

OH.27-1

United States Government

Department of Energy

memorandum

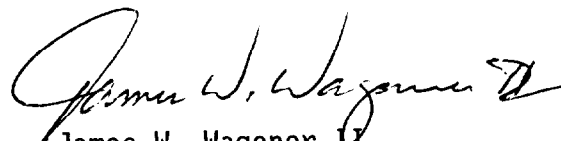
DATE: APR 20 1994
REPLY TO: EM-421 (W. A. Williams, 903-8149)
ATTN OF:
SUBJECT: Authorization for Remedial Action at the Former Herring-Hall-Marvin Safe Company Site in Hamilton, Ohio

TO: L. Price, OR

The former Herring-Hall-Marvin Safe Company, site at 1550 Grand Boulevard in Hamilton, Ohio, is designated for remedial action under the Formerly Utilized Sites Remedial Action Program (FUSRAP). Until very recently, the site has been owned by the Diebold Safe Company and vacant. We understand that the property may recently have been sold. This designation is based on the results of radiological surveys and conclusions from an authority review. Copies of the radiological survey reports and the authority review are provided for information.

The site has been assigned a low priority under FUSRAP protocol. The surveys concluded that the property contains residual radioactive contaminants that exceed current guidelines on the floor, some wall areas, and in some drains. At least one uranium fire occurred at the site during production operations. Under present use conditions, the contamination does not present a significant health risk to occupants of the building, especially since the building is vacant. Because of the limited extent of contamination, we recommend that cleanup of the site follow the expedited FUSRAP protocol now under development for removal actions.

The effect of this designation on the FUSRAP baseline should be evaluated, documented, and submitted for approval under baseline change control procedures.



James W. Wagoner II
Director
Division of Off-Site Programs
Office of Eastern Area Programs
Office of Environmental Restoration

Attachments

CC:
J. Fiore, EM-42
W. A. Williams, EM-421
D. Adler, OR

**FORMERLY USED SITES
REMEDIAL ACTION PROGRAM**

**DESIGNATION SUMMARY
FOR FORMER HERRING-HALL-MARVIN SAFE COMPANY
HAMILTON, OHIO**

April 8, 1994

**U.S. DEPARTMENT OF ENERGY
OFFICE OF ENVIRONMENTAL RESTORATION**

Designation Summary
Herring-Hall-Marvin, Hamilton

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**Designation Summary
Herring-Hall-Marvin, Hamilton**

INTRODUCTION

The Department of Energy, Office of Environmental Restoration, has reviewed the past activities of the Manhattan Energy District (MED) at the Herring-Hall-Marvin Safe Company site in Hamilton, Ohio, and has completed radiological surveys of the site (Foley, et al 1990 and Murray et al 1994). The Department of Energy (DOE) has determined that the residual radioactive materials inside the building exceed current guidelines (USDOE 1990) for use without radiological restrictions.

Based on a review of the available historical documentation and the results of the survey, DOE has concluded that the site will be designated for remedial action under the Formerly Utilized Site Remedial Action Program (FUSRAP). The site has been assigned a low priority as the survey results indicate that the residual radioactivity is limited in extent and poses no immediate risk. The remainder of this report summarizes the site information and the designation decision.

BACKGROUND

SITE FUNCTION

The following discussion is based upon the Authority Review (Williams 1994).

Intermittently from the 1940s to the early 1950s, the former Herring-Hall-Marvin Safe Co. machined uranium slugs from rolled stock under subcontract to a prime MED contractor. Records indicate that two work orders were performed at the site in 1943 in support of the MED and one in 1951 for the Atomic Energy Commission (AEC). Work at the Hamilton site involved machining of uranium slugs from uranium billets. The uranium machining activity was relatively small scale and appears to have covered a short period of time. The available records indicate that work was performed at the site until August 1951.

SITE DESCRIPTION

The following discussion is based upon the survey report (Murray, et al 1994).

The former Herring-Hall-Marvin Safe Co., now owned by Diebold Co., is located at 1550 Grand Boulevard in Hamilton, Ohio. The facility is a large, roughly rectangular building (approximately 300,000 square feet), constructed mostly of wood. The interior is primarily an open design with few walls and a support structure of columns and beams with cross braces.

High bays are offset by rows of windows at the ceiling. Initial site reports used for the original radiological survey of the site noted that uranium was machined on lathes in the large machine room on the first floor of this section of the building and was flooded with a water-soluble cooling oil while

Designation Summary
Herring-Hall-Marvin, Hamilton

being machined. It was recently found that uranium machining occurred on the third floor section of the southeast corner of the building. The section of the third floor where the uranium was machined is a windowed room with concrete columns that contained several machines.

OWNER HISTORY

The following is based on the authority review (Williams 1994).

The site was owned by Herring-Hall-Marvin Safe Company. The facility was purchased (date of purchase is unknown) by and has been owned by the Diebold Safe Company. Currently the building is unoccupied. In spring of 1994, the Diebold Safe Company allegedly sold the facility to another party, while retaining an interest in the property.

RADIOLOGICAL HISTORY AND STATUS

The uranium machining activity was relatively small scale and appears to have covered a short period of time. Therefore, it was not expected that significant levels of radioactivity should exist at the site and, consequently the expected exposure to individuals would be insignificant. However, there was insufficient information to adequately characterize the radiological condition of the site upon completion of the MED and AEC work.

In August 1988, and April 1989, radiological surveys were conducted at the site at the request of DOE and with the consent of the property owner. The results of radiological surveys demonstrated no radionuclide concentrations in excess of the applicable DOE criteria for air and soil sampling at the site. After removal of a small spots of uranium left from the machining operation, no beta or gamma radiation above background could be detected. Consequently, the site was eliminated from consideration under FUSRAP.

It has recently been found that uranium operations for MED also occurred on the third floor section of the southeast corner of the building. Radiological surveys performed in 1988 and 1989 did not include that area of the building because it was not previously identified as an area where uranium operations took place. Subsequently, the site was once again brought under consideration for FUSRAP. A second radiological survey, conducted in 1994 by Oak Ridge National Laboratory, (Murray et al) identified uranium in portions of the floor and walls of the third floor area.

**Designation Summary
Herring-Hall-Marvin, Hamilton**

AUTHORITY REVIEW

In 1994, DOE determined that it had the authority to conduct remedial action at the site (Williams 1994). This determination is based upon the following significant factors:

- o Available records indicate that Herring-Hall-Marvin Safe Co. was likely to have been closely controlled by the MED through approval of contracts and purchase orders or indirectly through prime contractors;
- o As part of the operation at the site, there were requirements concerning security, health and safety. These were controlled directly by the MED, who was also responsible for medical services relating to the project;
- o The uranium metal that was machined was owned by the Government; and
- o A radiological survey in 1993 identified residual uranium in the third floor area of the building above the levels specified in DOE Order 5400.5, Chapter IV.

DESIGNATION DETERMINATION

The survey results (Murray and Johnson 1994) indicated concentration of radionuclides in portions of the floor and the walls of the third floor area exceed current guidelines for use without radiological restrictions (DOE Order 5400.5, April 1990). The major contaminant was uranium.

The DOE has authority to conduct remedial action at the site under FUSRAP. This authority is based on the MED's role contracting for the machining of government owned uranium with the Herring-Hall-Marvin Safe Co., in Hamilton. Because current use of the site will not result in doses in excess of guidelines and because potential health risk and spread of contamination are small, the site is designated a low priority.

REFERENCES

- a. Williams, A. W., 1994. Authority Review for the Former Herring-Hall-Marvin Safe Co., Hamilton, Ohio.
- b. Foley, R. D., and L. M. Floyd. Results of Radiological Survey at Diebold Safe Company, 1550 Grand Boulevard Hamilton, Ohio, (H0001).
ORNL/RASA-88/59. Oak Ridge National Laboratory, February 1990.

Designation Summary
Herring-Hall-Marvin, Hamilton

- c. Murray, M. E. and C. A. Johnson, 1994, Results of the Radiological Survey at the Former Herring-Hall-Marvin Safe Co., 3rd Floor, 1550 Grand Boulevard, Hamilton, Ohio (H0001) (in preparation).
- d. USDOE 1990 DOE Order 5400.5, Radiation Protection of the Public and the Environment, Office of Environment, Safety and Health, February 8.

ornl

ORNL/RASA-94/

**OAK RIDGE
NATIONAL
LABORATORY**

MARTIN MARIETTA

**RESULTS OF THE RADIOLOGICAL
SURVEY
at the former
HERRING-HALL-MARVIN SAFE
COMPANY (3rd Floor)
1550 Grand Boulevard, Hamilton, Ohio
(HO001)**

**M. E. Murray
C. A. Johnson**

**MANAGED BY
MARTIN MARIETTA ENERGY SYSTEMS, INC.
FOR THE UNITED STATES
DEPARTMENT OF ENERGY**

memorandum

DATE: MAR 08 1994
REPLY TO
ATTN OF: EM-421 (W. A. Williams, 903-8149)
SUBJECT: Authority Determination -- Former Herring-Hall-Marvin Safe Co.,
Hamilton, Ohio

TO: The File

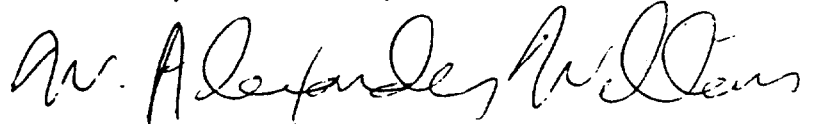
The attached review documents the basis for determining whether the Department of Energy (DOE) has authority for taking remedial action at the former Herring-Hall-Marvin Safe Co. facility in Hamilton, Ohio, under the Formerly Utilized Sites Remedial Action Program (FUSRAP). The facility was used for the shaping and machining of uranium metal by the Manhattan Engineer District (MED) during the Second World War. The following factors are significant in reaching a decision and are discussed in more detail in the attached authority review:

- o Herring-Hall-Marvin Safe Co. was likely to have been closely controlled by the MED directly through the approval of contracts and purchase orders or indirectly through prime contractors;
- o An employee of the MED was apparently stationed at the site during some or all of the World War Two production activities;
- o There were significant security requirements in all activities involving uranium during this time period;
- o The uranium residues at the site are likely the result of the uranium metal machining;
- o The uranium metal was furnished by the Government;
- o The MED retained responsibility for health and safety protection and paid for medical services relating to the project;
- o In all likelihood, the contractor had no knowledge of the nature of hazards associated with the handling of uranium metal;
- o A 1985 authority review found that DOE had authority for remedial action at a group of similar metal fabrication sites; and
- o A radiological survey in 1993 identified residual uranium in the third floor area of the building above the levels specified in DOE Order 5400.5, Chapter IV.

335.5

A draft copy of the attached authority review was furnished to the Office of General Counsel. That office indicated that the review was adequate.

After review of the available original records and the authority review, I have determined that the DOE has authority to conduct remedial action at the former Herring-Hall-Marvin Safe Co., in Hamilton, Ohio.



W. Alexander Williams, PhD
Designation and Certification Manager
Division of Off-Site Programs
Office of Eastern Area Programs
Office of Environmental Restoration

Attachment

cc:
S. Miller, GC-11
M. Murray, Oak Ridge National Laboratory
D. Adler, Oak Ridge Operations Office

**Authority Review for the Former
Herring-Hall-Marvin Safe Co., Hamilton, Ohio**

1.0 INTRODUCTION

As part of the Formerly Utilized Sites Remedial Action Program (FUSRAP), the U.S. Department of Energy (DOE) has reviewed available information on the former Herring-Hall-Marvin Safe Co. site, Hamilton, Ohio. The site has been investigated for potential inclusion into FUSRAP, which applies to certain sites previously involved with activities of the Manhattan Engineer District (MED) or U.S. Atomic Energy Commission (AEC), both DOE predecessors. Such sites may require remedial action if they have residual contamination from those previous activities. This review is conducted to determine whether DOE has the authority to conduct remedial action at the former Herring-Hall-Marvin Safe Co. site.

The former Herring-Hall-Marvin Safe Co., now owned by Diebold Co., is located at 1550 Grand Boulevard in Hamilton, Ohio. The facility is a large, roughly rectangular building (approximately 300,000 ft.²), constructed mostly of wood. The interior is primarily an open design with few walls and a support structure of columns and beams with cross braces. High bays are offset by rows of windows at the ceiling. Initial site reports used for the original radiological survey of the site noted that uranium was machined on lathes in the large machine room on the first floor of this section of the building and was flooded with a water-soluble cooling oil while being machined. The uranium machining activity was said to be relatively small scale and apparently covered a relatively short period of time.

Recent interviews with individuals formerly associated the site have revealed that uranium machining operations for MED also occurred in the Southeast corner of the building in a section with three floors, accessed by an elevator. Uranium was machined on the third floor in a windowed room with concrete columns that contained several machines.

The remainder of this review consists of the following sections:

- 2.0 Operational History
- 3.0 Other Considerations
- 4.0 Current Conditions
- 5.0 Authority Analysis
- 6.0 Discussion and Conclusions
- 7.0 Copies of References

Information presented in these sections is in summary form. References are identified in Section 7.0 and copies are included.

2.0 OPERATIONAL HISTORY

Intermittently from the 1940s to the early 1950s, the former Herring-Hall-Marvin Safe Co. machined uranium slugs from rolled stock under subcontract to a prime MED contractor. Records indicate that two work orders were performed at the site in 1943 in support of the MED and one in 1951 for the AEC. Work at the Hamilton site involved machining of uranium slugs from uranium billets. The uranium machining activity was relatively small scale and appears to have covered short periods of time. The available records indicate that work was performed at the site into August 1951.

The former Herring-Hall-Marvin Safe Co. was one of several commercial metal fabrication firms that participated in the MED slug procurement program under purchase orders and subcontracts with the University of Chicago (Metallurgical Laboratory) and DuPont. The following summary of conditions that prevailed during the period is significant to a basic understanding of the manner in which this procurement program was conducted (ref. a).

- a. Metal fabrication and other services were procured through subcontracts and/or purchase orders initiated by the University of Chicago and DuPont and approved by a Government contracting officer. In most instances, information on the services purchased, as reflected on purchase orders and subcontracts, was limited, probably to prevent classification of the document. In at least one instance, uranium metal was identified only as "special metal" and in other instances as metal rods or tubes.
- b. Equipment and facilities used were contractor owned and operated. And, in most instances, contractual arrangements were for the use of manpower and equipment to perform work specified under the direction and control of the MED or its agent.
- c. During the initial phase of the program in the early 1940's, contractors or site operators had little or no knowledge of the materials processed or the potential hazards associated with the handling or working with the radioactive materials. The MED was responsible for identification of the hazards, monitoring the work place and health of the workers in the contractor's plants, and making specific recommendations for measures to protect the workers against the hazards of handling radioactive materials.
- d. Radioactive materials furnished the contractors or site operators were Government owned. Both finished product and scrap (residue) remained the property of the Government. Accountability was such that every effort was made to balance the amount of metal delivered to the contractors with the finished product and the scrap recovered.

3.0 OTHER CONSIDERATIONS

An earlier authority review, dated October 28, 1985, examined DOE's authority for a large group of metal fabrication contractors which provided metal shaping or machining services during the Second World War. This earlier authority review found that DOE had authority to conduct remedial action at the sites, although sufficient radiological data were not available at that time to include or exclude most of those sites from FUSRAP. Because the former Herring-Hall-Marvin Safe Co. site was also a metal fabrication contractor during this same time period, the earlier authority review also applies to the site. Consequently, DOE has authority to conduct remedial action at this site (ref. a).

4.0 CURRENT CONDITIONS

The former Herring-Hall-Marvin Safe Co. site was purchased by and is owned by the Diebold Safe Co. Currently, the building is unoccupied.

On August 29 and 30, 1988, and April 24, 1989, radiological surveys were conducted at the site at the request of DOE and with the consent of the property owner. The results of the radiological surveys demonstrated no radionuclide concentrations in excess of the applicable DOE criteria for air and soil samples remaining at the site. After removal of small spots of uranium left from the machining operation, no beta or gamma radiation above background could be detected (ref. b.). Consequently, the site was eliminated from consideration under FUSRAP.

It has recently been found that uranium operations for the MED also occurred on the third floor section of the southeast corner of the building. Radiological surveys of the site performed in 1988 and 1989 did not include that area of the building because it was not previously identified as an area where uranium operations took place. Consequently, the site was once again brought under consideration for FUSRAP. A second radiological survey, conducted by Oak Ridge National Laboratory, identified uranium in portions of the floor and walls of the third floor area (ref. f).

5.0 AUTHORITY ANALYSIS

The authority analysis determination is made according to the FUSRAP protocol by considering the answers to five questions. The answers to these questions based on a review of available information are provided below.

5.1 Was the site/operation owned by a DOE predecessor or did a DOE predecessor have significant control over the operations or site?

DOE and its predecessors never owned the site. Equipment and facilities were owned and operated by the former Herring-Hall-Marvin Safe Co. The site was purchased by Diebold Co. after MED operations

at the site were discontinued. Although information pertaining to operations at the site during the time metal fabrication services were performed for the MED is limited, it is likely that the MED and/or its agents exercised significant control over the operations, including handling and control of the uranium metal during the fabrication process. Historical documents show that representatives of both the University of Chicago Metallurgical Laboratory and DuPont provided safety and health oversight (ref c.,d., e.). The MED also had an onsite employee during some operations.

- 5.2 Was a DOE predecessor agency responsible for maintaining or ensuring the environmental integrity of the site (i.e., was it responsible for cleanup)?

No records addressing environmental integrity have been located. However, as with other metal fabrication sites during the era, DOE predecessors appear to have been responsible for health and safety during the fabrication process.

- 5.3 Is the waste or radioactive material on the site the result of DOE predecessor related operations?

No information has been discovered that would indicate the presence of radioactive material on the site except for the uranium metal that was processed for the MED.

- 5.4 Is the site in need of further cleanup and was the site left in a non-acceptable condition as a result of DOE predecessor related activity?

Radiological surveys, conducted at the request of DOE in 1988 and 1989, demonstrated no radionuclide concentrations in excess of the applicable DOE criteria for air and soil samples remaining at the site. After removal of small spots of uranium left from the machining operation, no beta or gamma radiation above background could be detected. As a result, it was deemed that further cleanup was not necessary and the site was eliminated from consideration under FUSRAP.

It has recently been discovered that uranium operations for the MED occurred on the third floor section of the southeast corner of the building. The 1988 and 1989 radiological surveys of the site did not include that area of the building because it was not previously identified as an area where uranium operations took place. The 1993 radiological survey identified uranium in this area of the building in excess of the limits in DOE Order 5400.5, Chapter IV.

- 5.5 Did the present owner accept responsibility for the site with the knowledge of its contaminated condition and that additional remedial measures are necessary before the site is acceptable for use without radiological restrictions?

There is no indication that the present owner was aware of the prior use of the facility for machining uranium.

6.0 DISCUSSIONS AND CONCLUSIONS

Based upon historical information and recent interviews with individuals formerly related to the MED operations at the site, as well as information contained in a previous authority review that addressed metal fabrication services performed under purchase order or subcontract with MED or its agent by a number of commercial firms during the period, there is sufficient evidence to indicate authority for remedial action at the former Herring-Hall-Marvin Safe Co. site under the authority of the Atomic Energy Act through FUSRAP.

7.0 REFERENCES

The following is the list of references that are provided in this section:

- a. DOE letter from A. Whitman to A. Wallo: Authority decisions for a number of sites; October 28, 1985; with attached authority recommendation from C. Young to A. Whitman: Authority Review - Metal Fabrication Contractor Sites; September 19, 1985.
- b. Foley, R. D., and L. M. Floyd. Results of the Radiological Survey at Diebold Safe Company, 1550 Grand Boulevard Hamilton, Ohio, (H0001). ORNL/RASA-88/59. Oak Ridge National Laboratory, February 1990.
- c. Nickson, J. J., M.D., 1943. Metallurgical Laboratory letter to Herring-Hall-Marvin Safe Co., regarding recommendations for health examinations of workers. April 24.
- d. Neuroid, W. D., M.D., 1943. Metallurgical Laboratory letter to Mr. H. L. Henkel of Herring-Hall-Marvin Safe Co., regarding health examinations and air monitoring. August 4.
- e. Miles, J. B., 1943. DuPont de Nemours & Company letter to C. E. Daniels regarding safety precautions at Herring-Hall-Marvin Safe Company. April 20.
- f. Murray, M. E. and C. A. Johnson, 1994, Results of the Radiological Survey at the Former Herring-Hall-Marvin Safe Co., 3rd Floor, 1550 Grand Boulevard, Hamilton, Ohio (H0001) (in preparation).