

MALLINCKRODT CHEMICAL WORKS, Building No. 50
(~~Mallinckrodt Inc.~~)
Bounded by Lane G, 8th Alley, Lane F and
Building 51; Mallinckrodt Inc. Plant
St. Louis, Missouri

HABS No. MO-1929-A

HABS
MO
96-SALU,
134A-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey
National Park Service
Great Plains Support Office
1709 Jackson Street
Omaha, Nebraska 68102-2571

HISTORIC AMERICAN BUILDINGS SURVEY
MALLINCKRODT CHEMICAL WORKS, BUILDING 50
(Mallinckrodt Inc.)

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134A-

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Location: Bounded by Lane G, 8th Alley, Lane F, and Building 51, Mallinckrodt and Second streets, St. Louis, Missouri

USGS Granite City, Illinois-Missouri Quadrangle (7.5'), Universal Transverse Mercator Coordinates: 744275 E; 4282757 N

Present Owner: Mallinckrodt Inc.

Original Use: Boiler house, Buck's Stove and Range Company

Present Use: Demolished September 1996

Significance: One of 16 buildings at Mallinckrodt Chemical Works associated with the Manhattan Engineer District/Atomic Energy Commission (MED/AEC)—sponsored program to process uranium for use in the development of atomic weapons, Building 50 was a general utility building for the uranium processing operations. It housed incoming feeds as well as packaged products. Tanks were installed to store liquids for use in Building 51. It also served for mechanical repairs. Briefly one corner of the building was used for preliminary work to develop the process equipment for manufacturing green salt (UF₄).

PART I. HISTORICAL INFORMATION

A. Physical History

1. **Date of erection:** Building 50 was built before 1883 as part of the Buck's Stove and Range Company.¹
2. **Architect:** The architect for this building is unknown.
3. **Original and subsequent owners:** The original owner of Building 50 was the Buck's Stove and Range Company, founded before 1883 in the North Broadway industrial section along the Mississippi River. In 1935, the building was bought from the Stove Company by the Mallinckrodt Chemical Works (MCW).
4. **Builder-contractor:** The contractor is unknown.
5. **Original plans and construction:** Built before 1883 this building, measuring 50'-2" x 122'-6", served as the boiler house for the Buck's Stove and Range Company. It is unknown whether original plans are extant.
6. **Alterations and additions:** There have been a number of alterations to Building 50, including: addition of the north wing between 1900-1940; replacement of doors on the west and south sides; infill of eight original windows on the south side second floor with brick; infill of six horizontal windows on the first floor with brick; addition of Building 51 on the east side; infill of the original exterior door on the east side. A white concrete mezzanine was added to the interior in the 1920s.

B. Historical Context

The "Building 50 series" (50, 51, 51A, 52, 52A), constructed between 1883 and 1941, consist of five interconnected industrial warehouse buildings. Building 50 originally was the boiler house for the Buck's Stove and Range Company, located in the block between Mallinckrodt, Destrehan, Second, and Main streets. Founded in 1846 by Charles H. Buck in partnership with Wiley S. Wright, the company manufactured gas stoves, heating stoves, coal and wood

¹ G. M. Hopkins, *Atlas of the City of St. Louis, Missouri* (Philadelphia: G.M. Hopkins, 1883).

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ranges, gray iron castings, and porcelain and enamel ware. It was incorporated in 1875, and maintained warehouses in Chicago, Los Angeles, and San Francisco.

The company facilities consisted of several foundries, a casting house, enameling house, mounting, plating and polishing building, warehouses, offices, sample showrooms, a carpenter and pattern shop, pattern vault, tin shop, and boiler building. The majority of the buildings were brick with several wood or corrugated metal buildings, as well.²

In 1935, Mallinckrodt Chemical Works purchased the western half of the Buck's Stove Company (Block 1207), including Building 50. In April 1942, when MCW became involved in purifying large batches of uranium oxide for the U.S. government as part of the wartime effort to develop the atomic bomb, Buildings 50, 51, 51A, 52, and 52A were taken over as the production site for the purification of the uranium oxide. The purification process took place in five stages; conversion of the uranium oxide to uranyl nitrate (which Mallinckrodt had sold for years as an analytical reagent), purification of the uranyl nitrate by ether extraction, recovery of the uranyl nitrate from the ether, conversion of the uranyl nitrate to uranium trioxide, and, finally, the reduction of uranium trioxide to uranium dioxide.³

Building 50 was a general utility building for the uranium processing operations. It housed incoming feeds as well as packaged products. Tanks were installed to store liquids for use in Building 51. It also served for mechanical repairs. Briefly one corner of the building was used for preliminary work to develop the process equipment for manufacturing green salt (UF₄).⁴

PART II. ARCHITECTURAL INFORMATION

A. General Statement

1. **Architectural character:** Building 50 is an industrial two-story brick building dating from the late nineteenth century. It is a vernacular general-purpose warehouse.

² North St. Louis Businessmen's Association, *Who's Who in North St. Louis* (St. Louis: A.S. Werrenmyer, 1925), 303; *Whipple's Fire Insurance Map of St. Louis, Missouri* (St. Louis: A. Whipple, 1897), 136.

³ The History Factory, *Mallinckrodt 125th Year Anniversary* (Washington, D.C., 1992), 57.

⁴ John Ruhoff, "The First Fifty Critical Days," *Uranium Division News*, June 1962: 3; Mont C. Mason, "History and Background Relative to the Radiological Re-Monitoring of Mallinckrodt by the Energy Research and Development Administration" (St. Louis: Mallinckrodt, Inc., 1977), 13.

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2. **Condition of fabric:** The fabric is in poor condition: the brick is spalling; the walls are cracked; there are holes in the walls; the mortar is crumbling and the paint is peeling.

B. Description of Exterior

1. **Overall Dimensions:** Building 50, a two-story building, is rectangular in shape, and measures 54'-4" in width x 122'-6" in length x 32' in height. There is a lower brick wing to the north.
2. **Foundation:** The foundation is rubble limestone approximately 2' in height, painted red. In some places it is covered with a concrete wash.
3. **Walls:** The load-bearing brick walls are two bricks wide. Along the long east-west sides are five brick piers, two bricks deep x five-and-one-half bricks wide. It shares the east wall with Building 51.
4. **Structural system, framing:** Building 50 has load-bearing brick walls.
5. **Porches:** There are no porches or steps.
6. **Chimneys:** There are no chimneys.
7. **Openings:**
 - a. **Doorways and doors:** Building 50 has five exterior doors. On the north side is a loading dock door infilled with plywood. On the south side is a wood-framed industrial door. On the west side are three modern doors: a double sliding plywood door with small glass upper panes; a double wood door with three panes in each side; and a single wood frame door with two glass panes.
 - b. **Windows:** On the north side of the original building are a bank of windows at the second floor level, with corrugated fiberglass sheets. On the north wing is a bank of corrugated fiberglass infilled windows extending to the roof. On the south side are three ribbon windows on either side of the door, in metal frames. They have been bricked-in. On the second floor level are eight segmented arch windows that have been bricked-in. On the east side, on the interior wall is a multi-paned, wire glass window. On the west side of the original building are five second story windows; four are infilled with

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corrugated fiberglass and one with screening. On the first floor, west side, are two large wood-framed openings that are infilled with fiberglass. On the west side of the west wing are two large, second-story wood-framed windows that are infilled with corrugated fiberglass.

8. **Roof:**

- a. **Shape, covering:** The flat roof consists of 1" x 10" wood boards covered with rolled asphalt.
- b. **Cornice, eaves:** There is no cornice or eaves. The flat roof has a stepped parapet wall with tile coping on the front (south) side.
- c. **Dormers, cupolas, towers:** There are no dormers, cupolas or towers.

C. **Description of Interior**

1. **Floor plans:** There is one large room in the original section of Building 50. The north wing has two rooms separated by a partial brick wall. On the west side of the original building is a six-bay second-story mezzanine of poured concrete resting on concrete canted posts with metal I-beam rafters. The center bay has been enclosed with concrete block.
2. **Stairways:** One stair to the mezzanine has been removed.
3. **Flooring:** The building has concrete floors.
4. **Wall and ceiling finish:** The walls are painted brick. The ceiling consists of 2" x 12" wood rafters resting on two small I-beams running north-south that, in turn, rest on five large I-beams running east-west.
5. **Openings:** There was one large opening on the east wall, below the multi-paned window, originally leading to the exterior, now into Building 51; it has been infilled with hollow clay tile.
6. **Decorative features and trim:** There are no decorative features and trim.
7. **Hardware:** There is no hardware.

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8. **Mechanical equipment:**
 - a. **Heating, air conditioning, ventilation:** The building was heated with central heating from Building C in Plant 1.
 - b. **Lighting:** None of the original lighting remains.
 - c. **Plumbing:** There are no bathrooms. Water pipes for sprinklers run along the ceiling.
9. **Furnishings:** None of the original furnishings remain.

D. Site

1. **General setting and orientation:** The 50 series buildings (50, 51, 51A, 52, 52A) are located in Plant 2, set within a number of new buildings on the north, south, and west sides. Oriented east-west, the five buildings are connected and appear as a single unit.
2. **Historic landscape design:** The setting is industrial and there was no landscaping.

PART III. SOURCES OF INFORMATION

- A. **Architectural Drawings:** Original drawings for this building were not located. Its date comes from various St. Louis atlases.

B. **Bibliography**

Hopkins, G.M. *Atlas of the City of St. Louis, Missouri*. Philadelphia: G.M. Hopkins, 1883.

Mason, Mont G. "History and Background Relative to the Radiological Re-monitoring of Mallinckrodt by the Energy Research and Development Administration." St. Louis: Mallinckrodt, Inc., 1977.

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Whipple's Fire Insurance Map of St. Louis, Missouri. St. Louis: A. Whipple, 1897.

PART IV. PROJECT INFORMATION

This HABS documentation project was undertaken as mitigative recordation required by Section 106 of the National Historic Preservation Act of 1966. The United States Department of Energy Former Sites Restoration Division demolished the Building 50 series in September 1996 as part of site remediation and decontamination.

The documentation was prepared by Alexandra C. Cole, architectural historian at Science Applications International Corporation (SAIC), Santa Barbara, California, in October 1996. Large-format photography was done by Bruce Harms of Louis Berger and Associates, Inc., Marion, Iowa, in August/September 1996. Measured floor plans and elevations were prepared under the supervision of Ohannes Armani of Bechtel National Incorporated (BNI), Oak Ridge, Tennessee, in September 1996.

*FOR SITE PLANS SEE MO-1929 FIELD NOTES