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SUPPLYING THE BATTLEFRONT

By 1940, Western Pennsylvania was already feeling the impact of the industrial wave that would transform the landscape and its people during World War II. Companies such as Westinghouse Electric Corporation, Carnegie-Illinois Steel, and Mine Safety Appliances searched for new products to fill unprecedented War Department needs. Aviation’s expanded role in World War II engaged much of that focus. Westinghouse manufactured everything from aircraft radio tuning units and gear components to experimental new tracking systems involving radar. Carnegie-Illinois Steel worked with manufacturers testing specifications for aircraft armor. Mine Safety developed high altitude breathing equipment for pilots.¹

The blades of an airplane propeller from the Smithsonian Institution’s National Air and Space Museum featured in We Can Do It! WWII illustrate how aviation’s increased military role in World War II altered the life of one Western Pennsylvania community and symbolized a pattern of industrial expansion that played out across the region during the war years.

As the global conflict escalated in 1940, the Curtiss-Wright Corporation churned out hollow steel aircraft propeller blades on Pittsburgh’s Neville Island as well as in Indianapolis, Indiana, and Caldwell, New Jersey. The blades—the legacy of earlier efforts by two Westinghouse tool designers to create hollow-steel propellers during World War I—powered World War II aircraft such as the U.S.
According to Guy W. Vaughn, president of the Curtiss-Wright Corporation, the new $5 million facility would be “the largest individual aircraft propeller manufacturing plant in the United States.”

Navy Curtiss SB2C-1C “Helldiver” dive bomber and the Curtiss P-40 “Warhawk.”

Yet even with multiple plants operating at full capacity, Curtiss-Wright could not keep up with the demand. A search began for a new location that would employ nearly 4,000 people. In February 1941, the War Department announced that a site had been chosen—a farm in Borough (now Vanport) Township near Beaver, Pa. The site, just to the west and north edge of town, was along Tuscarawas Road, a quiet area that had been part of the busy cross-country Lincoln Highway, 1913–1928.

According to Guy W. Vaughn, president of the Curtiss-Wright Corporation, the new $5 million facility would be “the largest individual aircraft propeller manufacturing plant in the United States.” The factory brought thousands of new jobs to the region between 1942 and 1945, employing both men and women, especially as welders. These workers eventually fabricated more than 100,000 new propeller blades for a wide variety of aircraft each year, including blades for the Curtiss Helldiver, a carrier-based dive bomber used in squadron raids against Japan, and the Martin Mars, at the time the largest air cargo transport plane in the world.

The plant was promoted as a marvel of new technology. According to one advertisement, it was as “clean and cheerful as your own kitchen.” Jobs were fully “mechanized so that they can be easily handled by women.” Curtiss-Wright offered transportation services and modern housing nearby, some within walking distance. So many workers desired to move to the area that housing shortages became a serious issue within months of the original site announcement. By August 1941, Beaver County witnessed the federal approval of at least 1400 new defense homes. This activity echoed a wider building boom across the Pittsburgh region, where at least sixteen war housing projects took shape from Clairton to Natrona Heights—the highest concentration of any defense district in Pennsylvania.

Alas, what wartime production spurred, it also took away. When nuclear bombs at Hiroshima and Nagasaki accelerated the Japanese surrender, the need for military aircraft plummeted. Curtiss-Wright consolidated many of its operations, and the “giant war plant” near Beaver shut its doors on August 22, 1945.
The Keystone Ordnance Works near Meadville, Pa. manufactured TNT for use in shells and other explosive devices. This U.S. Army Signal Corps photograph shows how the TNT, which was described as a powder that “looked like brown sugar,” was loaded into waiting shells in March 1943. LC-B002146

The Keystone Ordnance Works once sprawled over 14,000 acres of farm and wetlands. The $45 million plant manufactured TNT, a key explosive during the war.
moved its Standard Control Division from East Pittsburgh to Vanport Township and operated the plant as part of its electronic distribution and control unit for more than four decades, before selling it to the Eaton Corporation in 1993-1994. The Vanport plant became part of Eaton’s Cutler-Hammer Division, manufacturing electrical equipment such as circuit breakers. Weathering the nation’s economic roller coaster of recent years, the Vanport Township plant continues in operation today under the name of Eaton Electronics. It still employs some third-generation workers whose grandparents first walked into the factory during that rush of industrial expansion in the early days of World War II.1

1 Examples are based on artifacts, photographs, and documents featured in We Can Do It! WWII, including a Westinghouse GP-7-2 radio tuning unit (for ship to air communication) on loan from the Smithsonian Institution, National Air and Space Museum; documentation of Carnegie-Illinois Steel wartime activities as found in the records of the William J. Gaughan Collection, Series II, Box 3, AIS.1994.03, Archives Service Center, University of Pittsburgh, and images from the files of Mine Safety Appliances Company (now MSA), see: That Men & Women May Work in Safety, The First 100 Years of Mine Safety Appliances Company (Echo Memoirs Co.: 2014), 116-117.

2 The primary designer was Thomas A. Dicks, who reportedly developed early models out of a small shop in Homewood and became involved with multiple early propeller manufacturers in Pittsburgh. See: William F. Trimble, High Frontier: A History of Aeronautics in Pennsylvania (Pittsburgh: University of Pittsburgh Press, 1982), 116; and “Work Started a year Ago on Curtiss-Wright Plant Here,” The Daily Times (Beaver and Rochester, Pa.), April 21, 1942.

3 Some newspaper accounts at the time refer to the land selected as being in “Beaver Township,” probably a corruption of the township’s original name “Borough Township.” The official designation was changed to Vanport Township in 1970. The name shift was recorded by the Beaver County Bicentennial Atlas (1976), as accessed online at: http://www.bchistory.org/beavercounty/BeaverCountyCommunities/VanportTwp/VanportTownship.html, part of the Beaver County History Online project.

4 “Big Propeller Plant Will Be Built Near City,” Pittsburgh Post-Gazette, February 27, 1941.

5 A Beaver-area newspaper highlighted women welders in a photo feature in 1943, see: “Women Welders at Curtiss-Wright Propeller Plant,” The Daily Times (Beaver and Rochester), October 30, 1943. The need for welders was also stressed in an article in early 1945: “Fighting Planes Grounded Waiting for Propellers,” The Pittsburgh Press, January 17, 1945.
6 For a full listing of the propeller types produced at Beaver, see: “Army-Navy ‘E’ Won by Makers of Propellers,” The Pittsburgh Press, June 18, 1943; and “A Message from Mars,” (advertisement) The Pittsburgh Press, April 12, 1944.

7 “Look to the Sky, America!” (advertisement) The Pittsburgh Press, April 12, 1944.

8 “Housing Needs of County Stressed at Two Meetings,” The Daily Times (Beaver and Rochester), May 24, 1941.

9 “Approval Given 900 New Homes Here for Defense Workers,” The Daily Times, August 1, 1941.

10 Kristin Szylvian Bailey, “Defense Housing in Greater Pittsburgh,” Pittsburgh History (Spring 1990), 18, 20. Pennsylvania had the fifth highest total among all states for new housing units. California was first, thanks in part to the state’s prominence in the aviation industry.


12 The story and fate of the massive Keystone Ordnance Works compound was well-documented in regional newspapers, see for example: “Powder Plant is Advanced,” The Pittsburgh Post-Gazette, November 18, 1941; “Output Drops at Meadville Powder Plant,” The Pittsburgh Press, January 16, 1944; and “Tale of Two Cities’ War Boom to End With Closing of Plant,” The Pittsburgh Post-Gazette, January 31, 1944.

13 For example, see: “Boost War Production / Keystone Ordnance Works,” Pittsburgh Post-Gazette, December 10, 1942. Interviews were scheduled at the Hotel Henry, on Fifth Avenue in downtown Pittsburgh.


15 “Ordnance Plant to Be Reopened,” The Daily Times (Beaver), July 15, 1944.


17 “Plants Here to Lay Off 7,000 Workers Today,” Pittsburgh Post-Gazette, August 17, 1945; “Closing of War Plants Lets Out 400,000; Million More Out Soon,” The Evening Independent (St. Petersburg, Fla., AP article), August 16, 1945.


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