

# memorandum

FEB 21 1991

DATE:

REPLY TO: EM-421  
ATTN OF:

SUBJECT: Authority Determination--B&amp;T Metals in Columbus, Ohio

TO: The File

The attached review documents the basis for determining whether DOE has authority for taking remedial action at the B&T Metals facility in Columbus, Ohio, under the Formerly Utilized Sites Remedial Action Program (FUSRAP). The B&T Metals facility was used by the Metallurgical Laboratory and DuPont as a subcontractor for uranium metal fabrication during the 1940s. The following factors are significant in reaching a determination:

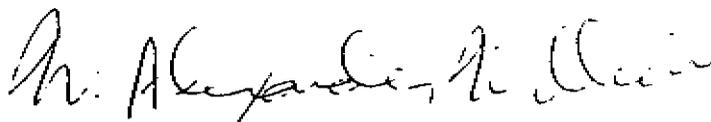
- o Available records indicate that B&T was directly supervised by MED contractors and that MED staff were directly involved in the arrangements to use the facility.
- o As a part of the operations at the site, there were strict requirements concerning security, accountability, health, and safety. These were controlled by MED or its prime contractors.
- o The uranium machined at the site was owned by the government.
- o MED staff visited the facility several times to address problems or review performance.

An earlier authority determination, dated October 28, 1985, found that DOE had authority to perform remedial action for a group of MED metal fabrication contractors, including B&T Metals. Since this earlier determination, DOE has surveyed the site and identified contaminated areas of the B&T Metals facility. This authority determination reflects this new information.

A draft copy of the attached authority review was furnished to the Office of General Counsel for review. The review was modified in accordance with the verbal recommendations of that office.

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After review of the available records, the radiological survey report, and the authority review, I have determined that the Department of Energy has authority to conduct remedial action at the B&T Metals facility in Columbus, Ohio.



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Designation and Certification Manager  
Off-Site Branch  
Division of Eastern Area Programs  
Office of Environmental Restoration

Attachment

cc:  
Steve Miller, GC-11

Authority Review for  
B&T Metals  
in Columbus, Ohio

INTRODUCTION

As part of the Formerly Utilized Remedial Action Program (FUSRAP), the U.S. Department of Energy (DOE) has reviewed available information on the B&T Metals site in Columbus, Ohio. This site is being investigated as a candidate site for inclusion in FUSRAP, which includes certain sites that were previously involved with activities of the Manhattan Engineering District (MED) or U.S. Atomic Energy Commission (AEC), both DOE predecessors. Such sites may require remedial action, if they have residual radioactive contamination from those previous activities. This review is conducted to determine whether DOE would have the authority for remedial action at the B&T Metals site. An earlier authority review, dated October 28, 1985, examined DOE's authority for a large group of metal fabrication contractors; this earlier authority review found that DOE had authority to conduct remedial action at this site (Ref. g).

B&T Metals is located at 425 West Town Street on the Southwest side of Columbus, Ohio. The buildings and property cover most of a city block. The site consists of three buildings: the main office, a storage building and an extrusion building which did not exist at the time of the MED sponsored activities. The work performed for MED occurred in the northwest corner of the main office building. Uranium metal shavings from the activities may have been dumped outside in what is now a parking area located west of the main office building (Ref.a). The period of interest is February through November 1943, when the plant was involved in extruding and machining processes that may have resulted in uranium contamination now present at the site. B&T Metals Company still owns and operates the site.

The remainder of this review consists of the following sections:

Sections: Operational History  
Current Conditions  
Authority Analysis  
Discussion and Conclusions  
Copies of References

The information presented in these sections is in summary form. Pertinent references are identified in the text and a copy included in Section 6 for further use.

OPERATIONAL HISTORY

B&T Metals was one of the first commercial firms to extrude uranium billets into rods in support of MED operations. In February 1943, DuPont placed an order with B&T Metals (XPG-123 1/2) to extrude rods from uranium metal billets. The first test of the horizontal extrusion press at the facility apparently took place on February 21. Extrusion operations on a production scale were apparently initiated on March 31, 1943. By mid-June 1943, a considerable tonnage of uranium metal had accumulated at the plant. Three

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hundred rods were stored awaiting shipment and 730 billets were on hand for fabrication (a total of approximately 50 tons of uranium metal). Production under this order was completed on August 3, 1943.

The extrusion process resulted in dispersion of uranium-bearing material. Measurements taken in March and April of 1943 verified significant amounts of airborne material, and the process was modified to reduce airborne material. Upon completion of the project at B&T Metals, MED and DuPont representatives conducted a visual inspection to verify that the facilities and equipment had been cleaned and that all sweepings, turnings, solid scrap, oxides and wet residue had been shipped to destinations prescribed by MED.

References b through f are historical documents in support of the foregoing discussion.

#### CURRENT CONDITIONS

Currently, B&T Metals still performs machining and extruding operations. However, the machinery used for processing uranium has been sold or removed, with no records indicating final disposition.

A radiological assessment of soil and dust samples performed in 1989 (Ref. a) demonstrated concentrations of radium and thorium at or near the background level, and indoor air samples were below the minimum detectable amount for gross alpha and beta radiation. However, direct beta-gamma measurements at floor and overhead beam locations exceeded the surface dose rate guideline. Concentrations of uranium ranging from 700 to 1700 picoCuries per gram have been identified inside the main office building in several floor, sump and drain locations and in dust on building support beams. Outdoor soil samples taken at locations with elevated gamma readings, corresponding to the area where shavings from the MED activities reportedly were dumped, showed uranium concentrations ranging from 3.5 to 110 picoCuries per gram. Areas of the site have residual radioactivity exceeding DOE guidelines for release without radiological restrictions (Guidelines for Residual Radioactive Materials at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites, 1987).

AUTHORITY ANALYSIS

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

- o 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; it has been owned continuously by B&T Metals. During the period of interest, DuPont assigned an on-site representative to supervise operations and set production schedules. Several medical visits by MED (Metallurgical Laboratory) representatives were made in order to monitor plant conditions, and extrusion procedures were revised to reduce airborne dust concentrations. Significant control was exercised by the DOE predecessor who were represented by MED personnel, Metallurgical Laboratory staff, and DuPont.

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

A review of the records does not indicate specifically that a DOE predecessor agency was responsible for the site's environmental integrity. Contracts between DuPont and B&T Metals have not been located. Correspondence indicates MED and DuPont representatives conducted a final visual inspection and verified shipment of all scrap and residue to MED designated destinations.

- o Is the waste or radioactive material the result of DOE predecessor related operations?

The uranium material on the site is probably the result of extruding MED-provided uranium billets in DuPont-contracted operations. There is no evidence that B&T metals processed radioactive materials except during the period of interest.

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

Radiological surveys indicate uranium contamination inside the main building where DOE predecessor work was done and outside where scrap was reportedly disposed. Direct beta-gamma measurements inside the building are in excess of DOE guidelines for use without radiological restrictions (Guidelines for Remedial Radioactive Materials at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites, 1987). Interior and exterior uranium samples are higher than typical site-specific uranium guidelines derived for similar sites.

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

No documents have been discovered that would indicate B&T Metals was aware of the site's contaminated condition. A final contract release has not been located.

#### DISCUSSION AND CONCLUSIONS

Surveys indicate uranium contamination that is most probably attributable to processing of MED-provided uranium billets. A record review identifies significant MED control of operations and conduct of environmental restoration.

Therefore, DOE has the authority for remedial action at B&T Metals under the Atomic Energy Act through FUSRAP. This finding is consistent with a previous authority finding in 1985 (Ref g.).

#### COPIES OF REFERENCES

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

- a. Quillen, J.L., Crutcher, J.W. and Cottrell, W.D., 1989: "Results of the Preliminary Radiological Survey at B&T Metals, 425 West Town Street, Columbus, Ohio (CO001)." Oak Ridge National Laboratory, Oak Ridge, Tennessee, October, 1990.
- b. Metallurgical Laboratory letter from R. Doan to S. Cantrill: "Health Protection for Metal Fabrication Operations in Columbus;" March 26, 1943.
- c. Metallurgical Laboratory letter from R. Doan to J. Miles: Trip Report of visit to B&T Metals; April 2, 1943.
- d. DuPont letter from J. Miles to C. Daniels: "Safety Precautions at B&T Metals;" April 20, 1943.
- e. Metallurgical Laboratory letter from R. Doan to J. Miles: "Metal Production Schedule;" May 18, 1943.
- f. MED letter from F. Shinn to S. Sturges: Completion of Project at B&T Metals; November 24, 1943.
- g. DOE letter from A. Whitman to A. Wallo: Authority decisions for a number of sites (including B&T Metals); October 28, 1985; with attached authority recommendation from C. Young to A. Whitman: Authority Review - Metal Fabrication Contractor Sites; September 19, 1985.

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Authority Review  
B&T Metals

bcc:  
Weston  
EM-40 (3)  
EM-42 (2)  
Williams reader

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