# OGDEN'S "ARSENAL of DEMOCRACY" 1920-1955

BY THOMAS G. ALEXANDER

After World War I the United States attempted to ignore, or at least to minimize the effect of, military and political developments in the rest of the world. George Washington's Farewell Address and the sentiments of Thomas Jefferson were cited as proof that we should have no "entangling alliances." Though commercially aggressive, the American people remained politically disengaged.[1]

Consistent with this isolationist attitude, the end of World War I signaled a contraction in military expenditures. Most unused ammunition was concentrated in five depots along the Atlantic Coast which had been used as forwarding centers for overseas shipment. In 1920, however, the War Department decided to construct two new ordnance depots to disperse part of the munitions away from the Atlantic. Some 25 per cent was to be left on the eastern seaboard, 15 per cent was to be taken to a new depot to be constructed near Ogden, Utah, and the rest was to be sent to

Thomas G. Alexander is an assistant professor of history at Brigham Young University. The writer expresses appreciation to Professor Leonard J. Arrington of Utah State University for his aid in the preparation of the manuscript. The research for this article was done under a grant from the Utah State University Research Council. Photographs for this article are courtesy Ogden Air Materiel Area.

[1] Richard Hofstadter, William Miller, and Daniel Aaron, *The American Republic* (2 vols., Englewood Cliffs, New Jersey, 1959), I, 280, 294; II, 546–49.

Savanna, Illinois.[2] The Ogden site lay about 10 miles southwest of the city — at Sunset, a suburb on the Ogden-Salt Lake City highway and railway routes. Metropolitan Ogden, because of its position on the main east-west transportation arteries, presented an excellent site for efficient storage and rapid transshipment.[3]

## The Ogden Arsenal as a Reserve Depot, 1920–1935

After the Army had found the suburban location suitable, the War Department authorized the purchase of 1,200 acres in March 1920. The site lay partly on a sand hill, and partly on farm land just east of Highway 91. Though the purchase included several larger units, most of the land consisted of small plots of between 20 and 50 acres. In addition to the main reservation, the government purchased a 212-acre watershed and a right-of-way to bring water to the installation. The land and water supply cost the government $153,914, but clear titles to the land were hard to obtain, and as late as 1945 much of the land was still under dispute in the courts. The government also acquired additional land between 1921 and 1935.[4]

The Army assigned Ora Bundy, later mayor of Ogden (1930–34), to supervise the construction under the direction of the Third District Construction Service at Fort Mason, California. Under his stewardship the majority of the construction was done by W. M. Sutherland, and was completed between the spring of 1920 and the fall of 1921. As each unit was completed, it was turned over to Major O. H. Presbrey, the first commander.[5] The main buildings consisted of 35 hollow-tile 220 by 50 feet magazines with rubberoid roofs. Other buildings which helped serve the purposes of the installation included an administration building, a gen-

[2] Constance McLaughlin Green, Harry C. Thomson, and Peter C. Roots, *United States Army in World War II, The Technical Services, The Ordnance Department: Planning Munitions for War* (Washington, D.C., 1955), 37–38; Harry C. Thomson and Lidda Mayo, *United States Army in World War II, The Technical Services, The Ordnance Department: Procurement and Supply* (Washington, D.C., 1960), 360.

[3] Material relating to the history of Ogden Arsenal is found in the Historical Archives, Office of Information, Hill Air Force Base. Miss Helen Rice, base historian, provided a clipping file entitled "Publicity, Newspapers and Magazines — Clippings, 1936–38, and 1939–40"; xerographic copies of newspaper clippings from the personal clipping files of Frank M. Browning; "Addendum Number 1 to OOAMA Histories," which is a compilation of documents relating to the history of Hill Field; a file entitled "Arsenal Letters 1921" which contained information on the early construction; and "History Statement of Ogden Arsenal," by Ray S. Odd (typescript, *ca.* October, 1954). Unless otherwise noted, all information in the article is from the Hill Archives.

[4] Verifax reproduction of a document giving data on land procurement dated August 4, 1928, revised March 16, 1929, re-revised June 16, 1936, pp. 1–5 (hereafter referred to as Land Procurement Document), in "Addenum Number 1 to OOAMA Histories." Also *Salt Lake Tribune*, April 9, 1937, September 17, 1945.

[5] Ora Bundy to Chief, Third District Construction Service Fort Mason, California, April 27, 1921, and a series of forms turning over property to Major O. H. Presbrey, dated between February 19 and October 15, 1921, in "Arsenal Letters 1921."

*Warehouses, motor pool, transportation facilities, headquarters, and other storage-manufacturing facilities of Ogden Arsenal, now part of Ogden Air Materiel Area.*

eral warehouse, two repacking houses, a machine shop, and a locomotive house. Although the contractors installed a sewage system, the government furnished 11 four-hole latrines — undoubtedly for the convenience of those who might not appreciate more modern facilities! Total improvements made during this early construction were appraised in 1928 at $1,077,187.[6]

The government designed the Ogden Arsenal as a reserve depot to receive stocks in bulk from factories and hold them for emergency use. The installation was activated April 22, 1920, with an employment of about 20.[7] Employment remained stable at that approximate figure until 1925. Between 1926 and 1935 a sergeant commanded the post, with one other sergeant usually on duty. Part of the magazine and lower area were

[6] John D. McConahay, "The Economic Impact of Hill Air Force Base on the Ogden Area" (Master's thesis, Utah State University, 1955), 15; Land Procurement Document, 6.

[7] Thomson and Mayo, *Ordnance: Procurement and Supply*, 353; Odd, "History Statement," 1.

leased for grazing. During these years the materiel stored at the Arsenal was classified as excess and obsolete. The general neglect of the base is evident in the fact that although all but six of the storage magazines blew down in June 1929, at an estimated loss of $781,000, no attempt was made to repair them until 1935.[8]

## Pre-World War II Expansion

By the mid-1930's those buildings which had not blown down had become old and useless. The railroad tracks had rusted and roads had become run-down. However, the worsening of the international situation made it imperative that this and other facilities be up-dated. Mobilization regulations of February 1935 provided for the increased production of munitions, and a proposal for expansion of the Air Corps brought the need for bomb storage space. Money which was being used for anti-depressionary public works projects could defray the cost of expansion.[9]

A board of five officers headed by Colonel Norman F. Ramsey was chosen to decide what factors were important in the expansion. These men concluded that strategic location, proximity to raw materials, nearness to probable areas of action (assuming that the theatres of action would be in the West and Southwest), economy of operation, and climate were the most important considerations. Secretary of War George Dern, who had previously served as Utah's governor, accepted the board's recommendation that there be no construction east of the Appalachian Mountains or west of the Cascade and Sierra Nevada ranges. It was also concluded that depots should be located at a reasonable distance from the United States' northern and southern borders. On this basis, the board and Secretary Dern decided that the Pacific Coast States could best be served by the already existing Benicia Arsenal in San Francisco and an expanded Ogden Arsenal. New construction at Ogden was also suggested by Brigadier General E. M. Shinkle, chief of the Ordnance Field Service, who later served as commander of the Arsenal during part of World War II.[10]

Meanwhile, because of the impact of the Great Depression on Ogden, the Chamber of Commerce, working through its military affairs committee, petitioned the government to rehabilitate and reactivate the functionless Arsenal. The Works Progress Administration appropriated $299,525 in 1935 and $336,885 in 1936 to help in the reconstruction, and in

[8] *Tribune*, April 9, 1937; Green, *et al.*, *Ordnance: Planning Munitions*, 61–62.

[9] Thomson and Mayo, *Ordnance: Procurement and Supply*, 361–62.

[10] *Ibid.*; *Ogden Standard Examiner*, February 8, 1942.

1936 and 1937 the Chamber itself purchased land and gave it to the government to aid in the expansion.[11] This construction and expansion represent a fine example of a local business group working together with government to help generate new jobs for the unemployed.

National attention was drawn to the area on September 9, 1936, when Harry L. Hopkins, chief of the federal Works Progress Administration, officiated in a ground-breaking ceremony for a new $221,000 ammunition loading plant. Whereas the Arsenal had been designed only for storage, it was now expected to manufacture munitions and would thus provide work for at least 100 persons. So important was the expanded enterprise to the state's economy that when a railroad spur to the loading plant was completed on October 30, Governor Henry H. Blood drove a silver spike at a celebration attended by Senator William H. King and Congressman Abe Murdock.[12]

The cost of the reconstruction of the old facilities and the construction of new buildings and improvements was estimated at $3.5 million. This amount included storage igloos, a bomb loading plant of 12 large buildings, and railroad facilities. Because much of the work was done by WPA labor, the Civilian Conservation Corps constructed a tent camp to house 250 single men who worked on the new buildings.[13]

During the period between 1935 and 1938 the WPA employed an average of between 100 and 500 workers on Arsenal construction projects. By June 1938 the plant was supposed to open, but construction was behind schedule, so the number of employees was increased to 1,150. Late in June, Congress tentatively decided to turn the construction projects over to private contractors under the Public Works Administration. WPA workers, estimating that more than 400 of the 1,000 employees would lose their jobs, petitioned the government to leave their agency in charge. Congress finally concluded that both WPA and PWA should work on the project and appropriated $1.3 million to employ PWA contractors. By June 12 with the new appropriation, 1,159 workers were employed on construction.[14]

After the first phase of rehabilitation, which lasted between 1935 and 1939, the Army undertook further construction in 1940. Between then

[11] Memorandum by William P. Stephens, April 10, 1940, p. 1, in "Addendum Number 1"; *Tribune*, February 24, 1937, January 26, 1938.

[12] *Ogden Standard*, September 9, October 30, 1936.

[13] The expenditure estimate was made by General E. M. Shinkle on a four-day inspection trip during the course of construction, *Ogden Standard*, November 2, 1936. Also, *ibid.*, March 27, 1938; *Tribune*, March 9, 1937.

[14] Estimate of the average number of workers made from *Tribune*, June 5, 24, July 6, 1938; *Ogden Standard*, June 25, July 12, 1938.

and 1942 the facility was completely modernized. Construction in 1940 cost about $2.6 million, and in June 1941 a contract was let for an additional $3.5 million in facilities. This second phase of construction was designed to include plants for the loading of 20 mm. and 37 mm. artillery shells. The construction included 40 additional warehouses, 2 shell loading plants, a small calibre shell assembly plant, a black powder pelleting plant, roads and ramps, and a new railroad line.[15]

In addition to the $3.5 million put into the construction of new facilities at the Arsenal between 1935 and 1938 and the additional $6.1 million between 1940 and 1942, the Army purchased machinery and rolling stock for the new operation. During construction, TNT, locomotives, amotol mixers, and ammunition cars flowed into the installation in preparation for the time when full-scale production could begin.[16]

When the bomb loading plant opened in the fall of 1938, the government engaged approximately 100 employees on a permanent basis to load aerial bombs varying in weight between 100 and 2,000 pounds. By April 1941 the number had grown to 300 full-time employees. In September 1941 the second phase of construction was far enough along that the trial loading of the 20 mm. and 37 mm. artillery ammunition began, and on November 11 actual production began with a force of 100 men and 40 women.[17]

In addition to the ammunition loading operations, the Arsenal undertook other missions. In 1938 Ogden was named as an ammunition storage base for the Air Corps, and 40 warehouses were filled with inert ammunition and components and empty practice bombs. When the installation also undertook the reconditioning of ammunition, a controversy arose. Representative Paul W. Shafer, of Michigan, called for a congressional investigation of defense costs. Ammunition was being shipped from Hawaii to Ogden, he said, and the freight from San Francisco, one way, had been $210,000. Shafer opined that the whole plant could have been duplicated in Hawaii for $30,000.[18]

[15] Anthony T. Cluff, "The Role of the Federal Government in the Industrial Expansion of Utah During World War Two" (Master's thesis, Utah State University, 1964), 37–38; Thomson and Mayo, *Ordnance: Procurement and Supply*, 373, 379; Odd, "History Statement," 1; McConahay, "Economic Impact," 16; *Ogden Standard*, June 30, July 10, 1939; *Tribune*, January 4, February 2, 12, 1941.

[16] *Ogden Standard*, October 26, November 2, 19, December 6, 1936; *Tribune*, April 17, 1938.

[17] McConahay, "Economic Impact," 16; *Tribune*, April 20, November 11, 1941; Odd, "History Statement," 1–2.

[18] Green, *et al.*, *Ordnance: Planning Munitions*, 63–64; clipping for January 30, [1939], Hill Archives.

## World War II

During the pre-war period, the Arsenal had been constructed and readied for the task it was to perform in the service of the American war effort. The Arsenal could store ammunition — the purpose for which it had originally been designed; and the expansion of its facilities between 1935 and 1941 had made it capable of producing bombs and small caliber artillery shells. During World War II its facilities were greatly expanded around the nucleus which had been built during the depression of the 1930's.

By December 1941 the last phase of construction had not yet been completed. Twenty miles of railroad track had been laid and 12 miles remained to be put down. A large force of civilians worked day and night so the numerous warehouses, the shell loading plant, and a recently completed locomotive repair shop could be linked to the outside world.

On December 8, 1941, the day after the Japanese attack on Pearl Harbor, the commanding officer took the precaution of doubling the guard force. He closed all roads to the Arsenal, and later sealed the entrances. General supplies began arriving in March 1942, and the inert ammunition and practice bombs were removed to open storage areas.[19] With the outbreak of war, the Ogden facility was in a position to be one of the "arsenals of democracy."

During World War II, the Arsenal performed numerous tasks to help promote the war effort. In addition to the bomb and artillery shell loading, in January 1942 plants for linking 30 and 50 caliber cartridges into machine-gun belts were activated. As a strategic link in America's supply system, the Arsenal played host to several national and regional conferences dealing with ordnance procedures and packing for overseas shipment. In December 1943 the Arsenal was assigned the duty of distributing all items of ordnance supply and equipment to all areas and stations in the far western United States. This assignment made the Arsenal a master depot. Among the items shipped were vehicles, ammunition, small arms, artillery pieces, and other Ordnance Corps materiel. At this time industrial operations were suspended; the Arsenal no longer served as a manufacturing center. Ogden was later designated as a distribution depot to handle supplies from the master depots for the West Coast export centers.[20]

[19] Thomson and Mayo, *Ordnance: Procurement and Supply*, 380; *Tribune*, December 8, 1941, March 3, 1942; *Ogden Standard*, December 22, 1941.

[20] *Tribune*, December 30, 1943; McConahay, "Economic Impact," 16; Odd, "History Statement," 2; Thomson and Mayo, *Ordnance: Procurement and Supply*, 389.

In the spring of 1944, an attempt was made to refine the master depot technique. Lewis H. Brown, president of Johns-Manville Corporation, advised the use of the master depot to speed the procurement of tank and automotive parts for overseas troops. An attempt was made to concentrate at one depot all parts for certain makes of vehicles. The aim was to locate all interchangeable parts in one location and enable employees to specialize more narrowly. Ogden was given limited specialization under the system. Later in 1944 Ogden was designated as a back-up depot for Benicia Arsenal, which supplied Pacific bases.[21]

Under wartime conditions, it was inevitable that waste occurred. Employees reported the burying of tools and implements, and at least one former employee claimed that he was ordered to open the valves on a tank car filled with aviation gasoline and allow it to run out on the ground because an officer did not want the demurrage on the railroad car to his credit.

One of the major problems met by the installation was the procurement of personnel to work on the assembly lines and loading docks. Naturally, wartime conditions meant the employment of a greater number of women. In August 1942 the Ogden police force released two policewomen to form the nucleus of a women's guard force at the Arsenal. In September the commanding officer, in calling for 3,000 workers, emphasized that it was the "patriotic duty of the highest order" for workers to engage in defense work. In the late fall the situation was so desperate that a call was issued for men and women to work part-time up to seven days per week. Whereas in 1941 $3.76 per day had been offered for anyone willing to work on the assembly line loading ammunition, by 1943 $4.96 was the going rate for anyone willing to unload freight cars. In August 1943 there was a slight reduction in force, but the expansion of the installation to a master depot late in that year made it necessary to bring in more

[21] Thomson and Mayo, *Ordnance: Procurement and Supply*, 387, 390–91.

*Typical warehouse building of Ogden Arsenal, now part of Ogden Air Materiel Area.*

workers. A call was made to local labor unions to furnish new employees, and farmers who had harvested their crops were requested to volunteer for work. At the height of the war, the depot employed 6,000 persons, more than half of whom were women.[22]

### From World War II through the Korean War

During the second World War, the Arsenal had served both as a storage and shipping point for ordnance materiel and a manufacturing plant for ammunition. With the conclusion of hostilities, the Arsenal's activities were reduced. In November 1945 the Army ordered a cutback of between 600 and 900 employees, and by June 1946 the Arsenal employed less than 1,500 persons.[23]

In the retrenchment and consolidation process, the Army expanded the jurisdiction of the Arsenal to include several other plants in Utah. Between July 1944 and June 1946, the Utah Ordnance (Remington Arms) Plant in Salt Lake City served as a sub-depot to the Arsenal. That plant had been constructed as an ammunition manufacturing installation, and became an Ordnance Department reclamation plant until it was closed in June 1946. The Army transferred its duties to the Tooele Ordnance Depot. For a short time after December 1946, the Army even placed Tooele Ordnance Depot under the control of the Ogden Arsenal.[24]

With the occurrence of the Korean War, however, the number of employees increased once more; by 1953 the installation employed 3,000. Once again women employees — some of them the same ones who had worked during World War II — performed blue-collar jobs such as ammunition loading, operating sand-blasting machines, and checking greasy parts.[25] The plant engaged in the production of Mark II tracers, hand grenades, 60 mm. lumination shells, 37 mm. shells, 81 mm. mortar shells, and other armaments. In addition workmen repaired and refurbished small arms by sand-blasting and acid-surfacing to prevent their corrosion under battle conditions. At the same time, the Arsenal opened a program to train industrial and personnel management in the principles of ammunition and ordnance production.[26]

[22] *Tribune*, November 11, 1941, August 2, September 14, October 3, 1942, March 13, August 15, 1943, January 6, May 29, 1944, March 2, 1945; *Ogden Standard*, January 3, 1943; McConahay, "Economic Impact," 16.

[23] *Tribune*, November 18, 1945, June 19, 1946.

[24] Thomas G. Alexander and Leonard J. Arrington, "Utah's Small Arms Ammunition Plant During World War II," *Pacific Historical Review*, XXXIV (May, 1965), 185–96; McConahay, "Economic Impact," 16; *Tribune*, February 12, 1946.

[25] McConahay, "Economic Impact," 16; *Tribune*, August 20, 1951.

[26] McConahay, "Economic Impact," 16; *Tribune*, August 28, 1950, March 17, 1951.

EMPLOYMENT AT THE OGDEN ARSENAL: 1920–1955

(SOURCE: John D. McConahay, "The Economic Impact of Hill Air Force Base on the Ogden Area" [Master's thesis, Utah State University, 1955], 15–17; Ray S. Odd, "History Statement of Ogden Arsenal" [typescript (*ca.* October, 1954), Hill Archives]; Constance McLaughlin Green, Harry C. Thomson, and Peter C. Roots, *United States Army in World War II, The Technical Services, The Ordnance Department: Planning Munitions for War* [Washington, D.C., 1955], 61; and various articles in *Salt Lake Tribune* and *Ogden Standard Examiner*.)

| *Year* | *Civilian* | *Military* |
|---|---|---|
| 1920 | 20 | 1 |
| 1925 | 25 | 1 |
| 1926–1935 | .... | 2 |
| 1935–1938* | | |
| 1940 | 100 | |
| 1941 | 440 | |
| 1942 | 3,000 | |
| 1943 | 6,000 | 35 |
| 1944 | 2,000 | |
| 1945 | 1,500 | |
| 1946 | 1,200 | |
| 1949 | 3,200 | |
| 1953 | 3,000 | |
| 1954 | 2,700 | |
| 1955 | 500 | |

* During the years 1935 through July 1937, between 100 and 500 persons were employed on construction; from July 1937 until the fall of 1938 more than 1,000 persons were employed on construction and about 50 on Arsenal activities.

For almost two years after the Korean conflict, the Arsenal functioned with repeated cuts in employment. By the fall of 1954, only 500 employees worked at the Arsenal. On August 7, 1954, the War Department announced that the Arsenal would discontinue its operations and transfer its real estate and facilities to nearby Hill Air Force Base. On April 1, 1955, all ordnance functions of the Arsenal were transferred to Tooele Ordnance Depot (now Tooele Army Depot), with the exception of a railway repair shop which was left at the old Arsenal grounds, but which was placed under the jurisdiction of Utah General Depot (now Defense Depot Ogden). From the official appraisal at the transfer, one learns that the total value of improvements and land was $17,190,252,

including $10 million in buildings and structures. The base railroads were valued at $1.2 million, and the roads and pavement at $1.5 million.[27]

The Ogden Arsenal had become a casualty of the Missile Age. As early as 1941 when the second phase of pre-World War II construction was undertaken, Major Carroll H. Dietrick, who was sent to examine the location, found that the Arsenal was hemmed in by Hill Air Force Base, the main Ogden-Salt Lake City highway, and farm and orchard land. There was no place to enlarge the facility. He recommended that the Army acquire 20,000 acres near Tooele, which was done. By 1954 space had become even more necessary for an ordnance installation. The rapid dispersal of large quantities of materiel might become necessary at a moment's notice, and a small hemmed-in installation like the Arsenal could not serve the purpose. As a result, its duties were assumed by the larger depot at Tooele.[28]

With the transfer of the functions of Ogden Arsenal to Tooele Ordnance Depot on April 1, 1955, came also the conveyancy of the physical plant and facilities to the Ogden Air Materiel Area at Hill Air Force Base. These buildings for the storage of ammunition gave OOAMA an inside track when, in January 1960, the Air Materiel Command (later Air Force Logistics Command) approved the consolidation of all airmunitions functions into one organization, the 2705th Airmunitions Wing, with headquarters at Hill Air Force Base. This organization was given world-wide responsibility for Air Force ammunition. In addition the buildings and storage igloos available at the former Arsenal (now redesignated West Area Complex) provided facilities for the assembly and storage of Minuteman missiles, and the Boeing Company occupied part of the old buildings, which with some modifications are used to assemble this modern warrior.[29]

For the Army the Atomic Age created the necessity for both the dispersal of operations and for a larger physical area. The Air Force, however, required storage and maintenance facilities close to an air base at which it could handle long-range Missile Age transport planes. The Army's liability thus proved the Air Force's advantage, and the old Arsenal has survived and grown. From a small storage depot, the Arsenal has become an integral part of the operations of Utah's biggest employer, Ogden Air Materiel Area.

[27] *Tribune*, September 29, 1954; McConahay, "Economic Impact," 16–17; Real Estate Cost Total Report (Hill Archives), April 1, 1955.

[28] Thomson and Mayo, *Ordnance: Procurement and Supply*, 373; Leonard J. Arrington and Thomas G. Alexander, "They Kept 'Em Rolling: The Tooele Army Depot, 1942–1962," *Utah Historical Quarterly*, 31 (Winter, 1963), 20, 23.

[29] Helen Rice, *History of Ogden Air Materiel Area, 1934–1960* (Ogden, 1963), 192–93.

# UTAH HISTORICAL QUARTERLY

SUMMER, 1965 • VOLUME 33 • NUMBER 3

SUMMER, 1965 • VOLUME 33 • NUMBER 3

# UTAH HISTORICAL QUARTERLY

## contents



## the cover

*Brigham City, Utah — county seat of Box Elder — was first settled in 1851. Under the leadership of Apostle Lorenzo Snow, the community thrived. With a population now in excess of 10,000, Brigham City is famous for its fruit crop, as the gateway to the Bear River Bird Refuge, and as the center of Thiokol Chemical Corporation's missile industry.*

BRIGHAM CITY CHAMBER OF COMMERCE

EDITOR ..... Everett L. Cooley
ASSOCIATE EDITOR ..... Margery W. Ward
ART EDITOR ..... Roy J. Olsen