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FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM

ELIMINATION REPORT
FOR
BRIDGEPORT BRASS COMPANY
HAVENS LABORATORY
(REACTIVE METALS, INC.)
KOSSUTH AND PULASKI STREETS
BRIDGEPORT, CONNECTICUT

Department of Energy
Office of Nuclear Energy
Office of Remedial Action and Waste Technology
Division of Facility and Site Decommissioning Projects

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ELIMINATION REPORT
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INTRODUCTION

The Department of Energy (DOE), Office of Nuclear Energy, Office of Remedial Action and Waste Technology, Division of Facility and Site Decommissioning Projects (and/or predecessor offices and divisions) has reviewed the past activities of the Atomic Energy Commission-(AEC) at the Bridgeport Brass Company, Havens Laboratory, Bridgeport, Connecticut. Based on a review of historical data and a radiological screening survey of the site, DOE has determined that the conditions at this site are in compliance with current DOE radiological guidelines and standards and that no potential for radiological exposure exists beyond those resulting from naturally occurring background. Therefore, this site requires no remedial action and will not be included in the Formerly Utilized Sites Remedial Action Program.

This report presents information supporting the determination that the radiological conditions at the Bridgeport Brass Company, Havens Laboratory, are in compliance with current DOE radiological guidelines and standards¹ and provides assurance that use of the site will not result in any measurable radiological hazard to site occupants or the general public.

¹ U.S. Department of Energy Guidelines for Residual Radioactivity at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites (Rev. 1, July 1985).

This elimination report will be archived by DOE through the Assistant Secretary for Management and Administration. A copy of this package will be available for public review between 8:00 a.m. and 4:00 p.m., Monday through Friday (except Federal holidays), at the DOE Public Document Room located in Room 1E-190 of the Forrestal Building, 1000 Independence Avenue, S.W., Washington, D.C.

BACKGROUND

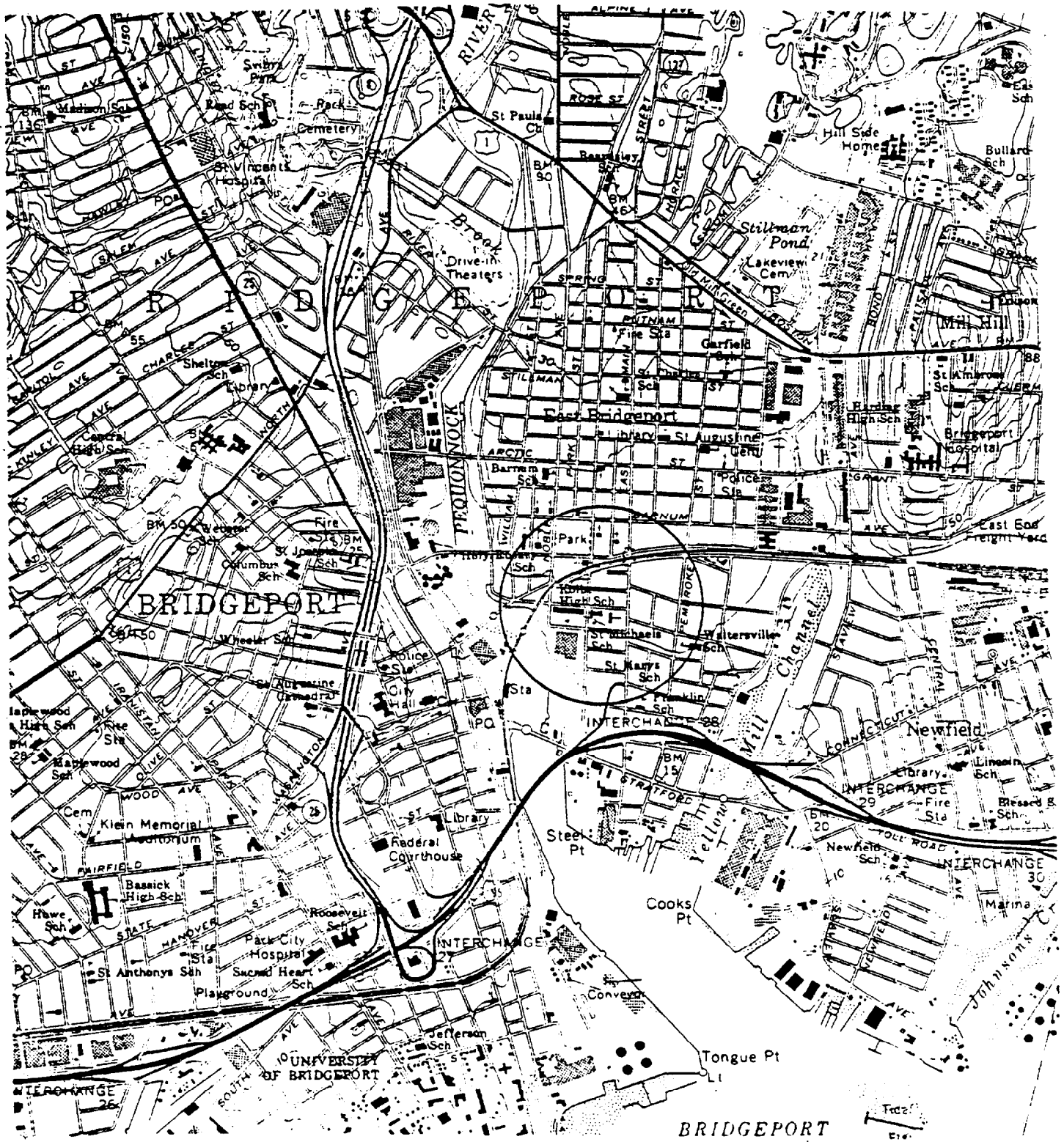
Site Function

AEC contract work with uranium was conducted on a laboratory developmental scale at this location from about 1953 to 1962. The work was performed under contract AT(30-1)-1405, and included cold forming (extrusion) of natural uranium and associated cutting, storage, and laboratory support. In 1962, the operation was moved to a company facility in Seymour, Connecticut.

Site Description

The area under consideration consisted of one building containing a laboratory and associated work areas. The attached figure shows the approximate location of the site in Bridgeport.

This site was originally owned and operated by Bridgeport Brass Company, a subsidiary of National Distillers and Chemicals Corporation. The facility was sold to the Catholic Diocese for use as a school, subsequently resold to the City of Bridgeport Board of Education, and currently houses the Ben Franklin Educational Center (formerly Kolbe High School).



Location of Former Bridgeport Brass Company Site in
Bridgeport, Connecticut

Radiological History and Status

Historical files of Reactive Metals, Inc., (a fellow subsidiary of National Distillers and Chemical Corporation) contain information indicating successful decontamination of the facility during 1962, to meet the then current limits for uncontrolled occupancy. These limits were not significantly different from the current Nuclear Regulatory Commission guides. Oak Ridge National Laboratory conducted a screening survey on August 26-27, 1980, to verify the radiological safety of this site, under the Formerly Utilized Sites Remedial Action Program investigations. Radiation levels were found to be at or near background levels. All levels were well below those required by DOE guidelines for residual radioactivity at formerly utilized sites.

ELIMINATION ANALYSIS

The radiological survey of the facilities used for AEC work found gamma scan measurements and beta-gamma dose rate measurements were at background levels, except for measurements made on or near brick walls, where measurements of up to twice background levels were found. Bricks normally show elevated gamma radiation levels due to naturally occurring radioactivity in the raw materials from which bricks are made, and the elevated levels found at this site appear to be caused by the naturally occurring radioactive materials within the brick. Measurements made on the bonnet of a room vent over the area formerly used as a laboratory gave a maximum value of 156 dpm/100 cm² direct alpha and 0.02 mrad/h beta-gamma. Both values are at or near background levels and are well below DOE guidelines and standards².

² Ibid.

Based on the information summarized in this report, and on reviews of historical data, DOE's Division of Facility and Site Decommissioning Projects has determined that no remedial action is necessary at this site and has eliminated the Bridgeport Brass Company, Havens Laboratory, from further consideration under the Formerly Utilized Sites Remedial Action Program.

REFERENCES

- Oak Ridge National Laboratory, 1985, "Preliminary Radiological Survey of the Former Havens Plant of the Bridgeport Brass Company, Bridgeport, Connecticut," ORNL/RASA-85/6, May 1985.
- D.R. Jefferson (Bridgeport Brass Company) to J.W. Rush (U.S. Atomic Energy Commission), "Health-Safety Inspection of Seymour Site and Decontamination of Havens Laboratory," August 27, 1962.

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Agnew

ORNL/RASA-85/6

Health and Safety Research Division

PRELIMINARY RADIOLOGICAL SURVEY OF THE FORMER HAVENS PLANT
OF THE BRIDGEPORT BRASS COMPANY, BRIDGEPORT, CONNECTICUT

May 1985

Work performed as part of the
RADIOLOGICAL SURVEY ACTIVITIES PROGRAM

OAK RIDGE NATIONAL LABORATORY
Oak Ridge, Tennessee 37831
operated by
MARTIN MARIETTA ENERGY SYSTEMS, INC.
for the
U. S. DEPARTMENT OF ENERGY
under Contract No. DE-AC05-84OR21400

PRELIMINARY RADIOLOGICAL SURVEY OF THE FORMER HAVENS PLANT
OF THE BRIDGEPORT BRASS COMPANY, BRIDGEPORT, CONNECTICUT

INTRODUCTION

The Bridgeport Brass Company's Havens plant located at Kossuth and Pulaski Streets, Bridgeport, Connecticut, was used under contract with the Atomic Energy Commission (AEC) to process uranium during the period 1953-1962. Contract work involved developmental cold forming (extrusion) of natural uranium metal and associated cutting, storage, and laboratory support. This operation was moved to the Bridgeport Brass Company's Seymour, Connecticut, site in 1962 and the vacated plant was subsequently sold. Record files at Old Reactive Metals, Inc. contain information which indicates that the Havens plant was successfully decontaminated to meet the then current "limits for uncontrolled occupancy" (memorandum, D. R. Jefferson, Bridgeport Brass to J. W. Ruch, AEC, August 1962 [copy attached]). However, under the Department of Energy's Formerly Utilized Sites Remedial Action Program (FUSRAP), the Havens site was identified as a candidate site to be investigated relative to present radiological conditions onsite.

Since the time of the AEC work, the former Havens plant building has apparently undergone extensive remodeling. The building is now owned by the city of Bridgeport, and has been converted to use as Kolbe High School. At the request of the Department of Energy, a preliminary radiological survey was conducted at Kolbe High School on August 26 and August 27, 1980 by members of the Health and Safety Research Division of Oak Ridge National Laboratory.

RESULTS OF THE SURVEY

The extensive remodeling of the old plant building into its present state made positive identification of specific areas that had been previously used for uranium processing extremely difficult. Mr. Crawford Hayes of Bridgeport Brass, Inc. provided background information and made

* The survey was performed by members of the Radiological Survey Activities Group of the Health and Safety Research Division at Oak Ridge National Laboratory under DOE contract DE-AC05-84OR21400.

contact with people who were familiar with processes that were carried out in the Havens plant. Based on recollections of these people and on information obtained from a layout map of the old Havens plant, sections of the Kolbe High School building were identified as being the areas that were most likely used for uranium processing during operation of the Havens plant. Areas identified for surveying included rooms of Kolbe High School presently numbered 108, 201, 202, 204 and entrance way, hallway and room 209, and a portion of the roof including a room vent which was believed to have been over the chemical laboratory of the Havens plant.

The preliminary radiological survey included the following measurements:

1. A gamma scan of indoor surfaces, floors, walls, and accessible support beams.
2. Beta-gamma dose rate measurements at selected locations on indoor surfaces.
3. Measurement of direct alpha activity on building surfaces.
4. Measurement of transferable alpha and beta-gamma activity on indoor surfaces.
5. Alpha and beta-gamma measurements on roof surfaces and room vents exhausting onto the roof.
6. A walkover gamma scan of grounds outside the school building.

Gamma scan measurements and beta-gamma dose rate measurements were all in the range of background except for measurements made on and near brick walls where measurements were found to be up to twice background. Gamma background levels in most areas of the United States range from 5 to 10 $\mu\text{R}/\text{h}$, and beta-gamma dose rates are of the order of 0.02 mrad/h. Brick walls usually show elevated gamma radiation levels due to the presence of small amounts of naturally-occurring radioactive materials in the raw materials from which the bricks are made. The elevated gamma levels measured on and near the brick walls of Kolbe High appear to be caused by naturally-occurring radioactive materials contained in the

brick. Measurements made on the bonnet of a room vent over the area formerly used as a laboratory in the old Havens plant gave a maximum value of 156 dpm/1000 cm² direct alpha and 0.02 mrad/h beta-gamma. All other direct alpha measurements both on the roof and inside the building were at background levels. Results of analyses of smear samples taken on the roof vent bonnet as well as those taken on top of suspended ceiling panels and steel supports in rooms of the building were all within background levels.

SIGNIFICANCE OF FINDINGS

The most probable areas of work with the former Bridgeport Brass Company's Havens plant were surveyed by ORNL for evidence of residual radioactivity above background radiation levels. No evidence was found at these locations where measurements were made to indicate the presence of any radiation levels in excess of those levels typically expected.

August 27, 1962

U.S. Atomic Energy Commission
Oak Ridge Operations Office
Feed Materials Division
P.O. Box E
Oak Ridge, Tennessee

Attention: Mr. J. W. Ruch, Director

Subject: Health-Safety Inspection of Seymour Site and Decontamination
of Havens Laboratory

Gentlemen:

Reference is made to your letter of June 13, 1962, subject as above,
reference symbol OF:DEL.

Please be advised that final cleanup and removal of contamination has
been accomplished in all areas of the Havens Laboratory which were formerly
used for AEC work. No major problems were encountered in decontamination,
and all areas are presently below acceptable surface contamination limits
for uncontrolled occupancy.

Also enclosed, as requested, are five (5) prints each of the Seymour
facility exhaust systems and floor plans of the building, with the AEC
Areas outlined.

It is suggested that the follow-up survey of the Seymour Site be
scheduled for the week of September 24, 1962. Further details on the
exact date may be coordinated directly with Mr. A.W. Grella.

Very truly yours,

BRIDGEPORT BRASS COMPANY
A DIV. OF NAT'L. DIST. & CHEM. CORP.

D. R. Jefferson
AEC Contract Manager