CHAPTER 6
RAILROADING IN PEACE AND WAR
The First Mile: Army Engineers and the B&O

The Army Corps of Engineers contributed to the development of America's first successful passenger railroad, the Baltimore and Ohio. The General Survey Act of 1824 provided the legal basis for the Corps' railroad work by authorizing the Secretary of War to assign Army Engineers to help with internal improvements. Two years later, Engineers made their first railroad survey, for a proposed line connecting the James, Roanoke, and Kanawha Rivers in Virginia, but private interests failed to develop the route.

Not until 1827 did the Corps really get a railroad on the way. In February of that year, answering a request from the recently chartered Baltimore and Ohio, Secretary of War James Barbour directed Army Engineers to survey possible routes from Baltimore across the Appalachian Mountains to the Ohio River. Major Stephen H. Long, an Engineer veteran of three western explorations, and Captain William G. McNeill, an artillery officer on detail with the Corps of Topographical Engineers ("Topogs"), led the initial surveys. After examining many routes westward through the rolling Maryland countryside, they decided the best way to go was through the valley of the Patapsco River, thence in the direction of Linganore Creek to Point of Rocks, Maryland, where the Potomac River flowed past Catoctin Mountain. The company approved this route.

On the Fourth of July, 1828, ninety-year-old Charles Carroll of Carrollton, the last surviving signer of the Declaration of Independence, helped lay the cornerstone of the B&O. Three days later Army Engineers started surveying the entire route from Baltimore to the Ohio River. Meantime, the railroad company sent McNeill and Lieutenant George W. Whistler, another artilleryman on topographical duty, to England to study locomotive and track construction. After returning home in 1829, they served with Long on the B&O's board of engineers and helped direct the building of the line to Ellicott Mills, 14 miles from Baltimore. Whistler personally supervised the laying of the first mile of track. By 1830, the line to Ellicott Mills was

in operation and the B&O was rolling toward prosperity. A bold new venture had been born with the help of Army Engineers.

In 1834, the B&O reached Harpers Ferry; and the next year the company opened a branch line to Washington, D.C. By 1842, the track stretched to Cumberland, Maryland; in 1853, it crossed to Wheeling, Virginia; and four years later, over connecting roads, it opened service to St. Louis. By the time of the Civil War, the B&O had become the major railroad joining the Atlantic seaboard to the growing Ohio Valley and points farther west. Even today, its centrally located route—first surveyed and built by Army Engineers—retains a prominent place in the country's railroad network.

Harold K. Kanarek and Charles E. Walker

Source: (1) Harold K. Kanarek, *The Mid-Atlantic Engineers: A History of the Baltimore District of the U. S. Army Corps of Engineers, 1794 - 1974.* (2) Forest G. Hill, "Government Engineering Aid to Railroads Before the Civil War," *Journal of Economic History*, 11 (Summer 1951), 235 - 46. (3) Ellis L. Armstrong, ed., *History of Public Works in the United States*, 134 - 35.

The Moosegooser's Route: Uncle Sam's Alaska Railroad

In the debate over federal support of the nation's railways, both sides have overlooked the Alaska Railroad—a successful 500-mile line owned and operated by Uncle Sam for over a half-century. Few outside Alaska know about this unique rail system; and fewer still know that the Army Corps of Engineers contributed measureably to its development.

In 1912, when President William H. Taft created the Alaska Railroad Commission to study rail transport in the territory, he chose as its chairman Major Jay J. Morrow, the District Engineer at Portland, Oregon. Two years later Congress, acting on Morrow's advice, authorized construction of an Alaskan railroad. President Woodrow Wilson promptly selected a north south route and got work underway.

Construction took eight years and cost $65 million. Army Engineers directed the final, post-World War I, phase. In the early 1920's, Colonel James G. Steese and Major John C. Gotwals, serving as members of the Alaska Engineering Commission, oversaw completion of the 470-mile trunk line between Seward and Fairbanks. At the same time, Steese, acting for the Alaska Road Commission, purchased the old Seward Peninsula Railroad and began its rehabilitation, gradually reopening the line to service. In the mid-1920's, when

the Interior Department took control of the Alaska rail system, the Engineers bowed out of the operation.

Not until the eve of World War II did the Corps resume rail work in Alaska. In 1940, military observers noted that the Seward - Anchorage line was highly vulnerable to saboteurs and hostile aircraft. After looking into the problem, Colonel John C. H. Lee of the North Pacific Division proposed a cut-off from Portage to the warm-water port of Whittier. Allotted $5 million for the project, the Army Engineers completed the job in 18 months. Bypassing the Portage glacier, they cut through the coastal mountains, blasting three and one-half miles of tunnels, one of them 13,890 feet long. The cut-off almost doubled the rail system's freight-carrying capacity. "A life saver to Alaska," one federal official called the new line.

Also supporting wartime rail service in Alaska was the 714th Rail Operating Battalion, an Engineer unit until 1942. The 1,150 men of the Battalion helped construct the Whittier cut-off and 31 miles of branch lines from Fairbanks to nearby air bases. Meanwhile, teams from the Seattle District ran surveys through rugged terrain for a new line from Prince George, British Columbia, to Teller, on the Bering Strait. Because Allied fortunes improved in 1943, this line was never built.

The Alaska Earthquake, which rocked the state in March 1964, brought the Army Engineers into the picture once again. The quake inflicted heavy damage on the railroad—$27 million worth all told. Remarkably, the two long unlined tunnels, built by the Corps two decades earlier, survived intact.

The toughest railroad reconstruction job—at Seward's waterfront terminal, part of which had toppled into the sea—fell to the Alaska Engineer District. During the next two years, the District oversaw the building of new dock, warehouse, and yard facilities. When the work was completed, Seward had a new $11 million port and the railroad had a new dock capable of berthing two 600-foot vessels.

Today, the Alaska Railroad runs smoothly and profitably, though slowed somewhat in winter by moose on the tracks. Alaskans, who have a fondness for the line, know the passenger train as the "Moosegooser."

The Moosegooser is a source of pride to Army Engineers, who have helped to make Uncle Sam's Alaska Railroad a success.

Charles E. Walker

Source: (1) Edwin M. Fitch, *The Alaska Railroad,* 44 - 48, 61 - 65, 83 - 90, 263 - 85. (2) W. A. Jacobs, *The Alaska District, United States Corps of Engineers, 1946 - 1975,* 3, 18. (3) Karl C. Dod, *The Corps of Engineers: The War Against Japan,* 18 -19. (4) Ann. Rpts., Ch. of Engrs.

First to France: Railway Engineers in World War I

From its beginning, rail transportation was a field in which Army Engineers excelled. Not till World War I, however, did they get a chance to display their railroading ability on a grand scale.

Shortly after the U. S. entered the war in April 1917, the War Department organized nine new Engineer regiments for railway work. In early May, a recruiting office opened in New York City, with the slogan, "First to France—Join the Engineers." The rallying cry proved accurate. Major William B. Parsons, head of an engineering commission appointed to study conditions in France, became the first Army officer to land in Europe. The first unit called into active service was Company A of the 11th Engineers (Railway), which led the disembarkment of American regiments at Boulogne, France.

France posed great problems for railway engineers. The battlefront was hundreds of miles from the ports. Railroads, crowded with war traffic, were breaking down. The needs of the civilian population, the lack of equipment, and, in some cases, the lack of track caused much congestion. Combat was going on in a thickly settled and intensely cultivated part of the country where private property rights, road patterns, and communication lines made new rail construction difficult.

The Engineers worked on both standard- and narrow-gauge lines. Work on the former centered around ports and storage depots far removed from the fighting. In an eight-month period, the Engineers had 25,000 men working on 450 standard-gauge projects—tracks, terminals, machine shops, car-repair and coal-storage facilities, regulating stations, cut-offs, and freight yards. By May 1919, the Engineers had provided an additional 1,000 miles of standard-gauge track.

Light railway regiments, serving with the combat forces, worked on narrow-gauge lines in areas where fighting might erupt and needs changed rapidly as battle lines shifted. During the Cambrai offensive, the 11th Engineers and Canadian troops laid an average of 1.4 miles of track per day while working under fire and sustaining casualties. In the St. Mihiel, Chateau-Thierry, and Meuse-Argonne offensives, Engineers put down track in darkness and heavy fog. Within 24 hours, they laid a record 7,000 feet on one line, which on the nights of 4 - 9 August 1918 carried some 23,000 men to support the operations of the 82d Division. Later, during a two-day period, the 14th Engineers operated the trains which supplied rations for three divisions totalling about 75,000 men. All told, the Division of Light Railways and Roads, headed by Major General William C. Langfitt, built 538 miles of narrow-gauge track. General John Pershing, commander of the AEF, praised its record for having "seldom been equalled."

During the war, the Corps sent 60,000 railway troops to France. On Armistice Day, 900 officers and 32,000 enlisted men were still

working on various railroads. In the first weeks after the Armistice, the engineers reconstructed lines, rebuilt bridges, and laid connections across no-man's land, helping to reopen the first rail service between France and Germany since 1914. The new railway lines built by the Engineers in France, if laid end to end, would have stretched from Paris to Moscow. The work of the railway Engineers was a valuable contribution to Allied success. When the troops came home in 1919, the 11th Engineers—first to France—marched proudly in the great victory parade down Fifth Avenue.

Charles E. Walker

Source: (1) S. L. Scott, "Railways in the Theater of Operations," *The Military Engineer* (May - June 1930), 259 - 61. (2) *Historical Report of the Chief Engineer, Including All Operations of the Engineer Department, Allied Expeditionary Forces, 1917 - 1919* (Washington: Government Printing Office, 1919), 104 - 16, 280 - 88. (3) Leonard P. Ayres, *The War With Germany: A Statistical Summary* (Washington: Government Printing Office, 1919), 53 - 62. (4) *History of the Eleventh Engineers, United States Army* (New York: J. J. Little and Ives Company, 1927).

A Railroad for General Patton

On 12 August 1944, Colonel Emerson C. Itschner, Engineer of the Advanced Section (ADSEC), Communications Zone, European Theater of Operations (ETO), received the following message:

> General Patton has broken through and is striking rapidly for Paris. He says his men can get along without food, but his tanks and trucks won't run without gas. Therefore, the railroad must be constructed into Le Mans by Tuesday midnight. Today is Saturday. Use one man per foot to make repairs if necessary.

He realized that he had an immense job on his hands. He had to reconstruct a railroad 135 miles long, with seven bridges down, three rail yards badly bombed, track damaged in many places, and few watering and coaling facilities. He had 75 hours to do a job normally requiring several months.

The 10,500 ADSEC engineer troops then available were scattered throughout Normandy. They had to be notified, assigned tasks, and deployed with their equipment to sites between Folligny in Normandy and Le Mans, 115 miles southwest of Paris.

Itschner first flew over the rail net to select the lines that could be repaired fastest. The most direct route was ruled out because major bridges at Pontaubault and Laval were too badly damaged for quick

repair. He decided to use the double-tracked line between La Chapelle Athenaise and Le Mans.

The bridge at St. Hilaire-du-Harcourt that spanned the Selune River was the single most serious obstacle. The Germans had blown the south end from its abutment, dropping it into the river. The 347th Engineer General Service (GS) Regiment cut off the damaged end, jacked up the bridge, and rested it on a crib. It completed this arduous task in three days, many men going without sleep. When Major General Cecil R. Moore, Chief Engineer, ETO, and Itschner flew over the bridge site six hours before the deadline, they saw spelled out on the ground in white cement: WILL FINISH AT 2000. And finished it was.

The first trainload of gasoline left Folligny at 1900, 15 August and reached Le Mans on 17 August. Thirty trains carrying gasoline for Patton's Third Army followed at 30-minute intervals.

Even while the emergency work was pushed, the 322d Engineer GS Regiment began reconstructing the bridges at Pontaubault and Laval. When completed by the end of August, these bridges allowed the opening of a more permanent and serviceable line to Le Mans.

The efforts of Itschner's engineer troops helped speed the gasoline to Patton that his armored spearheads required to fuel their thrust across northern France and shorten the war in Europe.

Kenneth J. Deacon

Source: Abe Bortz, Charles W. Lynch, and Ralph Weld, "The Corps of Engineers: The War Against Germany and Italy," (MS in Historical Division).

A Stride Toward a National Railroad Network: the Pacific Railroad Surveys

From the first surveys for the Baltimore and Ohio Railroad in 1827 to the construction of the Alaska Railroad after World War I, the Corps of Engineers participated in the development of the national rail network. In 1853 a significant chapter of this long process began to unfold. At the behest of Congress, the Topographical Engineers took on the difficult task of selecting the best route for a railroad from the Mississippi River to the Pacific Ocean.

The seven expeditions that studied potential routes across the continent faced complex assignments. Each party was required to report on the numerous determinants of railroad construction, among them distances, grades, mountain passes, canyons, bridge sites, and tunnels. In addition, each survey had to consider natural resources, par-

ticularly timber, stone, coal, and water, all of them important for building and operating a railroad.

The surveying parties faced great hardships as they made their way westward. In the Northwest, members of Isaac I. Stevens' expedition endured slashing Rocky Mountain blizzards as they sought to examine railroad passes. Far to the south on the Llano Estacado, Captain John Pope and his men spent many days without water. And in eastern Utah, Captain John Gunnison and several of his assistants were cut down in a pre-dawn ambush by Paiute Indians.

In spite of the obstacles, the Topographical Engineers brought back a remarkable amount of information. Their thirteen-volume final report was a comprehensive record of the trans-Mississippi region's fauna and flora, geological structure and geographical features. The huge compendium, widely discussed in the daily press, popular magazines, and the streets and homes of America, is still well known to naturalists.

Although the Congress, divided as it was by sectional animosities, failed to agree on any one route, the surveys ultimately proved of great significance. When the first transcontinental railroad, the Union Pacific-Central Pacific from Omaha to San Francisco, was built after the Civil War, it followed the path surveyed by Gunnison's party after his death. Later lines also went along routes first examined by topographical surveyers. The Pacific railroad surveys were a major stride toward the establishment of a national railroad system that bound together farms and markets, resources and factories, and the growing nation.

Frank N. Schubert

Source: Frank N. Schubert, "The Army Engineers in the trans-Mississippi West, 1819-1879," unpublished manuscript on file in Historical Division, OCE.