

DISTRIBUTION:
DN 50-320
Central File
NRC PDR
Local PDR
TMI HQ r/f
TMI Site r/f
BBoger
LChandler
SEwis
EJordan
JPartlow
FSchroeder
WTravers
MMasnik
JThomas
TMosla
ACRS
Service List

October 1, 1987
NRC/TMI 87-076

Docket No. 50-320

Mr. F. R. Standerfer
Vice President/Director
Three Mile Island Unit 2
GPU Nuclear Corporation
P. O. Box 480
Middletown, PA 17057

Dear Mr. Standerfer

Subject: Staging of Hittman Solidification Liners in the Waste Handling and Packaging Facility (M65859)

In your letter of July 24, 1987 you requested NRC approval for the staging of two radioactive waste solidification liners in the Waste Handling and Packaging Facility. These two liners contain different waste form, radionuclide mix and radionuclide inventory than previously analyzed in the safety evaluations. Based on our review of the information you provided we have determined that the proposed change does not involve a significant hazard or a significant risk to the health and safety of the public. We therefore approve these changes. Our safety evaluation is enclosed.

Sincerely,

ORIGINAL SIGNED BY:
William D. Travers

William D. Travers, Director
TMI-2 Cleanup Project Directorate

Enclosure: As stated

cc: T. F. DeWitt
R. E. Rogan
W. E. Potts
S. Levin
J. J. Byrne
A. W. Miller
Service Distribution List
(see attached)

8710080434 871001
PDR ADOCK 05000320
PDR

OFFICE	TMICPD	TMICPD	TMICPD						
SURNAME	LHThonus:wa	JAThomas	WDTTravers						
DATE	10/1/87	10/1/87	10/1/87						

STAGING OF HITTMAN LINERS IN THE WASTE HANDLING
AND PACKAGING FACILITY

SAFETY EVALUATION

INTRODUCTION

The Waste Handling and Packaging Facility(WHPF) is designed to process and package radioactive and contaminated items generated by the TMI-2 cleanup. The NRC staff found the proposed operation of the WHPF acceptable and documented approval in the July 10, 1986 safety evaluation. (reference 2). By references 3 and 4 General Public Utilities Nuclear (GPUN) Corporation, the licensee, requested that the radionuclide mix and inventory allowed in the WHPF be updated to reflect the change in the mix as the cleanup and defueling progressed. The NRC staff reviewed these changes, found them acceptable and approved them in reference 5.

The current proposal would allow the use of the WHPF for inspection of two previously packaged liners. The liners contain 274 and 228 curies respectively with strontium and cesium being the principal radionuclides. The resin and sand containing the radionuclides have been solidified in concrete inside the liners.

EVALUATION

The staff has evaluated the potential offsite dose consequences of potential accidents associated with staging the two Hittman liners in the WHPF and compared the results with the previous analyses. The worst case previously assumed was 7.5 Ci of "normal" waste containing 90.3% Cs-137, 2.4% Cs-134 and 7.3% Sr-90 and an additional 7.5 Ci of "defueling" waste containing 50% Sr-90, 10% Cs-134, 34% Cs-137 and 6% transuranic (actinide) activity. The worst case accident previously analyzed was a fire in which paper, rags, and decontamination materials containing the radionuclides burned. The resultant hypothetical worst case offsite dose commitment was 119 mrem.

In the current case the radionuclide mix is 89.2% Sr-90, 7.3% Cs-137, 2.2% Sb-125 and 1.3% other radionuclides with 0.1% being actinides (including uranium and transuranics). Since the concrete will not burn the worst case accident considered was a drop of the liner. The resultant hypothetical offsite dose commitment was 7 mrem. This is well within the bounds previously analyzed and is a small part of the limits in 10 CFR 100.

CONCLUSION

The staff concludes that the staging and inspection of the Hittman liners in the WHPF does not pose a significant risk to the health and safety of the public and does not involve a significant hazard.

REFERENCES

1. GPU letter 4410-85-L-0128, F. R. Standerfer to W. D. Travers, Technical Evaluation Report for the Waste Handling and Packaging Facility, dated November 12, 1985.
2. NRC letter NRC/TM1-86-068, W. D. Travers to F. R. Standerfer, Safety Evaluation for Waste Handling and Packaging Facility and Recovery Operations Plan Change No. 34 dated July 10, 1986.
3. GPUN letter 4410-86-L-0219, F. R. Standerfer to W. D. Travers, Waste Handling and Packaging Facility Technical Evaluation Report, dated January 14, 1987.
4. GPUN letter 4410-87-L-0016, F. R. Standerfer to W. D. Travers, Waste Handling and Packaging Facility Technical Evaluation Report, dated February 2, 1987.
5. NRC letter NRC/TM1-87-017, W. D. Travers to F. R. Standerfer, Safety Evaluation for the Waste Handling and Packaging Facility dated March 5, 1987.
6. GPUN letter 4410-87-L-0062, F. R. Standerfer to W. D. Travers, Staging of Hittman Solidification Liners in the Waste Handling and Packaging Facility, dated July 24, 1987.

TMI-2 SERVICE LIST

William T. Russell
Regional Administrator
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dr. Judith H. Johnsrud
Environmental Coalition on Nuclear Power
433 Orlando Avenue
State College, PA 16801

Ernest L. Blake, Jr., Esq.
Shaw, Pittman, Potts, and Irowbridge
2300 N Street, N.W.
Washington, DC 20037

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Frederick S. Rice, Chairman
Dauphin County Board of Commissioners
Dauphin County Courthouse
Front and Market Streets
Harrisburg, PA 17101

Thomas M. Gerusky, Director
Bureau of Radiation Protection
Department of Environmental Resources
P. O. Box 2063
Harrisburg, PA 17120

Ad Crable
Lancaster New Era
8 West King Street
Lancaster, PA 17601

U.S. Department of Energy
P. O. Box 88
Middletown, PA 17057

David J. McGoff
Office of LWR Safety and Technology
NE-23
U.S. Department of Energy
Washington, DC 20545

William Lochstet
104 Davey Laboratory
Pennsylvania State University
University Park, PA 16802

Frank Lynch, Editorial
The Patriot
812 Market Street
Harrisburg, PA 17105

Robert B. Borsum
Babcock & Wilcox
Nuclear Power Division
Suite 220
7910 Woodmont Avenue
Bethesda, MD 20814

Michael Churchhill, Esq.
PILCOP
1315 Walnut Street
Suite 1632
Philadelphia, PA 19107

Marvin I. Lewis
7801 Roosevelt Blvd. #62
Philadelphia, PA 19152

Jane Lee
183 Valley Road
Etters, PA 17319

Walter W. Cohen, Consumer
Advocate
Department of Justice
Strawberry Square, 14th Floor
Harrisburg, PA 17127

Mr. Edwin Kintner
Executive Vice President
General Public Utilities
Nuclear Corporation
100 Interpace Parkway
Parsippany, NJ 07054

U.S. Environmental Prot. Agency
Region III Office
Attn: EIS Coordinator
Curtis Building (Sixth Floor)
6th and Walnut Streets
Philadelphia, PA 19106