, it was observed that one 55-gallon drum had a broken locking ring and the lid of the drum had been forced open. As part of this inspection, the onsite NRC inspector at TMI examined the licensee short term corrective actions and actions to prevent recurrence. The inspection involved 32 inspector-hours.

Results: One apparent violation was identified (violation - licensee delivered radioactive material to a carrier for transport in a container that was not a strong, tight package) (Details, paragraph 3).

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## Details

### 1. Persons Contacted

#### General Public Utilities (GPU) Nuclear Corporation

- \*J. Barton, Acting Director TMI-2
- \*\*T. Block, Decontamination Manager
  - P. Carmel, Decontamination Coordinator
- \*\*J. Chwastyk, Manager Plant Operations
- \*\*W. Conaway, Acting Radwaste Support Manager
  - R. Fenti, Quality Assurance Project Site Manager, Nuclear Assurance
- \*\*J. Garrison, Quality Assurance Engineer Assistant Senior III,  
Nuclear Assurance
- \*\*T. Graham, Quality Assurance/Quality Control
- \*\*R. Hahn, Shipping and Disposal Supervisor
- \*\*G. Kunder, Supervisor Technical Specifications Compliance
  - M. Moe, Decontamination Coordinator
- \*\*H. Peterson, Radiological Controls
  - J. Skile, Quality Control
- \*\*R. Swartzwelder, TMI-2 Licensing

\*contacted person by telephone

\*\*denotes those present at the exit interview

### 2. General

On May 5, 1982, an NRC radiation specialist, at the TMI site, was notified by the NRC Region V office that a shipment of compacted low-level waste was received at a Richland, Washington, burial site on May 3, 1982, from TMI-2. The contents of one radioactive material container were exposed. Region V reported the following.

- The shipment consisted of six boxes and sixty-eight 55-gallon drums of compacted Low Specific Activity (LSA), Radioactive Material. The shipment was assigned as exclusive use.
- A state inspector observed that drum no. 77, which was listed on the Radioactive Waste Shipment Record (RSR) No. 7404 as containing solid compacted waste, had a broken ring bolt lug which allowed the lid of the drum to be forced off by the pressure exerted by the compacted waste inside the drum. The contents of the drum were exposed.
- A radiation survey of the drum and trailer indicated no loose radioactive contamination present.
- The loss of integrity by the drum appeared to be an item of non-compliance with 49 CFR 173.392(c)(i) which requires that radioactive material must be packaged in a manner which precludes any leakage of contents under normal condition of transport.
- The NRC Region I Office and the Department of Transportation were the appropriate organizations to take further enforcement actions.

3. Enforcement Action

Based on this occurrence, the State of Washington banned Three Mile Island nuclear Station from use of the U.S. Ecology burial site in Richland, Washington, and suspended the TMI burial permit effective May 5, 1982.

The inspector determined, through examination of the circumstances involved in this incident, that one apparent violation had been identified. The delivery to a carrier for transport of licensed material in a container that was not a strong, tight package constituted an apparent violation of the regulatory requirements of 10 CFR 71.5 and 49 CFR 173.392(c)(1) (320/82-06-01).

4. Corrective Actions as Provided to the State of Washington

By a letter to the State of Washington, dated May 13, 1982, the licensee outlined the following actions to preclude recurrence of such shipping incidents.

- All drums at TMI have been inspected for defective welds. All suspected rings including the failed ring, which was returned from Washington, have been sent to the licensee's metallurgy laboratory in Reading, Pennsylvania, for analysis.
- The drum vendor has been informed and requested to present a program to insure that the welds are applied with greater quality control. Additionally, the licensee's Quality Assurance (QA) Department will conduct a Manufacturing Assurance Inspection to insure quality control compliance. If the results of this inspection are not favorable, the vendor will be removed from the licensee's approved list of vendors.
- The QA requirements of the licensee's Purchase Order will be changed to require the vendor to submit to them the results of the drum testing which is required every four months by 49 CFR 178.118-12.
- As part of the licensee's inspection procedures for drums which require five separate inspections, the welds around the forged lugs of the drum locking ring will be specifically inspected.
- As a long term solution, the licensee will examine the use of a one piece closure ring which has no welds. The licensee will also look into other alternatives to the standard drum for shipment of their compactible waste.

Based on the above licensee's commitments, the State of Washington restored the TMI burial site permit effective May 18, 1982. The inspector examined the licensee's commitments and noted that action was initiated in all of the above areas.

5. TMI-2 Compacted and Non-compacted LSA (Low Specific Activity) Radioactive Waste Shipments

The following documents were reviewed by the inspector.

- NRC Inspection Report 15000046/82-06
- NRC Inspection Report 50-320/80-13
- NRC Inspection Report 50-320/80-14
- NRC Enforcement Guidance Memorandum, EGM-81-14
- TMI-2 Station Operating Procedure 2104-4.39, Revision 4, dated April 15, 1982, Solid Radwaste Disposal System 17H Drum Compacting of Radioactive Waste
- Temporary Change Notice (TCN) 2-82-216, to SOP 2104-4.39, dated May 20, 1982, requiring inspection of welds on clamping rings
- Response to IE Bulletin 79-19, Packaging of Low Level Radioactive Waste for Transport and Burial, from J. G. Herbein, GPU Nuclear to B. H. Grier, Director, NRC Region I, dated September 28, 1979
- Letter to Washington Department of Social and Health Services Radiation Control Section, from J. J. Barton, Acting Director TMI-2, dated May 13, 1982
- Radioactive material shipment papers for shipment number RS-82-028-II, dated April 29, 1982
- TMI Procedure 7-10-MO-002, Revision 1, dated July 10, 1981, QA Modifications/Operations Section - Inspection Program
- TMI Procedure 7-6-MO-002, Revision 0, dated April 30, 1980, Section Document Control
- TMI Procedure 7-6-MO-001, Revision 0, dated April 30, 1980, Operations Quality Assurance/Quality Control Document Review

Based on examination of the licensee QA records and procedures, the inspector noted the lack of acceptance criteria for the welds around the forged lugs of the drum locking ring. The inspector discussed with the licensee the QA receipt inspection process for the drums. The licensee representative stated that weld acceptance criteria will be established and included in the QA inspection program.

The inspector noted that on May 13, 1982, the licensee received from the vendor drawings and criteria for examination of welds. The licensee stated that these criteria will be used as guidance and will be incorporated into the QA inspection process.

The licensee stated that implementation of these proposed improvements in the QA program, and the corrective actions provided to the State of Washington, will provide for adequate assurance to prevent recurrence of such transportation incidents. The licensee also stated that further actions may be necessary after examination of the results from ongoing metallurgical tests of the locking ring lug and weld.

6. Exit Interview

On May 28, 1982, a meeting was held with licensee representatives (denoted in paragraph 1) to discuss the inspection scope and findings.

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 82-06

Docket No. 15000046

License No. \_\_\_\_\_

Safeguards Group \_\_\_\_\_

Licensee: \_\_\_\_\_

Facility Name: U. S. Ecology, Inc.

Inspection at: Richland, Washington

Inspection conducted: May 3, 1982

Inspectors: R. D. Thomas Jr  
Jerome A. Waite, Washington State Inspector

5/26/82  
Date Signed

\_\_\_\_\_  
Date Signed

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Date Signed

Approved by: R. D. Thomas  
R. D. Thomas, Chief, Materials Radiation Protection  
Section

5/26/82  
Date Signed

Approved by: H. E. Book  
H. E. Book, Chief, Radiological Safety Branch

5/26/82  
Date Signed

Summary:

Inspection of May 3, 1982 (Report No. 15000046/82-06)

As a part of the inspections conducted by the State of Washington during May 3-7, 1982, at the Richland burial site, a shipment of waste received on May 3, 1982 from GPU Nuclear, Three Mile Island, Middletown, Pennsylvania was inspected. The results of the inspection which were received at the NRC Region V office on May 20, 1982, are detailed in this report.

Results: One item of noncompliance with DOT/NRC regulations was identified.

It appears that NRC Region I office, and the Department of Transportation are the appropriate organizations to take enforcement action.

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## DETAILS

### Persons Contacted

E. Lee Gronemeyer, Transportation and Waste Management, State of Washington  
Jerome A. Waite, Radiation Health Physicist, State of Washington

### Background

As a part of the low-level waste inspections conducted by the State of Washington inspectors during the period of May 3-7, 1982 at the Richland, Washington Burial Site, a shipment of waste which was received on May 3, 1982 from the GPU Nuclear, Three Mile Island Station, Middletown, Pennsylvania was inspected on May 3, 1982. As a result of this inspection, one 55 gallon drum was observed to have a broken ring bolt lug and the lid of the drum had been forced off exposing the contents.

Pursuant to this item of noncompliance with DOT/NRC regulations, the State of Washington banned the NRC licensee from using the burial site and suspended the burial permit effective May 5, 1982.

### Inspection

Licensee-Shipper: G.P.U. Nuclear  
P. O. Box 480  
Three Mile Island Station  
Middletown, Pennsylvania

Docket Nos. 05000289  
05000320

Shipment Inspected: May 3, 1982

Carrier: Tri-State Motor Transport

Trailer No.: 544130

Radioactive Waste Shipment Record (RSR): 7404

1. The shipment consisted of six boxes and sixty-eight 55 gallon drums of compacted Low Specific Activity (LSA), NOS, Radioactive Material. The shipment was assigned as exclusive use.
2. The State inspector observed that drum no. 77, which was listed on the Radioactive Waste Shipment Record (RSR) No. 7404 as containing solid compacted waste, had a broken ring bolt lug which allowed the lid of the drum to be forced off by the pressure exerted by the compacted waste inside the drum. The contents of the drum were exposed.



3. A radiation survey of the drum and trailer indicated no loose radioactive contamination present.
4. The loss of integrity by the drum appears to be an item of noncompliance with 49 CFR 173.392(c)(1) which requires that radioactive material must be packaged in a manner which precludes any leakage of contents under the normal condition of transport.
5. Enclosed as Appendix A is the NRC licensee's response to the action taken by the State of Washington.





STATE OF WASHINGTON

DEPARTMENT OF SOCIAL AND HEALTH SERVICES

Olympia, Washington 98504  
May 10, 1982

DESIGNATED ORIGINAL

G.P.U. Nuclear Corporation  
Three Mile Island  
Middletown, Pennsylvania 17057

Certified By J. Martin

Attention: Ray E. Hahn, Supervisor, Waste Shipping and Disposal

Dear Mr. Hahn:

This letter refers to a shipment of radioactive waste material sent to the commercial low level waste disposal site operated by US Ecology at Richland, Washington. Your shipment RF-82-028-II was sent on April 29, 1982, and received on May 5, 1982. Inspections revealed the following violations of U.S. Department of Transportation regulations.

<u>Container Number or Description</u>	<u>Summary of Violations</u>
R.S.R. #7404 Page 10 of 16, Drum #77	49 CFR 173.392(c)(1) Lack of strong tight container Lock ring broken, top off drum

Because of the nature of the violations found in this shipment, authorization to use the Richland, Washington, commercial low-level waste burial site by G.P.U. Nuclear Corporation, Three Mile Island has been suspended indefinitely. Shipments in transit prior to May 5, 1982, 12:00 Pacific Daylight Time will be admitted to the site. Further shipments will be refused pending reinstatement of site use.

If you wish to reestablish site use privileges, you must respond in writing to: Radiation Control Program, DSHS M/S LF-13, Olympia, Washington 98504. In your response, please describe the action you have taken or plan to take to bring your activities into full compliance with all applicable state and federal regulations. This should be in the form of a quality assurance program.

Sincerely,

*E. Lee Gronemyer*  
E. Lee Gronemyer, In-Charge  
Transportation and Waste Management

*Jerome A. Waite*  
Jerome A. Waite  
Radiation Health Physicist

ELG:JAW:sm

cc: Heyward G. Shealy, South Carolina  
US Ecology, Louisville, KY  
Linda Taylor, Department of Transportation  
Joel Lubenau, Nuclear Regulatory Commission  
Alex Waite, DSHS Radiation Control

John Vaden, Nevada  
US Ecology, Richland, WA  
Lee Kegley, UTC