

040 02253

VOID SHEET

TO: License Fee Management Branch

FROM: RI

SUBJECT: VOIDED APPLICATION

Control Number: 118585

Applicant: Department of the Army

Date Voided: 9-21-96

Reason for Void: The AMENDMENT REQUEST WAS NEVER
A LICENSING ACTION FOR THE NRC.
BEFORE REVIEW. SUB-238/040-02253

Rebecca J. Brown 9/21/96
Signature Date

Attachment:
Official Record Copy of
Voided Action

FOR LFMB USE ONLY

Final Review of VOID Completed:

Refund Authorized and processed

No Refund Due

Fee Exempt or Fee Not Required

Comments: _____

Log completed

Processed by: _____

9610150205 960921
PDR ADOCK 04002253
C PDR

OFFICIAL RECORD COPY ML 10



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY

U.S. ARMY LABORATORY COMMAND
MATERIALS TECHNOLOGY LABORATORY
WATERTOWN, MASSACHUSETTS 02172-0001

August 26, 1992

SUB-238
040-02253

040-02253
SUB-238

SLCMT-DD

Mr. Mark Bouwens
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, Pennsylvania 19406

Dear Mr. Bouwens:

Reference Former Watertown Arsenal, Watertown, Ma, Project No D01MA001901.

Thank you for the Arsenal Mall History which accompanied your letter dated 23 July 1992.

As requested in your letter, enclosed is the two part archival search which was conducted for the subject project. Also enclosed is a copy of Corps of Engineer-NED's draft scope of work for the Preliminary Assessment. A copy of the draft Preliminary Assessment Report will be sent to your office in January 1993. The final Preliminary assessment Report will be forwarded in March 1993.

All other information concerning surveys done by NED, reports and site plans were forwarded to you by the 8 June 1992 letter from Mr. Richard D. Readon of NED.

The sampling plan for the survey planned for the Arsenal Apartments, Arsenal Condominiums and Harvard Community Health areas was forwarded to you by this office on 10 August 1992.

Once the Preliminary Assessment Report is finalized, additional sampling will be performed if it is warranted. Presently, the only additional sampling planned is that which was forwarded to you on 10 August 1992.

Your letter indicates that the objective of the Preliminary Assessment is to determine and document the current radiological condition of the Mall property and to determine if it is suitable for unrestricted use. This is partially correct. The Preliminary Assessment is not solely concentrating on radiological materials. Per the Massachusetts Contingency Plan, it will also include all hazardous materials. The Mall property is not the only focus. The entire former Watertown Arsenal will be studied. This includes the Arsenal Mall, Arsenal Apartments, Arsenal Condominiums, Arsenal Park, Harvard Community Health and the GSA properties.

118585

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AUG 25 1993

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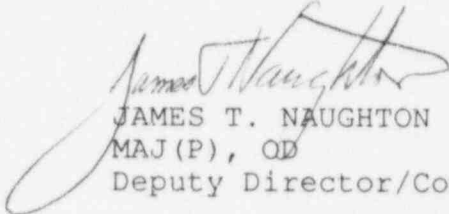
SLCMT-DD
1992

August 21,

If you have any questions, please contact Mr. Robert Chase of this office at (617) 923-5605 or Ms. Beverly Lawrence of NED at (617)-647-8512.

Sincerely,

Enclosures



JAMES T. NAUGHTON
MAJ(P), OD
Deputy Director/Commander

CF:
w/o enclosures

U.S. Army Engineer Division, New England
ATTN: CENED-ED/Mr. Richard D. Reardon
424 Trapelo Road
Waltham, Massachusetts 02254-9149

U.S. Army Laboratory Command
ATTN: AMSLC-RK/Mr. Michael Borisky
2800 Powder Mill Road
Adelphi, Maryland 200783-1145

SCOPE OF WORK
TO CONDUCT A
PRELIMINARY ASSESSMENT
FOR THE
FORMER WATERTOWN ARSENAL
WATERTOWN, MASSACHUSETTS

AUGUST 25, 1992

INDEX
TO
SCOPE OF WORK
TO CONDUCT A
PRELIMINARY ASSESSMENT
FOR THE
FORMER WATERTOWN ARSENAL
WATERTOWN, MASSACHUSETTS

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1. DESCRIPTION

Conduct a Preliminary Assessment for the Former Watertown Arsenal located in Watertown, Massachusetts.

2. BACKGROUND

2.1 The Former Watertown Arsenal became such in 1968 when two parcels of land were separated from the land which is now known as the Army Materials Technology Laboratory. The two parcels of land consist of an approximately 59 acre parcel and an approximately 12 acre parcel.

2.2 The approximately 59 acre parcel was sold to the Watertown Redevelopment Authority in 1968. It has since been developed into the Arsenal Mall, Arsenal Park, Arsenal Apartments, Arsenal Condominiums and the Harvard Community Health.

2.3 The approximately 12 acre parcel was not sold, and remains the property of the General Services Administration.

2.4 The parcels are outlined in Figure 1. These parcels are referred to as "the site" or "the Former Watertown Arsenal" in this scope of work.

3. SCOPE

The Architect-Engineer (A-E) shall perform all necessary services to conduct a Preliminary Assessment for the Former Watertown Arsenal in accordance with this scope of work, the requirements of Massachusetts General Law 21E and the Massachusetts Contingency Plan (310 CMR 40.00) which are applicable to the site.

The A-E shall submit a proposed work plan of how the work will be accomplished within 20 days after award. The A-E shall submit a monthly progress report stating the status of the project, what has been done to date, what is scheduled to be done the next month, people contacted, meetings attended, and any problems encountered.

3.1 Past Studies

The A-E shall summarize and compile all previous studies, sampling and analyses which have been carried out at the site, that are available to the A-E. (Much of this information is available from the Project Manager, but additional information found by the A-E during the historical records review should also be included).

3.1.1 The information available from the Project Manager includes a two part archival study conducted on the site in 1991, and sampling and testing conducted between 1966

and 1991. The information also includes past radiological studies done by the Former Watertown Arsenal, the Watertown Redevelopment Authority and the Department of Energy and Chemical Nuclear Systems Inc. A Comprehensive Site Assessment for the GSA parcel is included in this information.

3.2 Historical Records Review

The A-E shall conduct a thorough search of background and historical land use information on the site and adjacent properties to provide a basis for identifying potential releases of hazardous, toxic, ordnance and explosive waste (OEW) and radioactive waste at the site which may have been caused by activities of the Former Watertown Arsenal.

The A-E shall gather information on past land use practices to identify processes, potential waste products generated from those processes, hazardous materials and OEW stored and/or used on the site and adjacent properties to determine any former Army usage. The A-E shall list materials used and waste which was generated. The A-E shall identify potential areas of disposal and disposal practices. The A-E shall include identification of on-site disposal and disposal at the former Town Dump and Incinerator site, now referred to as Filippelo Park. The A-E shall identify the types of waste, what was in the waste and quantities disposed of at each disposal location.

The A-E shall determine the ultimate disposal of hazardous materials, how radiological waste was handled and its final destination. The A-E shall provide to the Project Manager copies of the records or statements which indicate where the hazardous and radioactive wastes were disposed. These records shall also be included in the report.

The A-E shall determine, through research and interviews, locations where OEW may have been abandoned by the Army when the site was excessed. Since OEW is a safety hazard and constitutes an imminent and substantial endangerment to the public, any location on which OEW is thought to be present shall be reported to the project manager.

The A-E shall research all potential areas where files may exist concerning the Former Watertown Arsenal, including but not limited to: records at the Army Materials Technology Laboratory, Town of Watertown Library, Watertown Town Hall and other local offices, Corps of Engineers files, existing site owners files, (including GSA files in Boston and New York), Nuclear Regulatory Commission in King of Prussia, Pennsylvania, Department of Energy, citizens of Watertown files, and former Watertown Arsenal employees' files.

The record search shall include the search for all license applications, determination of which radioactive isotopes were used on the site and the locations of where each were used.

The Preliminary Assessment shall not be limited to the site during Army ownership. The assessment shall also include the evaluation of the use of the property from the time the government sold it in 1968 through the time the Watertown Redevelopment Authority sold it to the developer, as well as the development of the site into its current use.

The A-E's review of files shall include the review of the Watertown Redevelopment Authority files as well as review of all construction files and drawings prepared when the 59 acre parcel was developed into its existing land use. The Watertown Development Files are located in the basement of the Coolidge School on Mt. Auburn Street in Watertown, MA. POC to set up an appointment to view the files is the project manager. Give at least a 48 hour notice. Other Watertown Redevelopment Authority files are located in the Town Hall, Planning Department (minutes of meetings) and the Conservation office.

The A-E shall evaluate the construction records from when the 59 acre parcel was developed in the 1980's. This evaluation shall include (as a minimum) information on the following:

- the destruction of buildings and the ultimate disposal location of the building rubble and construction debris
- the cut and fills made to property
- any tanks or items found or removed during development

The A-E's review shall also include the search for existing and historical aerial photographs.

The A-E shall also review historical photographs. Some of these photographs are located at the Corps of Engineers office in Waltham, MA.

The A-E shall also review the two part archival study which was conducted in 1991 and further investigate cited documents.

The A-E shall determine the past use of buildings which are currently left remaining on the site. The A-E shall delineate which buildings or portions of buildings on the site were renovated and those which are newly constructed by the developer.

3.3 Regulatory/Legal Records Review

The A-E shall conduct a regulatory/legal records review. This review shall consist of a detailed file search at the federal, state and local regulatory offices to identify existing or potential releases of oil or hazardous materials on the site and surrounding properties. The review shall also include review of available Atomic Energy Commission (AEC) and Nuclear Regulatory Commission (NRC) files regarding the two parcels.

3.4 Interviews

As a minimum, the A-E shall interview citizens of the Town of Watertown, members of the former Watertown Redevelopment Authority, property owners and former employees who may have been familiar with the operations of the Former Watertown Arsenal and/or the development of the site. A list of some people who should be included in these interviews is included in Appendix B. The A-E is also responsible for locating and interviewing other people that are not on the list.

The A-E shall document all interviews. The A-E shall also document all people that were contacted or that they tried to contact, whether or not any useful information was obtained.

3.5 Site Visits

The A-E shall visit both parcels of the Former Watertown Arsenal. The initial site visit should be coordinated with the Project Manager so arrangements can be made with the property owners. Additional site visits can be coordinated directly with the property owners.

3.6 Potential Pathways

The A-E shall characterize the potential for direct human contact and potential pathways of exposure to hazardous materials from the site.

3.7 Additional Work Required Pertaining to the GSA Parcel

Determine Army use or ownership of the land directly abutting the current GSA property through a deed and record search.

The A-E shall research deed transfers to identify the ultimate property owner of the GSA site as well as the ultimate zoning of the site.

A Comprehensive Site Assessment was prepared for the GSA site by Chem-Nuclear in 1990. The A-E shall clarify the status and the need for a Phase II Study.

The A-E shall determine the ultimate property owner of the GSA site as well as the ultimate zoning of the site.

3.8 Additional Points to Consider

The NRC has developed a list of questions which the A-E shall address during the project and shall document the findings in the Preliminary Assessment. These issues involve the 59 acre parcel in particular. The issues are outlined in the July 23, 1992 letter from the NRC, reference 7.1.15.

4. Preliminary Assessment Report

4.1 The A-E shall prepare the Preliminary Assessment Report in accordance with the draft outline included as Appendix A.

4.2 The Report shall include drawings of the former site land uses as well as a drawing of the existing land use and an overlay of the two drawings.

4.3 The Report shall summarize all information gathered during previous studies as well as information gathered by the A-E during the records reviews, interviews and site visits.

4.4 The Report as a minimum shall include the following:

4.4.1 Information related to soils, geology, groundwater flow, adjacent hazardous waste sites, etc.

4.4.2 Information related to buildings/areas where oil, hazardous, radioactive, OEW materials were stored, used or disposed.

4.4.3 Information relating to licenses and licensees for radioactive materials.

4.4.4 Identification of potential environmental releases.

4.4.5 Identification of locations and media where sampling should be conducted.

4.4.6 Identification of potential human and environmental receptors.

5. Coordination

During the prosecution of the work, the A-E shall keep in close liaison with the Corps of Engineers Project Manager, Ms. Beverly Lawrence at (617) 647-8512.

6. Meetings

The A-E shall prepare a Memorandum for Record (MFR) for all meetings attended with the project manager. A copy of the MFR shall be submitted to the project manager within 7 calendar days after the meeting. A MFR is not required for interviews.

The A-E shall attend two Watertown Reuse Committee Meetings. These meetings are usually held once a month on Monday evenings starting at approximately 7:00 p.m. The A-E shall be prepared to give a presentation of the status of the Preliminary Assessment at each of the meetings. These meetings are usually attended by the citizens of Watertown as well as the state regulators.

7. References

7.1 To be provided by the project manager

7.1.1 Archival Review Formerly Used Defense Site (FUDS) Watertown Arsenal, by The Public Archaeology Laboratory, Inc. dated July 1991 (Revised February 1992)

7.1.2 Archival Review Formerly Used Defense Site (FUDS) Watertown Arsenal, by Linda C. Genovese, dated December 1991

7.1.3 Comprehensive Site Assessment, for the GSA site, by Chem Nuclear, dated 1990.

7.1.4 Results of the radiological survey completed at the Arsenal Mall parking area by GZA GeoEnvironmental, Inc. on June 6, 1991

7.1.5 Results of the radiological survey completed at the Arsenal Park by Bolton & Galanek, Inc. on August 28, 1991.

7.1.6 Analytical Data Report, Arsenal Park, by New England Division Corps of Engineers, dated September 6, 1991.

7.1.7 Proposed plan for radiological survey to be performed at the Arsenal Condominiums, Arsenal Apartments and Harvard Community Health.

7.1.8 Various radiological surveys performed on the GSA property

7.1.9 Site Plan of the Arsenal Park, dated October 1982.

7.1.10 Site Plan of the Arsenal Mall, Arsenal Apartments, Arsenal Condominiums and Harvard Community Health, dated April 1, 1985.

7.1.11 Decontamination of Building 41, Watertown Arsenal, by Isotopes, June 1969

7.1.12 Radiological Survey of the Building Site 421, United States Watertown Arsenal, Watertown, MA, by Department of Energy, DOE/EV-0005/19, February 1980

7.1.13 Radiological Survey of the Former Watertown Arsenal Property Site 34 and Site 41, Watertown, Massachusetts, by Department of Energy, DOE/EV-0005/37, October 1983

7.1.14 Radiological Survey of the Former Watertown Arsenal Property GSA Site, Watertown, Massachusetts, by Department of Energy, DOE/EV-0005/38, October 1983

7.1.15 Letter dated July 23, 1992, from NRC to Army Materials Technology Laboratory, with history attached, subject: Watertown Arsenal Mall Property

7.2 To be viewed at Corps of Engineers, New England Division (NED) office in Waltham, MA (most items may be photocopied at NED)

7.2.1 Photographs of the Watertown Arsenal, 1940's era, 5 volumes (located in library)

7.2.2 Project files of project managers, Ms. Beverly Lawrence and Dr. Ian Osgerby

7.2.3 Real Estate files of the site, includes old maps etc...

7.2.4 Documents on the active Army Materials Technology Laboratory, including Decommissioning Plan for the Research Reactor, Decommissioning Plan for the Facilities, Radiological Field Survey Report, Work Plan for RI, draft RI (when available).

7.2.5 Drawing and microfiche files

8. Submissions

All submissions shall be delivered to:

NED
DEP
DPH
Reuse Committee
NRC

9. Completion Schedule

The A-E shall submit all work within the following time limits and provide the quantities shown below:

<u>Submittal</u>	<u>Quantity</u>	<u>Submission Required</u>
Work Plan	10	Within 20 calendar days from Notice to Proceed
Monthly Progress Report	10	Within 30 days from Notice to Proceed and monthly thereafter until project completion
Draft Report	20	Within 120 calendar days from Notice to Proceed
Final Report	25	Within 30 calendar days from receipt of comments on the draft report

10. Government Review

The Government will review the draft report within 30 calendar days after receipt of the report.

APPENDIX A

PRELIMINARY ASSESSMENT REPORT OUTLINE

<u>SECTION</u>	<u>TITLE</u>
1	INTRODUCTION
	1.1 Background
	1.2 Objectives
	1.3 Procedures
	1.4 Report Format
2	PROPERTY CHARACTERIZATION
	2.1 General Property Description and History
	2.2 Description of Facilities
	2.3 General Environmental Information
	2.4 Past Environmental Studies
	2.5 Permitting Status
3	AREAS REQUIRING ENVIRONMENTAL EVALUATION
4	HUMAN AND ENVIRONMENTAL RECEPTORS
	4.1 Releases to Groundwater
	4.2 Releases to Surface Water
	4.3 Releases to Soil
	4.4 Releases to Air
	4.5 Other Hazards
5	CONCLUSIONS AND RECOMMENDATIONS
6	REFERENCES
7	MAPS AND PHOTOGRAPHS

APPENDIX B

PEOPLE TO INTERVIEW REGARDING THE FORMER SITE

The A-E shall conduct interviews with the following people (as a minimum).

1. Beverly Lawrence, Corps of Engineers, Waltham, MA
(617) 647-8512
2. Ian Osgerby, Corps of Engineers, Waltham, MA
(617) 647-8703
3. Mary McDonald, Corps of Engineers, (Real Estate),
Waltham, MA, (617) 647-8090
4. Linda Genovese, Archivist, (project manager will provide
phone number)
5. Robert Chase, Army Materials Technology Laboratory,
Watertown, MA (617) 923-5605
6. Michael Borisky, LABCOM, Adelphi, MD
(301) 394-2218
7. Phyllis Breland, USATHAMA, Aberdeen Proving Ground, MD
(410) 671-1628
8. Sidney Levin, DEP, (Former Health Physicist at the
Arsenal), (617) 292-5667
9. Leo Foley, Former Health Physicist at the Arsenal,
Jeffersonville, Indiana, (812) 945-1375 (home)
10. Charles Dady, Former Health Physicist at the Arsenal,
Reading, MA, (617) 944-5825 (home)
11. William Lorenzen, Former Nuclear Physicist at the Arsenal
during the 1980's, try locating through the Health
Physicist Society, (703) 790-1745
12. Mark Boyle, Watertown Planning Department, Watertown, MA
(POC for Arsenal Park) (617) 972-6417
13. John Airasian, Arsenal Reuse Committee, Watertown, MA
(617) 924-8420
14. Rudy D'Lanno, Watertown citizen, (617) 923-0639
15. Jeff Nangle, Environmental consultant for the Watertown
Mall (across the street from Arsenal Mall property),
(508) 586-5511

16. Donald Higgins, Watertown citizen, contact at the Watertown Police station
17. Joe DiVico, Watertown citizen, Watertown Health Dept., (617) 972-6446
18. Patricia Bonanno, Citizen of Watertown
19. Sonya Bronson, Citizen of Watertown, (617) 924-0599
20. Richard Mistrangalo, former member of the Watertown Redevelopment Authority, (617) 262-1180, or (617) 926-8588
21. Bob Chase, former member of the Watertown Redevelopment Authority, Watertown, (617) 923-0914 (home)
22. Ned Abelson, Goulston & Storrs, (Attorney for the Arsenal Mall), Boston, MA (617) 574-4112
23. William McCabe, Jr., New England Development, (Arsenal Mall owner), Newton, MA (617) 965-8700
24. Robert Gilbane, Gilbane, Providence, RI, (property owner for Arsenal Apartments) (401) 456-5890
25. Mark Bouwens, NRC, King of Prussia, PA (215) 337-5269
26. GSA
 - 26.1 Bill Prazak, GSA Regional Office, New York (212) 264-4273
 - 26.2 Tony Prato, GSA, New York (212) 264-9465
 - 26.3 Karone Peace, GSA Headquarters, Washington, D.C. (202) 501-3518
 - 26.4 Stephen Marshall, GSA, Boston (617) 223-9579
 - 26.5 Richard Small, GSA, Boston (617) 223-9579
 - 26.6 Marge Hayes, GSA, Waltham (617) 647-8135
27. Rick Stromberg, O'Brien & Gere, Cambridge (subcontractor to Chem Nuclear during field work at the GSA site)
28. U.S. Army Armament, Munitions, and Chemical Command, (AMCCOM), Rock Island, Illinois, (AMCCOM is responsible for disposal of the Army's low-level radioactive waste. AMCCOM may be helpful in finding the historical records concerning the Former Watertown Arsenal's disposal of low-level radioactive waste. They were not the

responsible agency for low-level radioactive disposal during the time the Former Watertown Arsenal was an active site. Also, AMCCOM recently had a contract with Chem Nuclear to remove radioactive waste from the GSA site.)

28.1 Cheryl O'Neill, AMCCOM, (309) 782-7257

28.2 Bryon Morris, AMCCOM, (309) 782-2964

28.3 Maria Taserman, AMCCOM, (309) 782-4461

from Ref 7.1.15

Army, MTL, Arsenal Mall

2

The following should be considered in planning the assessment and in developing an appropriate basis for the conclusions reached:

1. Locating and evaluating the records of the survey performed of Building 34 by Isotopes which is described in the telegram dated December 13, 1968 (Attachment 9 to the History).
2. Evaluating the record of the survey performed of Building 41 by Isotopes (Reference 3 in the History).
3. Locating and evaluating the records of the surveys performed of Buildings 34 and 41 by the Army which are described in the telegrams dated December 13, 1968 and June 19, 1969, respectively (Attachments 9 and 11 to the History).
4. Locating and evaluating any records of surveys of Building 421 prior to its demolition.
5. Determining the basis or authority for the release of Building 421 and the other portions of the Mall property for unrestricted use, including appropriate documents from AEC or NRC. We are unable to locate such authorizations or documents in our files except for those described in the attached History. Evidence that radioactive material was never used in a particular location or building is appropriate to consider in coming to a conclusion concerning the appropriateness of the release.
6. Determining the present location and radiological condition of the building debris, concrete pads and soil surrounding the original locations of Buildings 34, 41 and 421. Determining when and how the buildings were demolished. This should include a review of the fate of any drainage and sanitary sewage systems that were used by the original buildings and/or the site in general. Of particular interest are the drains from Building 34 (See Attachment 7 to the History).
7. Explaining the 16.5 acres unaccounted for in the description of the property transfers.
8. Determining the radiological condition of the renovated and demolished buildings on the Mall property. In developing your conclusions in this area you should consider the results of the surveys of the "not-suspected" buildings referred to in the Decommissioning Plan for the current MTL property.
9. Determining and appropriately documenting the uses of the property from 1969 to 1979.

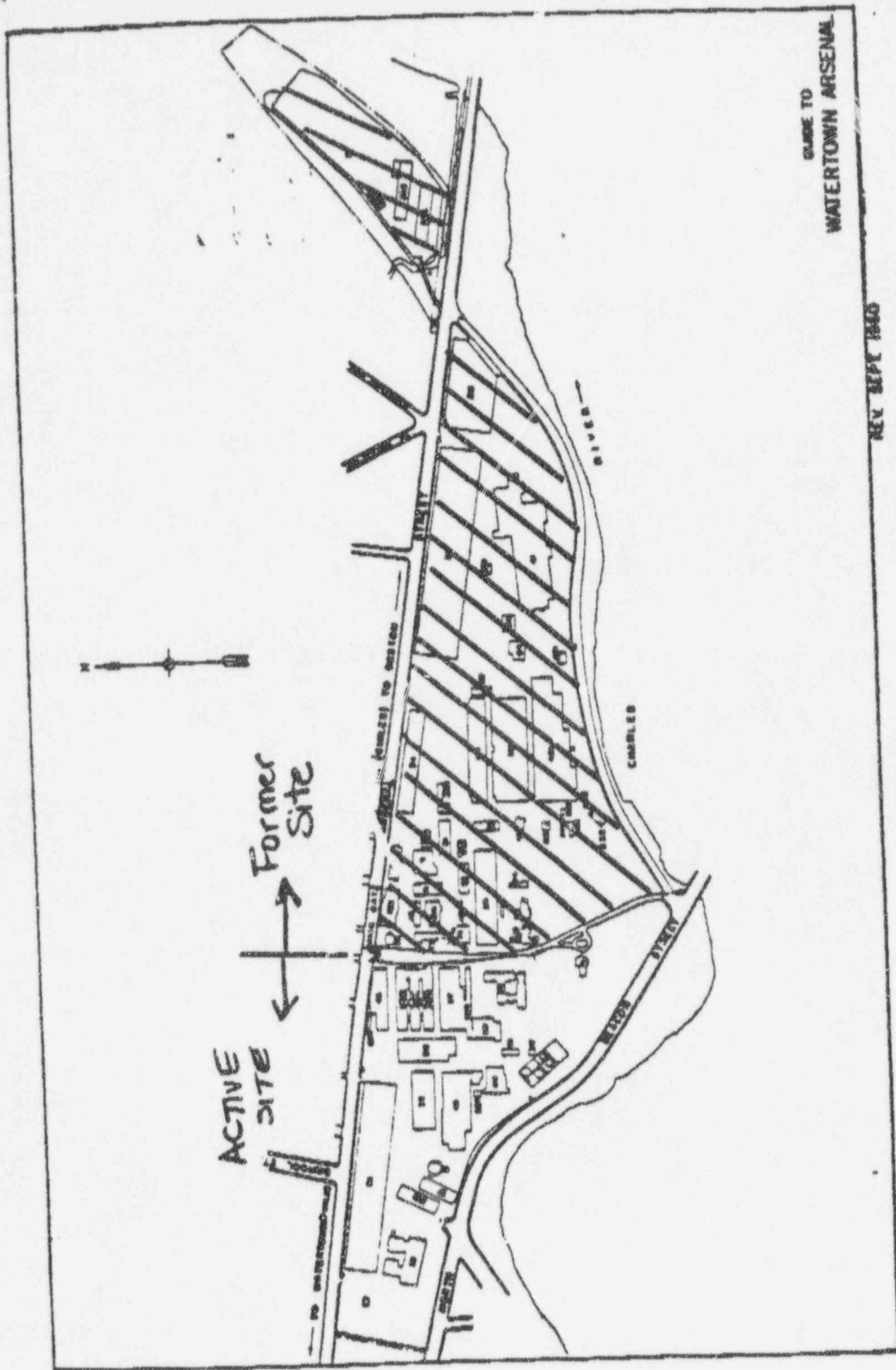


Figure 1

ARCHIVAL REVIEW

FORMERLY USED DEFENSE SITE (FUDS)

WATERTOWN ARSENAL

WATERTOWN, MASSACHUSETTS

by

Linda C. Genovese
Contract Archivist
BPA DACW 33-91-A-0030
U.S. Army, Corps of Engineers,
New England Division
Waltham, Massachusetts

December 1991

ARCHIVAL REVIEW
FORMERLY USED DEFENSE SITE (FUDS)
WATERTOWN ARSENAL
Watertown, Massachusetts

EXECUTIVE SUMMARY

Purpose

The purpose of this project was to provide archival assistance in identifying records documenting further evidence of:

- 1.) Buildings and other structures where radioactive, nuclear, and/or hazardous and toxic materials were studied, handled, manufactured, and waste generated at the FUDS Watertown Arsenal.
- 2.) Types of nuclear and/or radioactive materials used, researched, studied, and/or generated at the FUDS Watertown Arsenal.
- 3.) Licensing and/or applications for licensing of such materials at the FUDS Watertown Arsenal.

Scope and Content

The project's scope encompassed the Formerly Used Defense Site (FUDS), Watertown Arsenal, Watertown, Massachusetts during its use by the Watertown Arsenal from the years 1940 to present. FUDS Buildings 34, 41, 421, and the present GSA site have been previously extensively studied. Particular emphasis is placed on FUDS Building 152 as earlier documents indicate a health physics laboratory had been located in this building. FUDS Building 152 has since been demolished and Watertown Elderly Housing units constructed in its place.

Archival Objectives

Archival objectives included:

- 1.) Conducting archival reviews at the following locations:
 - a.) National Archives, Waltham, Massachusetts
 - b.) Watertown Public Library
 - c.) Massachusetts State Archives

- d.) Army Materials Technology Laboratory (AMTL),
Safety Office and Real Estate Office,
Watertown, Massachusetts
 - e.) Department of Energy
Nuclear Regulatory Commission
(Atomic Energy Commission)
 - f.) Other sites when warranted by information
gathered at the above locations.
- 2.) Interviews with former Arsenal personnel and others
familiar with the FUD site.
 - 3.) Optional travel to National Archives, Washington, D.C.

Archival Sources Identifying FUDS Building 152 Laboratories

The most significant archival records for this project were located in the Army Materials Technology Laboratory (AMTL) Safety Office, Watertown, Massachusetts. These records document a variety of radioactive by-product materials used in FUDS Building 152, Health Physics Laboratory and Basement Calibration Room.

Records identified include two file folders pertaining to the Watertown Arsenal Radioisotopes Committee, 1961-1966, and include minutes, correspondence, DFs, Applications for Authorization to Use Radioisotopes, Watertown Arsenal Manual Chapter 700001 "Radiological Safety Policy and Program" (1961), and a copy of U.S. Atomic Energy Commission By-Product Material License No. 20-1010-4. The WA Radioisotopes Committee was the administrative body licensed by the AEC to authorize: (1) types of radioactive by-product materials used at the Arsenal, (2) Arsenal personnel permitted to use radioactive by-product materials, and (3) areas at the Arsenal where the materials were to be used.

Interview with Sidney Levin: Former Arsenal Health Physicist

The most significant interview was with Sidney Levin, principal Health Physicist at the Watertown Arsenal for 19 years (c.1948-1967), and former member of the Watertown Arsenal Radioisotopes Committee.

Mr. Levin stated that, "the Nuclear Regulatory Commission (NRC) did not regulate the use of unlicensed (DU-depleted uranium) source material. and unlicensed (DU-depleted uranium) source material was used 95% of the time" at the Arsenal. He said that the "Albuquerque Operations" and the U.S. Army's requirements for the use of unlicensed materials were "stricter" than the NRC's. Mr. Levin also stated that the WA Radioisotopes Committee regulated the use of licensed radioactive by-product materials only; and, the Committee "did not regulate the use of

source materials such as DU (depleted uranium)."

Mr. Levin confirmed the existence of the Health Physics Office and Electronics Calibration Laboratory in FUDS Building 152, and stated its primary function was calibrating gauges (instrument calibration) used at the Arsenal. In 1973, Mr. Levin conducted a radiation safety survey of the former radioactive waste disposal processing and storage site (present GSA site, northeast area, Watertown Arsenal). He has no knowledge of any other areas where radioactive materials were handled at the FUD site other than what has already been disclosed.

Watertown Arsenal: Atomic Energy Commission Licenses (1960s)

Archival records document the following U.S. Atomic Energy Commission licenses for nuclear and radioactive source and by-product materials issued to the Watertown Arsenal during the 1960s.

- 1.) Byproduct Material License No. 20-1010-4.
- 2.) Special Nuclear Material License No. SNM-234.
- 3.) Source Material SUB 238.

Conclusion

The most significant archival records located to date are the Watertown Arsenal Radioisotopes Committee files, 1961-1966. The Radioisotopes Committee was the internal regulating committee authorized by and under U.S. Atomic Energy Commission By-Product Material License No. 20-1010-4. The Committee's purpose was to regulate the use of licensed radioactive by-product materials at the Watertown Arsenal. Committee records include authorizations for the use of radioactive by-product materials in one location on the FUD site, specifically Building 152, the Health Physics Office and Electronics Calibration Laboratory.

1.) Technical review of the Watertown Arsenal Radioisotopes Committee files is recommended to determine the nature and extent of radioactive by-product materials handled in FUDS Building 152, Health Physics Office and Electronics Calibration Laboratory. FUDS Building 152 has since been demolished and Watertown Elderly Housing units constructed in its place.

2.) Administrative review of the AEC By-Product Licenses, AEC Special Source Material Licenses, AEC Source Material Licenses and U.S. Army regulations for the use of radioactive materials by the Watertown Arsenal may also be recommended.

ARCHIVAL REVIEW
FORMERLY USED DEFENSE SITE (FUDS)
WATERTOWN ARSENAL
Watertown, Massachusetts

Purpose

The purpose of this project was to provide archival assistance in identifying records documenting further evidence of:

- 1.) Buildings and other structures where radioactive, nuclear, and/or hazardous and toxic materials were studied, handled, manufactured, and waste generated at the Formerly Used Defense Site (FUDS), Watertown Arsenal, Watertown, Massachusetts.
- 2.) Types of nuclear and/or radioactive materials used, researched, studied, and/or generated at the Formerly Used Defense Site (FUDS), Watertown Arsenal, Watertown, Massachusetts.
- 3.) Licensing and/or applications for licensing of such materials at the Formerly Used Defense Site (FUDS), Watertown Arsenal, Watertown, Massachusetts.

This archival project is an addendum to an Archival Review conducted by The Public Archaeology Laboratory, Inc. (July 1991) and a modification of Daylor Consulting Group Contract No. DACA-33-88-D-0006, Delivery No. 0007: for the subject project (Purchase Request No. 96131611840001).¹

Scope and Content

The scope of this archival project encompasses the Formerly Used Defense Site (FUDS), Watertown Arsenal, Watertown, Massachusetts during its use by the Watertown Arsenal from the years 1940 to present. These inclusive dates historically represent the developmental period of nuclear research and technology at the Arsenal. FUDS Buildings 34, 41, 421, and the present GSA site have previously been extensively studied. Particular emphasis is placed on FUDS Building 152, as earlier documents indicate there was a health physics laboratory located in this building. FUDS Building 152 has since been demolished and Watertown Elderly Housing units constructed in its place.

¹ "Archival Review, Formerly Used Defense Site Watertown Arsenal, Watertown, Massachusetts," by Suzanne Glover, The Public Archaeology Laboratory, Inc., Pawtucket, Rhode Island, July 1991.

Archival Objectives

The objectives of this archival project included:

1.) Conducting an archival review at the following locations, including but not limited to:

- a.) National Archives, New England Region
Waltham, Massachusetts
- b.) Watertown Public Library
Watertown, Massachusetts
- c.) Massachusetts State Archives
Boston, Massachusetts
- d.) Army Materials Technology Laboratory (AMTL)
Safety Office and Real Estate Office
Watertown, Massachusetts
- e.) Department of Energy
Nuclear Regulatory Commission
(Atomic Energy Commission)
- f.) Other sites when warranted by information
gathered at the above locations

2.) Interviews with former Arsenal personnel and others familiar with the Formerly Used Defense Site, when available.

3.) Optional travel to the National Archives, Washington, D.C. with permission from the NED Engineering Directorate prior to making the trip if warranted.

Historical Background and Industrial Activity

See Archival Review, Glover, PAL, Inc. (July 1991) for a comprehensive review of the history and industrial development of the FUDS Watertown Arsenal.

Archival Sources

Archival reviews were conducted at the following locations:

- | | |
|---|----------|
| 1.) Army Materials Technology Laboratory (AMTL) | 10/25/91 |
| Safety Office, Building 37 | 10/29/91 |
| Watertown, Massachusetts | |
| (617) 923-5225 | |

Contact: Peter Cornetta, Safety Officer

The most significant archival records for this project were located in the AMTL Safety Office. These records include two file folders pertaining to the Watertown Arsenal Radioisotopes Committee dating from 1961 to 1966 and include minutes, correspondence, internal Disposition Forms (DFs), Applications for Authorization to Use Radioisotopes, Watertown Arsenal Manual Chapter 700001 "Radiological Safety Policy and Program" (1961), and a copy of U.S. Atomic Energy Commission By-Product Material License No. 20-1010-4. The WA Radioisotopes Committee was the administrative body licensed by the AEC to authorize: (1) types of radioactive by-product materials used at the Arsenal, (2) Arsenal personnel permitted to use radioactive by-product materials, and (3) areas at the Arsenal where the materials were to be used.

These records document a variety of licensed radioactive by-product materials used in FUDS Building 152, Health Physics Laboratory and Basement Electronics Calibration Room. Copies of these files are included in this report. Technical review of these records is recommended to ascertain the nature and extent of radioactive materials used in Building 152 on the FUDS site.²

- 2.) Army Materials Technology Laboratory (AMTL)
Real Estate Office
Watertown, Massachusetts

It was determined by the archivist and Ms. Lawrence that a review of records in the AMTL Real Estate Office was not warranted.

- 3.) Massachusetts Institute of Technology
Institute Archives
Cambridge, Massachusetts
(617) 253-5690

10/24/91

MIT conducted experimental work in the Rodman Laboratory,

² Watertown Arsenal Radioisotopes Committee File, 1961-1964, Safety Office (Building 37), Army Materials and Technology Laboratory, Watertown, Massachusetts; Watertown Arsenal Radioisotopes Committee File, 1961-1966, Safety Office (Building 37), Army Materials and Technology Laboratory, Watertown, Massachusetts.

Building 421, FUDS, Watertown Arsenal, Watertown, Massachusetts.³
An archival review at the MIT Archives did not reveal any collections pertaining to the Rodman Laboratory, MIT Atomic Research Laboratory, or any research and development work conducted on the FUD site.⁴

- 4.) Watertown Public Library (WPL) 10/8/91
Watertown, Massachusetts 10/9/91
(617) 972-6430

WPL holdings include published and unpublished histories of the Watertown Arsenal and reports pertaining to the Watertown Redevelopment Authority. Most of these publications were reviewed by PAL, Inc. at the AMTL site.

- 5.) Massachusetts State Archives (MSA) 10/10/91
Boston, Massachusetts
(617) 727-2816

MSA holdings include only official state records, such as state agency administrative records, legislative documents, military records, and vital statistics. Inasmuch as there appears to have been no Massachusetts state agency intervention at the Watertown Arsenal, a federal facility, the MSA reference staff has determined that no records pertaining to the Watertown Arsenal would be in the state archives. A review of the limited MSA card catalogue produced only references to Town of Watertown, WPA (Works Progress Administration) Maps dated 1940.

- 6.) National Archives (NA-NER) 10/2/91
New England Region 10/4/91
Waltham, Massachusetts 10/11/91
(617) 647-8100

Contact: Stan Tozenski

Watertown Arsenal Records currently held at this regional federal archives date to 1917 only. The NA-NER did hold records of the Arsenal dating after 1917, but these were transferred to the National Archives in Washington, D.C. about 1975. A review

³ "Building 421, Gun Forging Shop/Rodman Laboratory," Archival Review, page 39.

⁴ Massachusetts Institute of Technology, Office of the President Records (AC-4), 1930-1959, Box 22 to 25; Massachusetts Institute of Technology Laboratory for Nuclear Science Records (AC 217), 1940-1980.

of the inventory of the Arsenal records currently held at the NA-NER in Waltham, Mass. was determined as insignificant for the purpose of this project.

7.) National Archives	10/11/91
Washington Records Center (WRC)	10/30/91
Suitland, Maryland	11/26/91
(301) 763-7410	11/27/91
(FTS 8) 763-7410	12/2-3/91
	12/12/91
Contact: John Butler, Chief	
Richard Boylan	

A 1972 inventory of Watertown Arsenal archival records was reviewed. These records had initially been held at the National Archives, New England Region (NA-NER), Waltham, Massachusetts. According to NA-NER Director Jim Owens, these records were transferred in 1975 to the National Archives, Washington Records Center (WRC), Suitland, Maryland.

A telephone reference request was submitted to the WRC Suitland Branch. Arsenal records currently in Washington, D.C. and Suitland, Maryland include:

Office of the Chief of Ordnance (Record Group 156)
Watertown Arsenal, 1826-1944 (title line inventories)

U.S. Army Commands (Record Group 338)
Watertown Arsenal, 1945-1950 (unarranged)

It was determined by the archivist and Ms. Lawrence that due to the limited chronology of the records an on-site archival review in Washington, D.C. was not warranted.⁵

8.) Department of Energy
Nuclear Regulatory Commission Records
(Atomic Energy Commission)

Telephone requests by the USA-CE-NED Engineering Directorate to the Department of Energy to search their files for NRC and AEC records prompted the delivery of a DOE information package to the New England Division Engineers. This Department of Energy package includes archival records regarding the Watertown Arsenal including U.S. Nuclear Regulatory Commission Materials License

⁵ Records are not considered for archival deposit at the National Archives until they are thirty (30) years old. Therefore, only records dating prior to 1962 would be at the National Archives.

records, Docket Number 40-2253 and Atomic Energy Commission Feed Materials and Raw Materials historical correspondence files from 1949 to 1979.⁶ An on-site review of NRC and AEC records at the National Archives in Washington, D.C. was determined by the archivist and Ms. Lawrence to be of limited value due to this comprehensive DOE information package.

- 9.) U.S. Army, Corps of Engineers
New England Division
Design Division
Waltham, Massachusetts 02254-9149
(617) 647-8460

Contact: William Kavanaugh (617) 647-8203

Mr. Kavanaugh, NED Design Division, has A&E design plans of the Watertown Arsenal dating approximately 1950 to 1960 on microfiche.

- 10.) U.S. Army, Corps of Engineers
New England Division
Archives/Library
Waltham, Massachusetts 02254-9149
(617) 647-8045

Contact: Timothy Hays, Librarian (617) 647-8118

Construction progress photographs of selected Watertown Arsenal buildings are held in the New England Division Archives, Photograph Collection: Military, Watertown Arsenal, and date from 1944 to 1970.

Copies of pertinent archival documents located at the above locations are on file in the DERP: Watertown Arsenal (FUDS), Watertown, Massachusetts, 1961-1966 file, New England Division Archives, U.S. Army, Corps of Engineers, New England Division, Waltham, Massachusetts.

Interviews with Current and Former Arsenal Personnel

Direct and telephone interviews were conducted with current

⁶ "Formerly Utilized Sites Remedial Action Program (FUSRAP) Elimination Report for Formerly Utilized Portions of the Watertown Arsenal, Watertown, Massachusetts," Department of Energy Office of Nuclear Energy, Office of Remedial Action and Waste Technology, Division of Facility and Site Decommissioning Projects, 17 September 1991.

AMTL personnel, former Watertown Arsenal personnel, and other selected individuals as requested. Interviews were conducted with the following:

Army Research and Materials Laboratory personnel

- 1.) Peter Cornetta, Safety Officer 10/23/91
Army Materials and Technology Laboratory 10/25/91
Safety Office 10/29/91
Watertown, Massachusetts
(617) 923-5225

Peter Cornetta was instrumental in providing noncurrent records reflecting administrative activity at the FUD site. The most significant records include two file folders of the Watertown Arsenal Radioisotopes Committee, 1961-1966. Mr. Cornetta is unfamiliar with any nuclear or radioactive activity in Building 152 or any other location at the FUD site other than what has already been disclosed.

- 2.) Robert Chase, Chief, Safety Office 10/25/91
Safety Office
Army Materials and Technology Laboratory
Watertown, Massachusetts
(617) 923-5225

Robert Chase is unfamiliar with any nuclear or radioactive activity in Building 152 or any other location at the FUD site other than what has already been disclosed.

Former Watertown Arsenal personnel

- 3.) Leo Foley 10/31/91
Health Physicist
515 Beechlawn Drive
Jeffersonville, Indiana 47130
(812) 945-1375 (home)

Leo Foley is a Health Physicist and former Watertown Arsenal personnel. Mr. Foley worked primarily in the Reactor Building located on the current AMTL site under the supervision of Charles E. Dady. Mr. Foley mentioned that FUDS Building 152 housed an electronics calibration laboratory, using "low-level radioactive" materials, and employing "mostly dry chemistry and not very much wet chemistry." Mr. Foley is agreeable to any future inquiries by the Corps regarding the Watertown Arsenal.

- 4.) Charles E. Dady 11/1/91
100 Border Road 11/4/91
Reading, Massachusetts 01867
(617) 944-5825 (home)

Charles Dady is a retired Health Physicist and former Watertown Arsenal personnel. Repeated telephone calls to and telephone messages left at Mr. Dady's home have been not returned by him.

5.) Sidney Levin
Massachusetts Department of
Environmental Protection
(617) 292-5667 (work)

11/1/91

Newton, Massachusetts
(617) 954-6990 (home)

Sidney Levin was a principal Health Physicist at the Watertown Arsenal for 19 years (c.1948-1967). He was a member of the Radioisotopes Committee during the 1960s. Mr. Levin was a pleasure to speak with, extremely fascinating, and very open to any type of questions. The DU (depleted uranium) machine work developed at the Watertown Arsenal and conducted on the FUDS site in the 1950s and 1960s was the prototype of the projectiles used by the high-powered U.S. Army land tanks employed during the recent Gulf War. DU is 50% denser than lead and used as a projectile metal.

Mr. Levin stated that, "the Nuclear Regulatory Commission (NRC) did not regulate the use of unlicensed (DU-depleted uranium) source material, and unlicensed (DU-depleted uranium) source material was used 95% of the time" at the Arsenal. He said that the "Albuquerque Operations" and the U.S. Army's requirements for the use of unlicensed materials were "stricter" than the NRC's. Mr. Levin also stated that the WA Radioisotopes Committee regulated the use of licensed radioactive by-product materials only; and, the Committee "did not regulate the use of source materials such as DU (depleted uranium)."

Mr. Levin confirmed the existence of the Electronics Calibration Laboratory in FUDS Building 152, and spoke of its function of calibrating gauges (instrument calibration) used at the Arsenal. He also confirmed Leo Foley's statement regarding the primary use of dry chemistry in the lab. Mr. Levin also confirmed Mr. Foley's statement that Charles Dady worked primarily in the Reactor on the present AMTL site.

Sidney Levin and Charles Dady conducted a radiation safety survey of the former radioactive waste disposal processing and storage site (present GSA site, northeast area, Watertown

Arsenal) in 1973.⁷ Mr. Levin has no knowledge of any other areas where radioactive materials were handled at this GSA site other than what has already been disclosed.

Mr. Levin would be pleased to speak further with the Corps at any time about prior work at the Watertown Arsenal.

6.) William A. Lorenzen
c/o U.S. Army, Corps of Engineers
New England Division
Construction Directorate
Waltham, Massachusetts 02254-9149
(617) 647-8690

2/28/92

Contact: Francis Donovan

Mr. Lorenzen was employed by the Watertown Arsenal as a Nuclear Physicist during the 1980s, succeeding Sidney Levin. Lorenzen is not familiar with Building 152 or any other FUDS areas where radioactive materials may have been used other than what has already been disclosed. Lorenzen is currently advising the U.S. Army, Corps of Engineers, New England Division, Construction Directorate regarding the current Watertown Arsenal (AMTL) DERP project.

Selected Individuals

7.) Bob Chase
15 Franklin Road
Watertown, Massachusetts
(617) 923-0914 (home)

10/31/91

11/15/91

Bob Chase is a former ten-year member of the Watertown Redevelopment Authority. Mr. Chase has been unable to search his files due to personal time constraints.

8.) Mitchell Galanek
Health Physicist
Massachusetts Institute of Technology
Cambridge, Massachusetts
(617) 253-2360 (work)

11/1/91

Mitchell Galanek has been performing technical consulting work with the Corps of Engineers on this FUDS Watertown Arsenal

⁷ In Department of Energy Report to NED Corps of Engineers (17 September 1991), "Radiation Safety Survey: Former Radioactive Waste Disposal Processing and Storage Site, Northeast Area, Watertown Arsenal," Sidney Levin and Charles E. Dady, Watertown Arsenal, Watertown, Massachusetts, 7 October 1973.

project. He is available to provide a technical review of the archival records located in this archival search.

9.) Health Physicist Society
(703) 790-1745

The Health Physicist Society maintains names, addresses, and phone numbers of current members and some former members back to 1987.

Watertown Arsenal: Atomic Energy Commission Licenses (1960s)⁸

Archival records document the following U.S. Atomic Energy Commission licenses for nuclear and radioactive source and by-product materials issued to the Watertown Arsenal during the 1960s. A license search will be conducted by the Army Environmental Hygenic Agency (AEHA).

- 1.) Byproduct Material License No. 20-1010-4.
NRC Docket no. 030-04593.
- 2.) Special Nuclear Material License No. SNM-234.
NRC Docket no.
NOTE: No NRC record of SNM-234, however, this maybe a typographical error on the record and license number could be SNM-244, NRC Docket no. no. 070-00263.
- 3.) Special Nuclear Material License No. SNM-539.
NOTE: This license number was handwritten onto the record. No other reference noted regarding SNM-539 and no corresponding NRC Docket number has been located.
- 4.) Source Material License No. SUB-238.
NRC Docket no. 040-02253.

Conclusion

The most significant archival records located to date are the Watertown Arsenal Radioisotopes Committee files, 1961-1966. The Radioisotopes Committee was the internal regulating committee authorized by and under U.S. Atomic Energy Commission By-Product Material License No. 20-1010-4. The Committee's purpose was to regulate the use of licensed radioactive by-product materials at

⁸ Watertown Arsenal Radioisotopes Committee File, 1961-1964, Safety Office, Army Materials and Technology Laboratory, Watertown, Massachusetts.

the Watertown Arsenal. Committee records include authorizations for the use of radioactive by-product materials in one location on the FUD site, specifically Building 152, the Health Physics Office and Electronics Calibration Laboratory.

1.) Technical review of the Watertown Arsenal Radioisotopes Committee files is recommended to determine the nature and extent of radioactive by-product materials handled in FUDS Building 152, Health Physics Office and Electronics Calibration Laboratory. FUDS Building 152 has since been demolished and Watertown Elderly Housing units constructed in its place.

2.) Administrative review of the AEC By-Product Licenses, AEC Special Source Material Licenses, AEC Source Material Licenses and U.S. Army regulations for the use of radioactive materials by the Watertown Arsenal may also be recommended.