

READY FOR WAR: PICATINNY

Historians write and speak much about this nation's lack of preparedness for its wars. There is much truth in such words, but this paper wishes to vary the theme by discussing a place which, if not fully prepared to meet the challenge at the start of a war, was ready to take the steps necessary to come up to the challenge. Along the way, it will consider how much or how little the place's state of preparedness arose from considerations of national defense.

The immediate change Picatinny Arsenal made when the United States entered World War I was to build a fence around the installation. Employee volunteers did the work using scrap materials. The employees then rejoined their colleagues in producing smokeless powder, the arsenal's main mission. Although it significantly increased its workforce during the war, its Chemical Laboratory tripling its personnel, the arsenal's main contribution to victory was sending people to private plants to teach powder production. It was able to expand the industrial base because it had grown an able workforce prewar.¹

Postwar, the arsenal added research of large caliber munitions, fuzes, flares, and explosives to its mission. Lack of an actual war made the need for production work almost nonexistent, but Picatinny fought for production funds to pay the overhead of research and development facilities, to maintain existing expertise, and to train new experts.²

Picatinny started preparing for World War II in the late 1930s when aware people had few doubts a war was coming. The arsenal established a War Plans Division to

prepare plans to expand production when, not if, war came. The tense international situation moved the Federal government to place added security at war production facilities, including Picatinny. The government announced this move the day before Germany invaded Poland. The arsenal's pace accelerated as the war did. When the Germans overran France and the Low Countries in May 1940, Picatinny converted all pilot plants to full production.³

Preparation drew criticism. When an explosion on 23 September 1940 killed two workers and injured 11 others, including 3 women, J. Parnell Thomas, a New Jersey Congressman serving on the House Committee on Un-American Activities and an opponent of intervention in Europe, laid the blame on either sabotage or carelessness, "one is as bad as the other." If it was carelessness, Thomas blamed it on the need to hire many new, untrained workers. The New Jersey State Police quickly ruled out sabotage, and Picatinny pointed explosions were a hazard of its work in both war and peace.⁴

Picatinny's workforce numbered 5,536 on 31 December 1940, 12,322 on 31 December 1941, a 123 percent increase. The peak figure was 17,936 on 31 July 1942. This fell to 16,400 on 31 December 1942, 9,678 on 31 December 1943, 8,991 on 31 December 1944, and 8,483 on 7 September 1945.⁵

The decline happened because Picatinny had trained private industry in munitions production. An estimated 20,000 persons involved in munitions production visited Picatinny over the course of the war.⁶

Picatinny had many of the facilities necessary to its work due to construction by the Works Progress Administration (WPA). World War II military lived in houses WPA had

constructed or refurbished while civilians worked in production and laboratory facilities WPA had raised. Here was preparedness as a byproduct of economic stimulation. The arsenal still had to increase the number of buildings from 502 in September 1940 to 943 in 1945. A few structures were already standing on newly purchased land, but most of the 87 percent increase was new construction.⁷ This was the arsenal's last wartime construction boom.

Picatinny had many research and development achievements to justify its wartime existence. Several also justified its prewar existence. Two of many examples were the reduction of moisture in propellant powders and the discovery of a cotton substitute for silk in cartridge bags.⁸

A research and development facility cannot wait for the fighting to do its job.

The reaction to peace was extreme, the local counter reaction dramatic. The arsenal had 8,700 employees at the start of August 1945. Two days after the Nagasaki bombing, it was announcing furloughs and planning layoffs and, within a month, was down to 6,000, a 32 percent drop. By October 1945, manufacturing activities had ground to a halt.⁹

A committee led by the mayor of the largest community in the arsenal's immediate area and with three Picatinny employees representing the American Federation of Government Employees (AFGE) called on Secretary of War Robert P. Patterson, other officials, and the state's Congressional delegation. The committee had planned to see President Truman, but there is no evidence this happened.¹⁰

The Morris County Officials' Association wrote Federal and state officials, including the heads of relevant congressional committees, protesting throwing locals out of work while sending rehabilitation money overseas. In the midst of standard rhetoric on national defense and warnings about avoiding another Pearl Harbor, the letter snuck in a bit of frankness when it described the arsenal as "vital to the association because its constituents and tax payers have since the founding of the country found a source of employment there at." Closing Picatinny "would disrupt every municipality in the County of Morris as well as the county itself."¹¹

Joining the mayor and union representatives in Secretary Patterson's office were three New Jersey congressmen and the national president of AFGE. With Patterson came assorted brass representing Army Service Forces (ASF) and the Office of the Chief of Ordnance (OCO). After discussing the matter for an hour and a half, Patterson ordered the Ordnance officers to consider several steps. The first was to push the recoilless rifle program, an effort which, if funded, would give the arsenal 400 to 450 jobs. The funding depended on the power and influence of the elected officials. Patterson also ordered a search for work the Army could transfer to keep Picatinny's metal shops going, a reexamination of rocketry programs to see what work could go to the arsenal, an approach to the Navy for work orders, a stop to separations of experienced employees and the release of funds to keep machinery and equipment in order, and a search for work for long-term employees on the condition "the work should be suitable and that it should not be anything like raking up leaves."¹²

Badgering worked. Money for several small projects arrived in early November 1945, but this did not prevent more layoffs of career employees. The union put the

November personnel figure at 900 and expected it to reach 650 by year's end. These figures were exaggerations, but the arsenal administration did fear a drop to a thousand employees. The actual low point was 2,071 in 1947.¹³

This diversion of funds to Picatinny was not a response to any demands of existing or pending conflict but to the demands of politics and economics. Still, the money allowed people to stay and to have key items ready when fighting broke out in Korea in 1950. Picatinny spent the intervening time developing such munitions as a new, more powerful bazooka rocket, recoilless rifle ammunition, and the C-4 demolition explosive. Research and development is time consuming. The improved bazooka rocket required designing, building, and testing five iterations. Keeping manufacturing facilities active meant the arsenal was able to take production of the improved rocket from pilot plant to full scale in 24 hours.¹⁴

At the outbreak of the conflict in June 1950, Picatinny had 3,500 people. It was at 5,000 by the end of 1950 and reached a peak of 7,750 in the summer of 1952, a 121 percent increase over two years. This was near the World War II rise in percentage if not in absolute figures. The real difference was in the post-conflict drop. At the time of the armistice in June 1953, it had 7,200. A decline began, but, in contrast to the post-World War II situation, it was gradual with the work force staying over 5,000 throughout the 1950s. It reached the low point after an 11 percent cut in 1958. After Korea, in contrast to 1945, the nation could not be sure peace had come.¹⁵

A big difference between Korea and World War II was no construction boom. Picatinny's major construction project for the entire Fifties was upgrading and expanding the golf course, a non-appropriated funds effort.

Unlike World War II and more like Korea, Vietnam was a surprise. Picatinny first realized how rapidly the nation's commitment to the conflict in Southeast Asia was escalating at the start of 1965 when it received orders to support a conventional ammunition buildup. February saw completion of a study of the problem, appointment of an action officer, and establishment of a critical control item center to support this office. Having again to retrain a forgetful private industry, production engineers acted as on-site problem solvers at key plants. Trips to contractor plants increased 122 percent in both number and duration from 1964 to 1966 as accelerating production multiplied problems. Several civilian engineers went to Vietnam to determine needs and solve field problems.¹⁶

Most munitions used in the first years of the conflict, including such famous items as the Claymore, existed earlier, although Picatinny had to improve several, including the M26A1 hand grenade. Much of the work involved correcting faults with the items themselves and with their production processes. Other work focused on items which had existed until the Army decided they were no longer necessary. The Army was wrong. Prominent among these were 60mm mortar rounds, especially illuminating cartridges.¹⁷

More work required more employees. The arsenal began by reassigning people from lower priority efforts and raiding organizations not working Vietnam projects, but it still had to hire new people, 359 between January 1965 and July 1966. About half came from a crash recruiting program. Picatinnyans assigned to Vietnam projects often

found themselves working six-day weeks and earning large amounts of overtime. Total monthly overtime hours went from 1,607 in January 1965 to 19,764 in May 1966.¹⁸

One reason for all the overtime was this was extra work. While gearing up for the Nam conflict, Picatinny continued to support an Army spread around the globe. This involved work on nuclear items and on all Army missile warheads. During the period 1960 to 1972, Picatinny personnel produced 530 scientific papers, 2,620 technical reports and memoranda, 1,498 technical manuals and catalogues, and six volumes of its *Encyclopedia of Explosives and Related Items*, still an important reference work.¹⁹

The extra employees and their added time on the job allowed the arsenal to do its regular tasks more quickly, as when it took a new beehive round through development to limited production in six months instead of the normal five and a half years. The beehive round program went from employing few engineers and technicians to 28, but the increase would have been meaningless without a core few available to direct the task.²⁰

The installation reached 9,010 employees, the highest point since World War II, in 1968, but started dropping within a year despite the continuing conflict. The ceasefire negotiations in Paris staggered into 1974, but Picatinny received intimations of the end much earlier. The payroll dropped to 8,204 in 1969, 7,485 in 1970, 6,906 in 1971, and 6,645 in 1972.²¹

The 23.6 percent drop from 1968 to 1972 was noticeable, even in increments, but it was a far less significant than the 75 percent drop from 1945 to 1947. Picatinny remained one of the area's largest employers.

The one significant antiwar demonstration at Picatinny during the Vietnam Era had a mixture of themes indicative of the period's confusion. Protestors not only attacked the war but also the layoffs. Organizers hoped to attract employees to join the protest. A Congressional candidate joined the demonstration on this issue and promised to have the Federal Bureau of the Budget study measures to turn the arsenal's knowledge and efforts toward peacetime needs, especially in the environmental area. Congressional candidates not at the demonstration echoed this theme, as did antiwar presidential candidate George McGovern.²²

So, now pleas to keep Picatinny active were blatantly independent of existing or anticipated combat needs.

Picatinny actually grew in population and facilities during the long stretch between Vietnam and the Gulf War. This came about as the Army tried to adjust to shrinking budgets by combining more missions at individual installations and closing others. In the 1970s, the Army decided to place the bulk of its weapons and munitions research and development at one installation. By 1976, the site of choice was Picatinny. At least, the Army's choice was Picatinny. People at the closing locations, including their elected representatives, begged to differ.

The political concerns arose from a promise made by vice presidential candidate Walter Mondale to prevent the closure of Frankford Arsenal in Philadelphia. Since Pennsylvania had given the Carter-Mondale ticket 27 electoral votes, Vice President Elect Mondale felt obligated to redeem his pledge. Still, he had to walk a fine line. When a Democratic congresswoman whose district

included Picatinny and many of its employees, questioned him, Mondale told her he did not want to upset plans for the new armaments command but merely intended to find other work to keep the Frankford people on the government's rolls. This was not a party issue. A Republican county freeholder pushed the Carter transition team for a promise not to reverse the original decision while the Republican Senator Elect for Pennsylvania asked outgoing Secretary of Defense Donald Rumsfeld to stop the Frankford shutdown. Philadelphia filed quickly dismissed lawsuits challenging the Army's right to close the arsenal. It even alleged the decision was racially discriminatory, a stretch given the city's spotted reputation on this issue.²³

The parties paid lip service to defense needs, but their main arguments were economic. Northern New Jersey politicians wanted new jobs in an area of high unemployment while a Pennsylvania Republican bluntly told Rumsfeld, "Whatever measure of efficiency is gained by transferring the Frankford Arsenal's functions cannot offset the terribly destructive human and economic impact that the closing will have."²⁴

The Frankford partisans failed, but the episode made clear preparedness was moving farther behind economic and social needs in decision making about military installations.

The increased Picatinny population was a temporary matter as the budget strictures of the 1980s took their toll. Just before Desert Storm, the personnel total was down to 3,841. If the past had been an indication, this figure should

have risen when war broke out. Instead, except for a brief spike due to summer hires, the figure dropped by six.²⁵

Despite the lack of extra resources, workers managed to accelerate development or production of over 17 items used against Iraqi forces. These included such heavily used and highly effective items as the Mk19 mod 3 grenade machine gun, the XM221 demolition charge, and a variety of mortar and artillery rounds. These were additions to such previously fielded items as the M829 “silver bullet” tank cartridge and the Patriot warhead.²⁶

The Gulf War set the pattern for the Global War on Terror. Organizational changes of the 21st Century which put such tasks as personnel and installation management in different organizations plus an increase in tenant organizations confuse personnel comparisons. Still, the number of people in the organization doing the brunt of Picatinny’s armament and munitions work, the Armament Research, Development and Engineering Center, had personnel figures hovering in the Gulf War range while tasks became increasingly numerous, varied, and demanding.

At present, the Picatinny Arsenal, along with the rest of the Army, has to face the fact it must support wars around the globe with the people, equipment, and facilities at hand. Conflicts are no longer crises but continuing conditions.

NOTES

¹“Employees at Picatinny During First World War Reminisce on Trying Times,” *The Picatinny News*, 19 December 1941; “Who’s Who at Picatinny: Lenora Van Sickles,” *News-Barrage*, July 27, 1945; Inspection Division, Ordnance Department, to Inspector of Ordnance, Wilmington, Del., Subject: Transfer of Mr. Wilfred Hosking, September 13th. 1917, in Hosking Papers, ARDEC Historical Office Files; “Old Laboratory Employee Returns,” *The Picatinny Magazine*, Vol. 2, No. 2 (12 July 1919), 4; Clara R. Lussy, “The Woman’s Corner,” *The Picatinny News*, 12 June 1942, and Arthur Pine VanGelder and Hugo Schlatter, *History of the Explosives Industry in America* (New York: Columbia University Press, 1927), pp. 909-912.

²LTC A. J. Stuart, Ordnance, Commanding, Picatinny Arsenal, to Chief of Ordnance, War Department, Washington, D.C.: Basic Ammunition Policy, April 7, 1934, copy of letter in Wilfred Hosking file, ARDEC History Office files.

³“The History of Picatinny Arsenal, Part IV,” *The Picatinny News*, November 14, 1947, and “Report More Guards Assigned to Duty at Picatinny Arsenal,” *Rockaway Record*, 30 August 1939. Latter article courtesy of John Dunaldo, Rockaway Township Historical Society.

⁴“2 Killed, 10 Injured,” and “Start Probe of Arsenal’s Recent Blast,” *Morristown Daily Record*, 23, 24 February 1940; “2 Killed, 11 Hurt in Picatinny Blast,” *New York Times*, 24 September 1940; and “2 Dead, 11 Injured in Arsenal Explosion,” *Dover Advance*, 23 September 1940.

⁵Picatinny Arsenal’s Accomplishments During Second World War (7 Dec. 1941 to 7 Sept. 1945), photocopy of typescript in ARDEC Historical Office Files, (no date, but compiled shortly after the end of combat), p. 8 (hereafter cited as Picatinny WWII)

⁶Picatinny WWII, p. 7.

⁷Picatinny WWII, p. 11. On the role of WPA and other New Deal agencies at Picatinny, see Patrick Owens, “Picatinny Learns the Alphabet,” *Social Science Docket*, vol. 8, no. 1 (Winter-Spring 2008), 53-54.

⁸Picatinny WWII, pp. 4-5.

⁹Comptroller, Management and Analysis Division, Picatinny Arsenal Long Term Trends: Special Arsenal Activities, 30 December 1976, pp. 66-67 (hereafter cited as Long Term Trends); “Work Slumps as War Ends,” and *The Picatinny News*, August 17, 1945, “Immediate Curtailment of Picatinny Arsenal Work When V-J Day Proclaimed,” *Morristown (NJ) Daily Record*, 14 August 1945.

¹⁰“Rally to P. A.,” *The Picatinny News*, November 16, 1945, and “Dover Sends Delegation To Capital On Picatinny,” and “Results Of Capital Trip For Arsenal Held Encouraging,” *Morristown Daily Record*, 9, 12 October 1945, and John Roach, Jr., Mayor, Town of Dover, to COL W. E. Larned, Commander, Picatinny Arsenal, [report on meeting with Secretary of War], October 17, 1947, in Frank D’Auria File, ARDEC Historical Office.

¹¹“Freeholders Ask Arsenal Be Continued As Formerly,” “Denville C.C. Acts On Layoff,” and “County Officials Cite Vital Need Of Arsenal,” *Morristown Daily Record*, 11, 12 October, 1945.

¹²Roach to Larned, October 17, 1947. Roach misspelt Burns’s name as “Byrnes,” perhaps confusing a union official with the then Secretary of State.

¹³“Force Reduction Procedures Shown County Agencies,” “Manufacturing is Halted,” “Work Outlook Brighter,” “Arsenal Outlook for More Jobs Called Brighter,” *The Picatinny News*, September 7, October 5, 19, December 28, 1945, and E. V. Casey to Mr. James F. Burns, National President, A.F.G.E., [Picatinny job losses], 15 November 1945, D’Auria File, ARDEC Historical Office and Long Term Trends, p. 66.

¹⁴Edward S. Diehel, comp. and ed., *Picatinny Arsenal Historical Summary*, 25 September 1945-1 July 1951, pp. 1161-1176, 2861-28162, and “Composition C Type Explosives,” in Basil T. Fedoroff and Oliver E. Sheffield, *Encyclopedia of Explosives and Related Items*, vol. 3 (Dover, New Jersey: Picatinny Arsenal, 1966), 485.

¹⁵Long Term Trends, p. 68.

¹⁶B. A. Kramer and F. V. Youngblood, *History Of South East Asia Program* (Ammunition Engineering Directorate, Picatinny Arsenal, Dover, New Jersey, July 1966), pp. 3, 6, 11, 15, 47 (hereafter cited as *South East Asia History*).

¹⁷*South East Asia History*, pp. 89-90.

¹⁸*South East Asia History*, pp. 15, 38.

¹⁹Orientation Brochure for COL K. E. Lockwood (Picatinny Arsenal, Dover, New Jersey, 1974), p. 64; “Picatinny Publishes First Encyclopedia on Explosives,” *Army Research and Development*, vol. 2, no. 12 (December 1961), 7, and “Seymour Kaye of FRL writes, is a man of many, many words,” *Picatinny News*, 15 November 1965).

²⁰*South East Asia History*, pp. 58-59, 106.

²¹Long Term Trends, p. 33.

²²“To Protest War, Arsenal Layoff,” Enda Slack, “3 Dems Propose Peace Use of Picatinny Arsenal,” and “McGovern: Picatinny Layoffs Could Cost Almost \$1 Million,” *Daily Record*, 3, 18 May, 5 June 1972.

²³Enda Slack, “Mondale Won’t Affect Arsenal,” “Carter Team Queried on Arsenal,” “New Picatinny Offensive,” “Picatinny Petitions Circulating,” and John D. Membrino, “Mondale Escalates Bid to Salvage Frankford,” *Daily Record*, 3, 8, 15, 17, 31 December 1976, and Reprogramming Request for Picatinny Arsenal, Hearings Before A

Subcommittee of the Committee on Appropriations United States Senate, 95th Congress, First Session (Washington, D.C.: U.S. Government Printing Office, 1977), pp. 33, 58.

²⁴“New Picatinny Offensive,” *Daily Record*, 1 December 1976.

²⁵US. Army Armament Research, Development, and Engineering Center (ARDEC), Annual Historical Review (AHR), FY90, p. 3, FY91, p. 3.

²⁶ARDEC, AHR, FY91, p. 11-12.