

UNITED STATES NUCLEAR REGULATORY COMMISSION

In the Matter of:            )  
                                  )  
HITTMAN NUCLEAR &         )  
DEVELOPMENT CORPORATION)

---

Docket No. 99900768/82-01

REQUEST FOR RECONSIDERATION  
OF VIOLATION NOTICE

1. INTRODUCTION

Hittman Nuclear & Development Corporation ("HNDC") received by letter dated August 6, 1982, a notice from the United States Nuclear Regulatory Commission's ("NRC's") Region IV that NRC inspectors found two violations by HNDC of NRC regulations. The NRC letter, Notice of Violation and Inspection Report No. 99900768/82-01 are attached hereto as Exhibit 1.

Violation B in the Notice of Violation states:

- B. Section 21.51(b) of 10 CFR Part 21, dated December 18, 1982, states in part, "Each individual, corporation, partnership, or other entity subject to the regulations in this part shall prepare records in connection with the design, manufacture, fabrication, placement, erection, installation, modification, inspection, or testing of any facility, basic component supplied for any licensed facility or to be used in any licensed activity sufficient to assure compliance with regulations in this part. After delivery of the facility or component and prior to the destruction of the records relating to evaluations (see § 21.3(g)) or notifications to the Commission (See § 21.21), such records shall be offered to the purchaser of the facility or component."

Contrary to the above, records were not prepared with respect to failures (in February through June 1981 testing) of Flextron Urethane 66-11 foam to meet the energy absorption characteristics described in the NRC approved Safety Analysis Report (page 71) for the HN-200 cask.

This is a Severity Level V Violation (Supplement VII).

HNDC contends that the finding of violation of 10 CFR § 21.51(b) of NRC regulations is based on an insufficient knowledge of the facts involved. Reconsideration of this alleged violation is therefore requested taking into account the Affidavit of Barry Koh (Exhibit 2), the Affidavit of Charles W. Mallory (Exhibit 3) and the argument set forth below.

## II. ARGUMENT

HNDC is not in violation of 10 CFR § 21.51(b) for the reason that tests made by HNDC from February to June 1981 of Flextron Urethane 66-11 foam were not conducted for the purpose of using the foam in the HN-200 transportation casks, an NRC licensed activity. The tests were conducted to screen foam from various manufacturers for use in new impact skirts to be designed by HNDC and subsequently licensed by NRC. Exhibit 2, Para. 7; Exhibit 3, Para. 5.

The Flextron Urethane 66-11 foam actually used in the HN-200 transportation casks, if tested, would fall within the ambit of 10 CFR § 21.51(b) and record-keeping would be required. However, HNDC conducted no tests on the foam used in NRC licensed activities during the period February through June, 1981. Exhibit 3, Para. 8. Subsequent tests of the Flextron Urethane 66-11 foam used in the licensed casks were conducted by HNDC on April 8 and 15, 1982. As a result of these tests, the foam in the licensed casks was found to meet NRC requirements. Records of the April, 1982 tests were duly made and retained by HNDC. Exhibit 2, Para. 7; Exhibit 3, Para. 9.

NRC regulations at 10 CFR § 21.51(b) state in pertinent part:

Sec. 21.51. Maintenance of records. (a) Each licensee of a facility or activity subject to the regulations in this part shall maintain such records in connection with the licensed facility or activity as may be required to assure compliance with the regulations in this part.

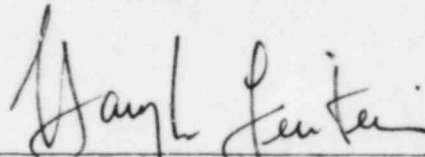
(b) Each individual, corporation, partnership, or other entity subject to the regulations in this part shall prepare records in connection with the design, manufacture, fabrication, placement, erection, installation, modification, inspection, or testing of any facility, basic component supplied for any licensed facility or to be used in any licensed activity sufficient to assure compliance with the regulations in this part.

The operative language in this section is found in 10 CFR § 21.51(a). It reads: "Each licensee of a facility or activity subject to the regulations in this part shall maintain such records in connection with the licensed facility or activity. . . ." Here, the screening tests of Flextron and other foams from February through June, 1981 was not done in connection with the "licensed facility or activity." Instead, the testing was a precursor to a decision to be made for a new design to be submitted to NRC for future licensing approval. Screening of other manufacturers' foam samples continued until September, 1981, when a foam was selected having properties sufficient to meet previous NRC licensing requirements for HN-200 casks. Design work then continued on the new impact skirt design until an application for approval of the design modification was submitted to NRC on August 26, 1982. As of October 1, 1982, neither the Flextron Urethane 66-11 foam nor any other foam tested in connection with the new design of the impact skirt has been used in any "licensed facility or activity." Exhibit 2, Para. 9.

III. CONCLUSION

For the reasons given above, HNDC requests NRC to find that no violation of 10 CFR § 21.51(b) occurred as a result of the screening tests of Flextron Urethane 66-1i foam during the period February through June, 1981. Since NRC regulations were not violated, HNDC further requests that the text of Violation B as well as pages four and five of Inspection Report No. 99900768/82-01 be excised and deleted from NRC documents to be placed in the Public Document Room as a result of the Violation Notice transmitted to HNDC by letter of August 6, 1982 from NRC's Region IV.

Respectfully Submitted



Harry Feinstein, General Counsel  
9190 Red Branch Road  
Columbia, Maryland 21045

September 30, 1982



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

Exhibit 1

REGION IV  
611 RYAN PLAZA DRIVE, SUITE 1000  
ARLINGTON, TEXAS 76011

AUG 06 1982

Docket No. 99900768/82-01

Hittman Nuclear & Development  
Company, Inc.  
ATTN: Mr. Barry Koh  
Vice President and  
General Manager  
9190 Red Branch Road  
Columbia, MD 21045

Gentlemen:

This refers to the inspection conducted by Mr. Wm. M. McNeill of this office on January 29, and February 16-18, 1982, of your facility at Columbia, Maryland, associated with the design of nuclear transportation casks and to the discussions of our findings with you and members of your staff at the conclusion of the inspection.

This inspection was made as a result of the receipt of an allegation by Region I on the leak tightness and impact resistance of the HN-100, HN-100S, and HN-200 shipping casks.

Areas examined and our findings are discussed in the enclosed report. Within these areas, the inspection consisted of an examination of procedures and representative records, interviews with personnel, and observations by the inspector.

During the inspection it was found that the implementation of your QA program failed to meet certain NRC requirements. The specific findings and references to the pertinent requirements are identified in the enclosures to this letter.

This Notice of Violation is sent to you pursuant to the provisions of the Energy Reorganization Act of 1974 Section 206. You are required to submit to this office within 30 days from the date of this letter a written statement containing: (1) a description of steps that have been or will be taken to correct these items; (2) a description of steps that have been or will be taken to prevent recurrence; and (3) the date

DESIGNATED ORIGINAL

Certified By Rheanne Clark

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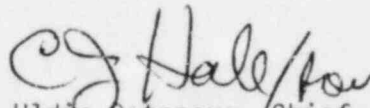
your corrective actions and preventive measures were or will be completed. Consideration may be given to extending your response time for good cause shown.

The response requested by this letter is not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you believe to be exempt from disclosure under 10 CFR 9.5(a)(4), it is necessary that you (a) notify this office by telephone within 10 days from the date of this letter of your intention to file a request for withholding; and (b) submit within 25 days from the date of this letter a written application to this office to withhold such information. If your receipt of this letter has been delayed such that less than seven days are available for your review, please notify this office promptly so that a new due date may be established. Consistent with Section 2.790(b)(1), any such application must be accompanied by an affidavit executed by the owner of the information which identifies the document or part sought to be withheld, and which contains a full statement of the reasons on the basis which it is claimed that the information should be withheld from public disclosure. This section further requires the statement to address with specificity the considerations listed in 10 CFR 2.790(b)(4). The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified periods noted above, the report will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

  
Uldis Potapovs, Chief  
Vendor Program Branch

Enclosures:

1. Appendix A - Notice of Violation
2. Appendix B - Inspection Report No. 99900768/82-01
3. Appendix C - Inspection Data Sheets (3 pages)

APPENDIX A

Hittman Nuclear & Development  
Company, Inc.  
Docket No. 99900768/82-01

NOTICE OF VIOLATION

As a result of the inspection conducted on January 29, and February 16-18, 1982, and in accordance with the Section 206 of the Energy Reorganization Act of 1974 and its implementing regulation 10 CFR Part 21, the following violations were identified and have been categorized in accordance with the NRC Enforcement Policy (10 CFR Part 2, Appendix C), 47 FR 9987 (March 9, 1982):

- A. Section 21.21(a) of 10 CFR Part 21, dated December 18, 1981, states in part, "Each individual, corporation, partnership or other entity subject to the regulations in this part shall adopt appropriate procedures to (1) provide for (i) evaluation deviations or (ii) informing the licensee or purchaser of the deviation in order that the licensee or purchaser may cause the deviation to be evaluated . . . and (2) assure that a director or responsible officer is informed if the . . . basic component supplied . . . (i) Fails to comply . . . relating to a substantial safety hazard, or (ii) Contains a defect."

Contrary to the above, procedures had not been adopted to provide for: (1) evaluating deviations or informing the licensee or purchaser; and (2) assuring that a director or responsible officer was informed if the supplied basic component (a) failed to comply or (b) contained a defect.

This is a Severity Level V Violation (Supplement VII).

- B. Section 21.51(b) of 10 CFR Part 21, dated December 18, 1981, states in part, "Each individual, corporation, partnership, or other entity subject to the regulations in this part shall prepare records in connection with the design, manufacture, fabrication, placement, erection, installation, modification, inspection, or testing of any facility, basic component supplied for any licensed facility or to be used in any licensed activity sufficient to assure compliance with regulations in this part. After delivery of the facility or component and prior to the destruction of the records relating to evaluations (see § 21.3(g) or notifications to the Commission (see § 21.21), such records shall be offered to the purchaser of the facility or component."

Contrary to the above, records were not prepared with respect to failures (in February through June 1981 testing) of Flextron Urethane 66-11 foam to meet the energy absorption characteristics described in the NRC approved Safety Analysis Report (page 71) for the HN-200 cask.

This is a Severity Level V Violation (Supplement VII).



ORGANIZATION: HITTMAN NUCLEAR & DEVELOPMENT COMPANY, INC.  
COLUMBIA, MARYLAND

REPORT NO.:	99900768/82-01	INSPECTION DATE(S)	1/29/82 and 2/16-18/82	INSPECTION ON-SITE HOURS:	27
CORRESPONDENCE ADDRESS: Hittman Nuclear & Development Company, Inc. ATTN: Mr. Barry Koh, Vice President and General Manager 9190 Red Branch Road Columbia, MD 21045					
ORGANIZATIONAL CONTACT: Mr. Barry Koh, Vice President and General Manager TELEPHONE NUMBER: (301) 730-7800					
PRINCIPAL PRODUCT: Transportation Services.					
NUCLEAR INDUSTRY ACTIVITY: Transportation services for waste disposal.					
ASSIGNED INSPECTOR:	<u>W. M. McNeill</u>			<u>3/24/82</u>	Date
	W. M. McNeill, Reactive & Components Program Section (R&CPS)				
INVESTIGATOR:	R. E. Shepherd, RI				
APPROVED BY:	<u>I. Barnes</u>			<u>3/25/82</u>	Date
	I. Barnes, Chief, R&CPS				
INSPECTION BASES AND SCOPE:					
A. <u>BASES:</u> 10 CFR Part 71, Appendix E and 10 CFR Part 21.					
B. <u>SCOPE:</u> This inspection was made as a result of the receipt by Region I of the Nuclear Regulatory Commission of allegations pertaining to the quality of the Hittman HN-100 (Series 1), HN-100S, and HN-200 shipping casks. In particular, the allegations related to leakage of cask lids and the impact resistance of the HN-200's impact limiter.					
PLANT SITE APPLICABILITY:					
Not identified.					

82-08190280

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A. VIOLATIONS:

1. Contrary to paragraph 21.21(a) of 10 CFR Part 21, procedures had not been adopted to provide for: (1) evaluating deviations or informing the licensee or purchaser; and (2) assuring that a director or responsible officer was informed if the supplied basic component (a) failed to comply or (b) contained a defect.
2. Contrary to paragraph 21.51(b) of 10 CFR Part 21, records were not prepared with respect to failures (in February through June 1981 testing) of Flextron Urethane 66-11 foam to meet the energy absorption characteristics described in the NRC approved Safety Analysis Report (page 71) for the HN-200 cask.

B. NONCONFORMANCES:

None

C. UNRESOLVED ITEMS:

None

D. OTHER FINDINGS OR COMMENTS:

1. This inspection was performed concurrently with an investigation by the Region I Investigation and Enforcement Staff. Investigative findings are contained in Report No. 99900768/82-02.
2. Background  

The Hittman casks in question, models HN-100 (series 1), HN-100S, and HN-200 are designed to carry low specific activity material, namely process solids. These casks are used by power utilities to ship wastes to burial sites. The casks can be described in general as right circular cylinders with a height of six to seven feet and diameter of five to seven feet depending on the model. The inner annulus is five to six feet deep and five to six feet in diameter. A maximum load of 11,000 to 17,000 pounds can be carried giving the casks a gross weight of 20 to 25 tons (short).

Casks, lids and bases are constructed from rolled steel plate and contain lead shielding. The lids are bolted to the casks with 24 or 30 (depending on model) one inch bolts.

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The lids are sealed with  $\frac{1}{2}$  inch O-Rings. The HN-200 cask has two impact limiters on each end. These assemblies have eight to ten inches of urethane foam encased in steel sheet metal. P.X. Engineering fabricated the two model 100S casks and two of the HN-100 (series 1) casks. NL Industries fabricated three HN-100 (series 1) casks and Ionics fabricated the one HN-200 cask.

3. Leakage

Hittman acknowledged that from approximately 1971 to 1979 casks of these types were found at a significant frequency at sites with water in them from unaccountable sources. In October and November 1979, a number of corrective action steps were taken. A procedure was implemented which addressed the torque sequence and limits to be used in lid closure. Site personnel were trained to follow this procedure. Canvas covers over the casks were used for shipments. Guide pins which held the O-Rings in place were replaced with slightly larger diameters. Regular inspection and replacement of the O-Rings was begun on a quarterly basis. It was noted that this problem has not occurred with the HN-100 (series 2) cask which has a flat  $\frac{1}{4}$  x  $\frac{3}{8}$  inch gasket and ratchet locking bolts. The leakage problem has decreased since late 1979, and the institution of the above corrective actions. This had been verified at sites by Hittman and the NRC inspector. Some changes have been made to the torquing procedure since 1979, namely use of higher torque limits and an additional torque sequence.

4. Foam

Hittman acknowledged that foam had been removed from the original impact limiter. The original impact limiter assembly did not have a sheet metal skin around it. The steel skin was made and the foam inserted into it. In order to accomplish this, the foam was trimmed to fit. The drawing, Safety Analysis Report and Certificate of Compliance were revised to reflect this modification of the impact limiter. These documents have been approved by the NRC. Hittman was not aware of any void areas under the steel skin of the impact limiter.

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RESULTS:

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In regard to the foam's energy absorption characteristics, Hittman acknowledged that a sample of foam had failed. Hittman maintained that this test was not representative of the foam bought in 1971 for the original impact limiter. Hittman could not find during the first visit on January 28, 1982: the test data in question; records certifying the original foam; evidence that the samples tested were different from the original foam; or records of the bases for the energy absorption characteristic curve. The inspection was unannounced which limited Hittman's ability to recall records from files. Records pertaining to the above were reviewed during the February 16-18, 1982, portion of the inspection.

Hittman does not have a written procedure addressing 10 CFR Part 21. 10 CFR Part 21 is documented as part of the QA training of Hittman personnel. 10 CFR Part 21 is posted; however, procedures had not been documented for evaluation of deviations, informing the personnel officer of evaluations, informing the Commission as appropriate, transmission of Part 21 in procurement, and control of records of evaluations. This was identified as a violation (see paragraph A.1).

Hittman stated that they did perform an informal review of the foam's energy absorption characteristic problem in light of 10 CFR Part 21. However, this review was not documented. This was identified as a violation (see paragraph A.2). This testing was viewed by Hittman as informal "screening," for the purpose of establishing vendor suitability. It was noted that testing did not follow QA program requirements with respect to approval and use of written test procedures.

Testing was performed on at least five occasions. On February 26, 1981, samples of foam and other material were given to a Hittman engineering team. Shortly after, some additional samples were sent by Flextron to Hittman which were not testable because of their shape. On or about March 18, 1981, one or more samples formed in tubes were picked up at Flextron by Hittman personnel. On June 16, 1981, an engineering-purchasing team witnessed a sample prepared in a tube. After that visit, Flextron sent a sample which was not formed in a tube but in a mold. All of these foam samples were identified as Unidur Formulation 66-11 rigid urethane except for the February samples. All of these samples reportedly failed the energy absorption testing and except for the last sample; all were reportedly high in density. Records of the test results exist only for the March 18 and June 16, 1981, samples.

ORGANIZATION: HITTMAN NUCLEAR & DEVELOPMENT COMPANY, INC.  
COLUMBIA, MARYLAND

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It is apparent from the above, that evidence existed indicating that the foam would not meet the energy absorption characteristics described in the Safety Analysis Report.



DOCUMENTS EXAMINED

1	2	TITLE/SUBJECT	3	4
TRSM-011	8	SERVICE MANUAL (200)		
HNDX-0-101-3	3	CASK HANDLING PROCEDURE		2
" 0-2000-1	3	STUD TORQUING PROCEDURE		1
TRSM-010	8	SERVICE MANUAL (100S)		
TSM-008	8	" " (100 SERIES I)		
HNDX-0-100S	3	STUD TORQUING PROCEDURE		1
HNDX-0-1001	3	" " "	12/3/79	1
	8	SAFETY ANALYSIS REPORT		2
	9	HYDROSTATIC TESTING CERTIFICATIONS BY PX ENGINEER FOR 100S & 100 SERIES I CASKS (13)		

Columns:

- 1. Sequential Item Number
- 2. Type of Document
- 3. Date of Document
- 4. Revision (If applicable)

Document Types:

- 1. Drawing
- 2. Specification
- 3. Procedure
- 4. QA Manual

- 5. Purchas Order
- 6. Internal Memo
- 7. Letter
- 8. Other (Specify-if necessary)
- 9. REPORTS

Inspector H. TITMAN

Scope/Module 99900768

DOCUMENTS EXAMINED

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1	2	TITLE/SUBJECT	3	4
7218	8	Flextron Quotation	JAN 24 '73	-
-	6	SPEED LETTER ELDER YO JOHNSTON	6-16-81	-
40518	8	(RFQ) REQUEST FOR QUOTE	3-12-81	-
-	8	P.O. FILE OF NUMBERS	-	-
-	8	TIME SHEETS ELDER ERAT MENTWIG	WK OF FEB 26	-
TSR-81-263	6	TECHNICAL SUPPORT REQUEST	5-18-81	-
" 91-328	6	" "	6-12-81	-
-	9	CALCULATION SHEET - JUNE TESTING	6-16-81	-
-	6	DESIGN REVIEW MEMO MARCH 3	MARCH 5 '81	-
-	6	" " " " " " " " " "	APRIL 1 '81	-
-	6	" " " " " " " " " "	APRIL 7 '81	-
HN-57042	6	KOCH TO MRC DONALD RENEWAL LETTER ON HN 200	APR 10 '79	-
HNDC-200	4	QA Program for the use of Radwaste Shipping Packages	5-1-81	1
-	8	FINAL INSPECTION RECORDS OF (S) 100SR (72005) (2)	-	-
N35925	5	P.O. for ARESS-GAGE & ITS RECEIVER DATED 7-25	7-23-80	-
-	-	TRAINING OUTLINES USED ON 2-24-81, 2-20, 175-	-	-

Document Types:

1. Drawing
2. Specification
3. Procedure
4. QA Manual

5. Purchas Order
6. Internal Memo
7. Letter
8. Other (Specify-if necessary)
9. REPORT

Columns:

1. Sequential Item Number
2. Type of Document
3. Date of Document
4. Revision (If applicable)