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FORMERLY UTILIZED SITES
REMEDIAL ACTION PROGRAM

DESIGNATION SUMMARY
FOR BLISS & LAUGHLIN STEEL COMPANY
BUFFALO, NEW YORK

August 4, 1992

U.S. Department of Energy
Office of Environmental Restoration

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Designation Summary
Bliss & Laughlin, Buffalo

CONTENTS

INTRODUCTION 1

BACKGROUND

Site Function 1
Site Description 2
Owner History 2
Radiological History and Status 2
Authority Review 3

DESIGNATION DETERMINATION 3

REFERENCES 3

Designation Summary
Bliss & Laughlin, Buffalo

INTRODUCTION

The Department of Energy (DOE), Office of Environmental Restoration, has reviewed the past activities of the Manhattan Engineer District (MED) at the former Bliss & Laughlin Steel Company Site in Buffalo, New York, and has completed a radiological survey of the site (Burger, et al 1992). DOE has determined that the residual radioactive materials inside and outside the building exceed current guidelines (USDOE 1987, 1990) for use without radiological restrictions.

Based on a review of the available historical documentation and the results of the survey, the DOE has concluded that this site shall be designated for remedial action under the Formerly Utilized Sites 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 to workers. 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 1992).

The Bliss & Laughlin Steel Company was a large processor of cold drawn steel. In the fall of 1952, the company performed machining and straightening operations on uranium rods. Although contracts or purchase orders have not been located, records of the AEC New York Operations Office (NYOO) suggest the work was performed for the National Lead Company of Ohio (NLO), an AEC prime contractor operating AEC's Feed Material Production Center at Fernald, Ohio. Rods were shipped from Lake Ontario Ordnance Works (LOOW) to Bliss & Laughlin, machined on-site, and then shipped directly to Fernald. Turnings from the operation were picked up by AEC trucks and returned to LOOW for packaging under oil and subsequent shipment to Fernald.

Machining operations were conducted on Saturdays; Saturday operations may have been for security reasons or to avoid disrupting Bliss & Laughlin's on-going steel business. The exact quantity of uranium and the duration of operations is not known. NYOO records indicate machining in September and October of 1952, and 53 drums of turnings collected from Bliss & Laughlin were shipped from LOOW to Fernald in November 1952. There is no evidence of any operations after this date.

Bliss & Laughlin is referenced also in an October 1951 AEC letter as having accumulated four drums of dry uranium oxide. The nature of this earlier work is unknown.

Site Description:

The following discussion is based upon the survey report (Burger, et al 1992).

The former Bliss and Laughlin facility at 110 Hopkins Street consists of a single large building, with a floor area of about 12,000 m² (Figures 1 and 2). There have been only minor changes to the main structure, since the uranium operations in the 1950's. Equipment inside the building has been rearranged or replaced to varying degrees. The current facility occupants indicate that machining operations, such as were performed on the uranium rods, would have been located in the "special finishing" area occupies about 300 m² of floor space. The floor is concrete and contains several shallow utility (water, electricity, lubricant, and pneumatic) trenches; there are no drains in this area. Floor surfaces are generally rough and "pitted" and are covered with a thin layer of oil absorbent material and dried oil and grease. Machining equipment and material storage racks prevent access to some floor surface areas. Ceilings are approximately 12 m high and supported by a framework of trusses. The machining area of the building is open (without inside walls or partitions). The processing area has not changed, although the machining equipment has been replaced. The disposition of the old equipment is not known, but it may have been returned/traded-in to the Medart Company in St. Louis, Missouri.

Owner History:

The following discussion is based on the authority review (Williams, 1992).

The site was owned by Bliss & Laughlin Steel Company. Ramco Steel Incorporated purchased the facility in 1972. As of March 1992, the current owner and occupant is the Niagara Cold Drawn Corporation.

Radiological History and Status:

Surveys were conducted by NLO during rod-turning operations. The alpha measurements of the general area ranged from 60 to 4900 disintegrations per minute per cubic meter (dpm/M³), above the guidelines of the day which restricted exposure to 70 dpm/M³. The Medart rod turning machine gave very high readings, approximately 20,000 dpm/M³ on average with a maximum reading of 205,000 dpm/M³. Samples taken of the general area with the machine off showed only slightly elevated levels of radioactivity (Ref. a).

There is no evidence that the site was decontaminated.

An on-site visit was conducted by the Department of Energy and Oak Ridge Institute for Science and Education on March 14, 1992. This survey determined that residual uranium was present in the floor of the building above DOE Guidelines (DOE, 1987).

Authority Review:

In 1992, the DOE determined that it had the authority to conduct remedial action at the site (U.S. DOE 1986; Williams 1992). This determination based upon the following significant factors.

- Available records suggest that Bliss & Laughlin was directly supervised by the AEC prime contractor. AEC staff apparently approved the arrangements to use the facility.
- As a part of the operations at the site, there were requirements concerning security, accountability, health, and safety. It is not known whether these were controlled by AEC directly or through its prime contractor.
- The uranium machined at the site was owned by the government; operations were apparently conducted on Saturdays to avoid disruption of other Bliss & Laughlin activities or for enhanced security.
- AEC staff arranged for transportation of raw materials, wastes, and products to and from the site.
- A radiological survey has established that uranium is present within the facility in excess of levels specified in DOE Order 5400.5, Chapter IV.

DESIGNATION DETERMINATION:

Although few records are available on the Bliss & Laughlin site, the available records indicate a direct involvement of the AEC in Bliss & Laughlin activities. A radiological survey indicates that uranium remains on the premises; this residual uranium is a likely result of the AEC work at the facility. Based on a review of the available historical documents, DOE has authority to perform the needed remedial action at the Bliss & Laughlin site.

REFERENCES:

J. D. Berger, Radiological Survey of the Former Bliss & Laughlin Steel Company Facility, Buffalo, New York, Oak Ridge Institute for Science and Education, Report ORISE 92/G-6, June 1992.

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USDOE, 1990: Radiation Protection of the Public and the Environment. DOE Order 5400.5. Office of Environment, Safety, and Health, February 8.

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