Fort Niagara and the Cold War Army Air Defense of Western New York

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Introduction

For many years I have wanted to write this history. My father was a WW 2 Navy Veteran. He enjoyed working on the 5”/38 caliber guns that were main battery armament on the destroyers he served aboard as a Gunner’s Mate. It is no surprise after the war, when he spent a short time working in civilian jobs, Dad had the itch to get back to what he loved. His new role began at Camp Edwards, Massachusetts, were he obtained a Department the Army Civil Service job in 1952 as an Artillery Repairer.

In 1952 the Nation was beginning to establish a defense network to protect America’s airspace and critical defense infrastructure from the threat of Russian Bombers. The network began slowly, with the activation of former WW2 Anti-aircraft Artillery Units equipped with radar-directed 90 and 120mm guns. The establishment of the Niagara-Buffalo Army Air Defense required our relocation from South East Massachusetts to Niagara Falls, New York. We lived in a small town called Youngstown, nearby historic Fort Niagara. The Army was reactivating the fort for a new role as the Headquarters for the 2nd Anti-aircraft Artillery Group.

Dad’s job at that time was artillery installation and repair. He and his co-workers were assigned to the Post’s Artillery Field Repair & Maintenance Shop at Fort Niagara. Their job was to assist the AAA Gun Battalions in the Niagara-Buffalo Defense in establishing their gun batteries and providing specialized technical and repair services as needed. As we now know, the Anti-aircraft Artillery of the early 1950s was a stop-gap measure. The Army had already begun the development of a missile based defense. Like the AAA soldiers, Dad and his colleagues were sent to Army schools to learn about the Nike Weapons System. By 1958, the gun batteries in the Niagara-Buffalo defense had been replaced by Nike Ajax Missile Sites and shortly thereafter, the evolving threat drove the development of the much more capable Nike Hercules, which eventually succeeded Nike Ajax.

I clearly recall the telephone calls Dad got at home after working hours about a problem at a Gun or Missile Site requiring him to drive out and help. These calls arrived regardless of the hour or day of the week. While it was probably not encouraged, I did get the chance to accompany him a few times. It was pretty exciting stuff for a kid!

The Niagara-Buffalo Army Air Defense was active from 1952 to 1970. Dad retired when the mission ended. I graduated high school in 1968 and like Dad, went in the Navy. I thought about being a Gunner’s Mate too but instead chose Fire Control Technician. Like Dad, my first systems were 5” gun based, and later I found myself reassigned to Missile Fire Control. In retrospect, we were much alike. I retired in 2010 after 32 years in the Aerospace – Defense business and finally had time to start this project.

In doing the research required to tell this story, I was quite surprised to learn that almost no Army records of the Niagara – Buffalo defense remain. Even rarer were official photos of the sites. It took a lot of digging to
resurrect the information in this paper. It would have been fun for Dad and I to work on this project while he was still alive, because I am sure we would have enjoyed doing it together. For sure, he could have added a lot more information! Sadly that did not happen.

This paper is dedicated to the soldiers and civilians who answered the call at a challenging time for our country.

Organization:

The document contains Parts 1, 2 and 3. Parts 1 and 2 were previously published as separate articles in the Old Fort Niagara Association’s Journal, “Fortress Niagara”. Part 1 contains the history of the “Gun” Era, Part 2 the history of the “Nike Missile” Era, and Part 3 the history of the many units that constituted the Niagara-Buffalo Army Air Defense. Part 3 also contains numerous photographs related to the subject that were obtained from newspapers, websites, and the personal collections of veterans who served in the Niagara-Buffalo Army Air Defense.

To aid the reader, I have included a brief list of acronyms as part of the Introduction. For those who would like to learn even more about this subject, there is a set of endnotes at the end of Part 3 which lists the principal references used when researching this paper.

Acknowledgements:

I would like to express my sincere thanks to the following individuals for their help with this research: Harry DeBan, editor of the Fortress Niagara, for his help with formatting this story and his personal recollections of the Niagara region; Jerome Brubaker, Old Fort Niagara Curator, for his help in obtaining copies of related newspaper files held by the OFN Association; John Briggs, Eddie Barton, John Carlin, Gordon Lunn, Ezio Nurisio, Allen Steinfeld, and Dave Taber, all Nike veterans who served with the 44th Antiaircraft Artillery Battalion / 1st Missile Battalion, 4th Artillery at the Cambria Nike Site and who provided comments, photographs and memories of duty in the Niagara-Buffalo Army Air Defense; Ron Parshall, Ellis Delahoy; for his reminiscences when he was in the Army and worked on the M33 Antiaircraft Fire Control System; Cecilia Driscoll, Local History Librarian, Niagara Falls Public Library for searching through Niagara Falls Gazette Photo Archives for photographs of relevance to this article; Suzanne Dietz, Town Historian, Town of Porter, New York, for her help in obtaining photographs; Vincent Barolla who was stationed at Lockport Air Force Station and provided photos and information about the Missile Master and BIRDIE site; Michael Moniuszko, who provided his recollections of the Antiaircraft Artillery (Gun) Battery on North 5th Street in Lewiston, New York when he was a youth and living near the site; Ed Thelen and the Nike Historical Society for their fine work posting Nike historical and technical information on their respective websites; and finally to Robert Capistrano and Robert Leard, fellow members of the American Society of Military Insignia Collectors, (ASMIC), who helped me with unit history and insignia of the Niagara-Buffalo Defense units. Please excuse me if I missed anyone.

Should the readers of this paper have any additional details on the U.S. Army Niagara-Buffalo Army Air Defense (1952-1970); especially those who may be veterans who served in the Niagara-Buffalo Defense and have interesting stories to share; please share them with the Nike Historical Society; (nikemissile.org) and Ed Thelen: (ed.thelen.org). Both of these organizations are keepers of the Gun and Nike era Army Air Defense history. Of particular interest to both organizations are photographs and personal reminiscences from when you served regardless if you were active U.S. Army, National Guard, or a Civilian. Your help in preserving this important part of our Nation’s history would be most appreciated. Thank you!
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<td>AAA</td>
<td>Antiaircraft Artillery, (a branch of the U.S. Army, applicable to both guns and missiles)</td>
</tr>
<tr>
<td>ADA</td>
<td>Air Defense Artillery, a branch of the U.S. Army which replaced the AAA term above, in the U.S. Army 20 June 1968</td>
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<tr>
<td>AADCP</td>
<td>Army Air Defense Command Post</td>
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<td>AAFCs</td>
<td>Antiaircraft Fire Control System</td>
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<td>AAOC</td>
<td>Antiaircraft Operations Center</td>
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<tr>
<td>ARADCOM</td>
<td>Army Air Defense Command</td>
</tr>
<tr>
<td>Battery</td>
<td>A term used for a set of artillery, be it cannons or missiles</td>
</tr>
<tr>
<td>BIRDIE</td>
<td>Battery Integration and Radar Display Equipment (Essentially a scaled down Missile Master.)</td>
</tr>
<tr>
<td>CA</td>
<td>Coast Artillery</td>
</tr>
<tr>
<td>CAC</td>
<td>Coast Artillery Corps</td>
</tr>
<tr>
<td>CARS</td>
<td>Combat Arms Regimental System</td>
</tr>
<tr>
<td>CFMS</td>
<td>Combined Field Maintenance Shop</td>
</tr>
<tr>
<td>CO</td>
<td>Commanding Officer</td>
</tr>
<tr>
<td>DI</td>
<td>Distinctive Insignia, (sometimes referred to as Distinctive Unit Insignia, DUI)</td>
</tr>
<tr>
<td>HQ</td>
<td>Headquarters</td>
</tr>
<tr>
<td>ICBM</td>
<td>Intercontinental Ballistic Missile</td>
</tr>
<tr>
<td>IFC</td>
<td>Integrated Fire Control (A functional segment of a Nike Missile Site)</td>
</tr>
<tr>
<td>IFF</td>
<td>Identification Friend or Foe – a transponder system used to identify aircraft</td>
</tr>
<tr>
<td>HIPAR</td>
<td>High Power Acquisition Radar</td>
</tr>
<tr>
<td>LA</td>
<td>Launcher Area – A functional element of a Nike Missile Site</td>
</tr>
<tr>
<td>LOPAR</td>
<td>Low Power Acquisition Radar</td>
</tr>
<tr>
<td>MTR</td>
<td>Missile Tracking Radar</td>
</tr>
<tr>
<td>NATO</td>
<td>North Atlantic Treaty Organization</td>
</tr>
<tr>
<td>NORAD</td>
<td>North American Air Defense Command</td>
</tr>
<tr>
<td>NYARNG</td>
<td>New York Army National Guard</td>
</tr>
<tr>
<td>RA</td>
<td>Regular Army (not Army Reserve or National Guard)</td>
</tr>
<tr>
<td>SNAP</td>
<td>Short Notice Annual Practice (A demonstration of readiness for ARADCOM Nike units)</td>
</tr>
<tr>
<td>TBM</td>
<td>Tactical Ballistic Missile (Like an ICBM but missile range is limited to theatre level)</td>
</tr>
<tr>
<td>TRR</td>
<td>Target Ranging Radar</td>
</tr>
<tr>
<td>TTR</td>
<td>Target Tracking Radar</td>
</tr>
<tr>
<td>USAF</td>
<td>United States Air Force</td>
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</table>
Part 1
The “Gun” Era

Background:

On 30 September 1952, the Niagara Falls Gazette announced arrival of the 2nd Antiaircraft Artillery Group, U.S. Army, from Fort Devens, Massachusetts. The convoy of vehicles, several miles long, loaded with more than 1,000 soldiers and equipment arrived in Model City, New York, shortly after 10:00 a.m. to a rainy sky and 40 degree temperatures. On 1 October, heavy M4 tractors and 90mm antiaircraft guns arrived in Niagara Falls via rail. Why were these troops and antiaircraft artillery weapons being deployed to the Niagara Region?

In the aftermath of World War 2, several painfully learned lessons remained fresh in the U.S. Government’s collective memory: surprise attack by a hostile aggressor seemed a likely event in any future military conflict; an effective air defense, consisting of interceptor aircraft and ground based antiaircraft batteries, made any penetration of the nation’s airspace costly; and, given the massive destruction modern weapons were capable of inflicting on industrial facilities and population centers, without an effective air defense the United States could be vulnerable to disabling surprise attack.

These lessons resulted in a post-war United States National strategy of abandoning its tradition of isolationism in favor of a collective national security achieved by: “(1) support for the United Nations, (2) forward deployment in both the Atlantic and Pacific, (3) relatively strong Air and Naval Services, (4) continuation of the U. S. monopoly of atomic weapons, (5) a small Regular Army and (6) a large, well-organized reserve of citizen soldiers”.

A series of international events in the post war years led to the start of what was later called “The Cold War”, beginning with the fall of Czechoslovakia in 1948 to a bloodless Communist coup d’etat. This was followed by the Berlin Blockade which started 24 June 1948 and ran through May of 1949; President Truman’s re-institution of the draft in May of 1948; and the detonation by the Soviet Union of its first atomic bomb on 29 August 1949. The United States no longer had a monopoly on Atomic Weapons. As if these events were not enough to warrant concern about our National security, in October of 1949 China became the Communist Peoples Republic of China; and in June of 1950, Communist North Koreans, with support from Communist Chinese and the Soviet Union, invaded South Korea starting the Korean War which ran until July of 1953.

These world events produced an era of uncertainty. Without clear knowledge of what the Soviet Union’s objectives were and what offensive capability they possessed, coupled with the lack of transparency between the East and West, the senior leadership of the United States Government became concerned about our national security and felt the need to demonstrate a national commitment to readiness. This need was underscored when the Soviets flew four TU-4 “Bull” Strategic Bombers, which looked very much like B-29’s, in a 1949 public display witnessed by the West. It was no coincidence. The over flight by the Soviet Air Force contained three United States B-29 bombers which had been engaged in bombing Japan in World War 2 but, because of battle damage, were forced to land in the Soviet Union, and had subsequently been repaired unilaterally by the Soviets (unbeknown to the United States). Even more significantly, the Soviets had reverse engineered and built one additional B-29 cloned aircraft! The discovery was significant because the TU-4 provided the Soviets a strategic bombing capability. The Soviets now possessed the Atomic Bomb and an ability to deliver it to Chicago or Los Angeles on a one way mission.

Numerous study groups were convened to address the subject of the air defense of the United States. The newly created Department of the Air Force, (established as a distinct branch of the armed forces in 1947), and the Army struggled extensively over who would have overall command of gun air defense. Ultimately a framework was established between the two services for operational control which was documented in the Collins – Vandenberg Agreement of July 1950. The agreement specified the limited conditions under which
the appropriate Air Defense Commander would control the fire of antiaircraft weapons. While the agreement had been signed, the Army maintained that it significantly limited the ability of the Army Air Defense Commander to provide timely and effective response.

In the fall of 1948, as the buildup of military forces commenced, plans were developed for deployment of the available Army Antiaircraft units for the defense of the U.S airspace. A postulated list of targets was prepared and allocations of defensive forces were assigned as appropriate, depending on the strategic value of the target. In the initial deployment plan, the Niagara – Buffalo region was to receive three Antiaircraft Artillery (AAA) Battalions, “to the extent that appropriate units are available”. It was realized at the time this plan was prepared that the resources being deployed would not eliminate the threat. The best kill-expectancy that could be attributed to a gun-based defense was from 20-60% depending on the number of guns defending a given target.

Why was Niagara-Buffalo on the target list? Was it because of the Robert Moses Power Station? No, because the collapse of the Schoellkopf Power Station in Niagara Falls, which begot the need for the Robert Moses Power Station, did not happen until 1956 and construction on the Robert Moses Power Project was not approved by Congress until 1957.

Apart from being a major industrial area, what other reasons would make the Niagara – Buffalo region a strategic site warranting air defense? While it is not given as a specific reason in unclassified reports, during World War 2, and for some time afterwards, there were a number of facilities in Buffalo, Lackawanna, Lockport, Niagara Falls, and Tonawanda, New York, which were involved in supporting the Manhattan Project. The codename “Manhattan Project” was given to the complex government – industrial organization that developed and produced the Nation’s first Atomic bombs during World War 2. Recall a key item on the list of post-war collective security elements – “maintain the U.S. monopoly of atomic weapons”. By 1950, the United States was no longer the only nation possessing atomic weapons, but we most likely were the only one with a national infrastructure that knew how to successfully produce more of them. Later in time, a number of these Western New York firms also supported the Atomic Energy Commission. According to an appendix from an unavailable study, prepared many years later by the Center for Disease Control, the contracted tasks of these companies included processing uranium tailings, manufacturing uranium rods and slugs, shaping and engineering uranium rods and plutonium carbide pellets, and managing the long term storage of uranium processing waste products.

The critical elements of the atomic weapons national infrastructure, particularly those facilities located in the more northern and coastal regions of the United States were considered to be strategic resources requiring immediate protection. Prior to the advent of intercontinental and theater ballistic missile threats, it was bomber aircraft delivered atomic weapons that the nation was defending against. Due to the operational range constraints on the aircraft of that period; one-way “over-the-pole” missions were the only option available to the Soviets if they wanted to strike the United States. The Niagara-Buffalo region was a likely target.

Army Antiaircraft Artillery Command Organization:

Three regional Army Antiaircraft Commands (ARAACOMs) were established; Eastern, Central and Western. EASTARAACOM consisted of three brigades. The Niagara–Buffalo region was be included in the 56th AAA Brigade which was activated 28 June 1950 at Camp Edwards, Massachusetts. This Brigade also included units providing the AAA defenses of Boston and New York City. The Niagara Region Army Air Defense units were organized locally under the 2nd Air Defense Artillery Group, commanded by Colonel Adam S. Buynoski. After arriving in the Niagara Region, the 2nd Air Defense Artillery Group was initially based at Model City, in the former Lake Ontario Ordnance Works.
The 2nd Air Defense Artillery Group was comprised of the 44th AAA (Gun) Battalion, and the 606th AAA (Gun) Battalion, both Regular Army units. The 336th AAA (Gun) Battalion, a New York Army National Guard unit based in Rochester, NY, mobilized for Federal service 15 May 1951 – February 1953, was also involved, but only for a short period. The 606th relieved the 336th AAA (Gun) Battalion in February of 1953.15

The specific locations of “Gun Era” Niagara-Buffalo Army Air Defenses evolved over time. The initial defense was Battery “B” of the 44th AAA (Gun) Battalion at Fort Niagara. Eventually the 44th manned batteries at the Tuscarora Indian Reservation, one in Lewiston and one, possibly two batteries on Grand Island. In February of 1953, the 606th AAA (Gun) Battalion was activated and manned batteries at Lewiston, Wheatfield, near Sanborn, and on Grand Island. In 1955 with the conversion of the 44th AAA (Gun) Battalion to a Nike Missile Battalion, the 606th relieved the 44th AAA (Gun) Battalion at their Tuscarora Indian Reservation and Grand Island sites. In addition to these prior sites, a temporary installation was established on 62nd Street in Niagara Falls, near the then planned 62nd Street School. Fort Niagara served as the Headquarters for the 2nd Air Defense Artillery Group and was the location chosen for the Antiaircraft Artillery Operations Center (AAOC). Precise records of which battery of the assigned AAA (Gun) Battalions occupied a given site, and for what period, are unclear, but according to the limited Army records available, during the “Gun Era”, only two Regular Army Gun Battalions were assigned for the entire 1953-1955 time period. Given the sparse records, to the best of the author’s knowledge, the list of locations occupied and the units assigned are as given in Table 1-I.

The NYARNG augmented the Niagara-Buffalo Defense in May of 1957 by adding a “Special Security Force consisting of 106th AAA Battalion (90mm gun) with Battery “B” on Lockport Road in Wheatfield, and Battery “C” on Ransom Road on Grand Island. The newspaper article about this unit goes on to say that these two NYARNG sites were originally manned by the 44th AAA (Gun) Battalion which moved into area Nike Sites two years earlier, and that the 106th assumed responsibility for the Wheatfield site in September of 1955 and the Grand Island Site one year later.16 “C” Battery of the 606th clearly manned the Wheatfield site and erected “nearly 20 buildings” at the site” as reported in a Niagara Falls Gazette article dated 20 February of 1956, page 11. Another Niagara Falls Gazette article dated 18 May 1956, states that the 336th AAA (Gun) Battalion NYARNG had a battery on Grand Island and that the 106th AAA (Gun Battalion) had a battery located in Lockport. It is unknown if the NYARNG sites were additional units occupying the same sites occupied by the 606th AAA (Gun) Battalion or if these were different physical locations. The 606th AAA was still active as a “gun AAA unit” in the Niagara-Buffalo Army Air Defense until they were deactivated in December 1957.
Table 1-I. Cold War Army AAA Gun Sites in the Niagara Region

<table>
<thead>
<tr>
<th>Site</th>
<th>Location</th>
<th>Units Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fort Niagara</td>
<td>Youngstown, NY</td>
<td>44th, Battery B</td>
</tr>
<tr>
<td>Staley Road</td>
<td>Grand Island, NY</td>
<td>Battery “A” of the 606th was replaced in April 1955 by Battery “B” of the 44th. Battery “D” of the 606th was reported as manning this site in May of 1957, probably after the 44th assumed command of the Grand Island Nike Site.</td>
</tr>
<tr>
<td>Specific location unknown, possibly also at Staley Road</td>
<td>Grand Island, NY</td>
<td>44th and later replaced by 606th</td>
</tr>
<tr>
<td>Lewiston Village</td>
<td>North 5th Street, Lewiston, NY</td>
<td>Battery “A” of the 44th replaced in April 1955 by Battery “B” of the 606th</td>
</tr>
<tr>
<td>Tuscarora Indian Reservation</td>
<td>Near the intersection of Mt. Hope and Green Roads</td>
<td>Battery “D” of the 44th was replaced April 1955 by Battery “A” of the 606th</td>
</tr>
<tr>
<td>Wheatfield</td>
<td>NE of the intersection of Walmore &amp; Lockport Roads, near Niagara Falls Air Force Base</td>
<td>Battery “C” of the 606th</td>
</tr>
<tr>
<td>Fort Niagara</td>
<td>Youngstown, NY</td>
<td>HQ 2nd AAA Group &amp; 44th</td>
</tr>
</tbody>
</table>

Note: Data for above table was compiled from multiple sources.17

While unit sizes varied somewhat, a typical AAA (Gun) Battalion was comprised of a headquarters battery and four firing batteries. The Headquarters & Headquarters Battery, designated as HHB, included the Battalion Commanding Officer and his staff and a firing battery. Most AAA (Gun) Battalions included up to four additional firing batteries, each one designated alphabetically (“A” Battery, “B” Battery etc.). Each firing battery had a Battery Commander, four gun crews, a fire control crew and support functions such as cooks etc. Staffing at the firing batteries varied slightly depending on the alert status of the unit at that time and many Cold War AAA Battalions were deployed at less than their allocated manpower.

The troops were initially quartered in tents while arrangements were made to occupy several of the refurbished barracks at Fort Niagara. As the gun batteries were deployed, the crews occupied “Jamesway Huts”, a wooden framework covered by insulated canvas, and in some cases, metal-shelled “Quonset Huts”. These shelters were located adjacent to their gun emplacements at the deployed batteries.18 They were less than ideal “homes” for the troops, particularly in the winter. Over time, several barracks at Fort Niagara became available to the troops which made living accommodations much more comfortable.19

On 15 February 1953 the first public “Open House” of the Niagara Region AAA defenses was hosted by “D” Battery of the 44th AAA Battalion at their gun battery on the Tuscarora Indian Reservation.20

Description of the AAOC:

The Fort Niagara-based AAOC, shown in Figures 1-1 and 1-2, was the “manual” tactical command center for the deployed gun batteries and was under the command of the 2nd AAA Group Commander.21 The AAOC typically received long range target information from higher authority or search radars within their command. A close look at the AAOC status boards behind the right-most soldier in Figure 1-2 confirms that at the time of the photo, (15 May 1953) the 2nd AAA Group had two AN/TPS-1D search radars, one for the
44th AAA Battalion, and one for the 606th AAA Battalion. If properly sited and maintained, the AN/TPS-1D had an effective surveillance range of about 100 miles. It is not known where these two radars were sited, but it is known that one veteran who served at the Millersport Nike Site claimed to be the AN/TPS-1D person for the Buffalo Defense in 1957–1960. By 1953 it is recorded that long range air surveillance was being provided by AN/CPS-6B search radars (which had an effective range of 165 miles), operated by the 763rd Radar Squadron, U.S. Air Force, which was based at the former Lockport Air Force Station, located near the small hamlet of Shawnee. The long range surveillance information enabled the AAOC to perform its role of collecting, evaluating, and disseminating tactical threat information to the gun batteries and providing fire direction including, when deemed necessary, the restriction of fire. Under normal conditions, the deployed gun batteries would be assigned specific targets, and authorization to fire or hold fire. In turn, the gun batteries would provide the AAOC with the readiness status of the battery, acknowledgement of assigned targets, the status of the target engagement and their readiness to accept new targets. In the early 1950’s the information link between the AAOC and the gun batteries was provided via voice radio or telephone.


Description of a Gun Battery:

Each gun battery was equipped with four 90mm antiaircraft guns which were controlled by a radar-equipped Fire Control System. The battery had diesel generators to power their equipment so it was not disabled if commercial power was interrupted.

Guns - Two types of 90mm guns were used in the Niagara–Buffalo Region. Initially, the batteries were equipped with the older 90mm M1A1 gun mount, but subsequently were upgraded in 1957 with the more modern 90mm M2 mount. Both guns are shown in Figures 1-3 and 1-4. The M2 gun mounts differed principally in the addition of metal shields for crew protection and an automatic fuze setter-rammer. The automatic fuze setter used the time delay computed by the M33 Antiaircraft Fire Control System and set the fuze of time-fuzed round ammunition as the rounds were loaded into the breach of the gun, thus eliminating the need for setting the fuze manually. In case of power failure, time-fuzed rounds could be set using the manual Fuze Setter, M13.
Field emplacements were constructed for each gun. The layout of the gun battery was typically in a square. Each gun was sited equidistant from the next gun in the square, at a distance of between 35 and 50 yards. The specified field emplacement was as shown in Figure 1-5, although the author has seen photos of emplacements in other Cold War AAA batteries that were of a more permanent nature. The fire control radar van was located behind the guns, to minimize the parallax correction needed for each gun. Once emplaced, the guns were leveled, surveyed and aligned with the Fire Control System.

Figures 1-3 & 1-4. 90mm Antiaircraft Gun M1A1 (left) and M2 (right)
Image courtesy of NARA

Figure 1-5. 90mm Antiaircraft Field Emplacement Details
Image courtesy of War Department Field Manual 5-15, Field Fortifications, dated February 1944
Figure 1-6 shows the four 90mm M1A1 guns of a 606th AAA (Gun) Battalion battery in their emplacements, the gun crews, the cableways between the guns and the M33 Fire Control System, and the diesel power generators.30

Ammunition - The M1A1 and M2 90mm guns both used the same ammunition. The 90mm M71 round, shown in Figure 1-7, was classified as fixed ammunition, meaning that the cartridge case containing the seven-pound propelling powder charge and the projectile were combined into a one piece “round”. Each round weighed approximately 44 pounds and was approximately 37 inches long. High explosive (HE) projectiles or “shells” as they were frequently called, each pre-loaded with a two-pound charge of trinitrotoluene, (TNT), were used against antiaircraft targets. The blast effect and shrapnel created by the exploding shell are what caused aircraft damage.

The HE shell was fitted with either a time-fuze or proximity-fuze. The time-fuzed round was manually set by a member of the gun crew on the M1A1 Gun before loading the round into the gun. On the M2 guns, the mechanical time-fuze was automatically set by the fuze setter-rammer. Time of flight from the gun to the future position of the target was continuously calculated and updated by the Fire Control System and provided to the guns electrically.

The proximity-fuze, (code named “VT” for variable time), was a late World War 2 invention. It controlled the time of projectile detonation by using an onboard radio in the fuze which worked like miniature radar. The fuze sensed the range to the target and automatically detonated the projectile at the optimum distance from the target, (approximately 60 feet).31 The “VT” fuze greatly improved the effectiveness of AA gunfire. Both types of fuze were armed when the gun was fired by centrifugal force as the projectile rotated down the barrel of the gun. The 90mm round had an effective vertical range of 11,273 yards when using the mechanical time fuze and 12,100 yards with the VT fuze. The gun’s horizontal range was 13,000 yards.32
The guns typically operated in “automatic” mode which meant that the bearing and elevation of each gun was controlled by servo-controlled power drives driven by electrical signals from the Fire Control System. The gun mounts could also be traversed and elevated manually if the power drives failed. Indicator panels at the elevation and bearing operator positions on the gun mounts allowed the gun crews to manually position the gun as ordered by the Fire Control System. Per Army guidance issued in 1943, a seven-man crew was stationed on the gun mount; the Gun Commander and a six-man ammunition handing crew were also part of the gun crew but worked adjacent to the gun mount.33 Adjustments to the number of personnel on the gun crews were made over time. The M2 gun was able to operate with a smaller crew due to the automatic fuze setter. A well practiced gun crew could fire between eighteen and twenty-four rounds per minute.

**Fire Control System** - The 2nd AAA Group was equipped with the latest Antiaircraft Fire Control System, (AAFCS), available in 1953 which was the M33, see Figure 9.34 Under Army direction, Bell Laboratories and Western Electric commenced development of the AAFCS M33 in 1945 and production followed in 1950. A total of 645 of these systems were produced. The AAFCS M33 was a mobile, trailer-based, integrated, electromechanical fire control system and had the ability to direct both 90mm and 120mm gun batteries. Inputs required by to the AAFCS M33 were straightforward; electrical power, long range early warning information and meteorological data. 2nd AAA Group personnel were trained on the AAFCS M33 system at Fort Bliss, Texas, and Fort Devens, Massachusetts.35

Unlike earlier AAFCSs, the M33 was equipped with its own acquisition radar, shown in Figure 1-8, which could rotate 360 degrees and could elevate from zero to 9 degrees. It was capable of doing a 360 degree scan at 10, 20 or 30 times a minute (as selected by the operator) and could acquire targets at a range of up to 120,000 yards (68 miles). The acquisition radar was located approximately 250 feet from the radar trailer and was connected to the radar trailer by cables.36

**Figure 1-9** shows the 606th AAA (Gun) Battalion at the Wheatfield site located near Sanborn, New York, just North-East of the junction of Walmore and Lockport Roads. Clearly visible are the Radar Trailer M242 with the tracking radar antenna on top, the Maintenance and Spare Parts Trailer M244 just behind, and in the distance, the barrels of three of the four 90mm antiaircraft guns of the battery can seen. The soldiers in the foreground are probably the fire control crew which manned the radar consoles in the adjacent radar trailer.37
Authors Note: Not seen in the photograph is the M33 Fire Control System Acquisition Radar. It is possible that the AAA Gun Batteries at Niagara were using externally sited TPS-1D radars or the Air Force AN/CPS-6B radars for long range target acquisition by the time of this photograph. A close look at the original of the AOCC illustration in Figure 1-2, lists on the status board that both the 44th, and 606th AAA Battalions each had a TPS-1D Radar. The pictures in Figures 1-1, 1-2, 1-6 and 1-8, were all taken on 15 May 1953.
The M242 Radar Trailer served as the gun battery Command Post. As shown in Figure 1-10, it contains the radar cabinet, together with a switchboard cabinet, the early-warning plotting board, the tactical-control console, and the tracking console, which were all manned positions when the system was operating. The Switchboard Cabinet provided separate, two-way circuits for voice communications between the radar van and 1) the gun captains at each gun mount; 2) early warning information sources; and 3) higher authority in the remotely-located AOCC.

Early-warning information on friendly and hostile aircraft would be manually plotted out to a maximum of 250,000 yards on the Early-Warning Plotting Board, located just behind the Tactical-Control-Console, which served as the control center for the gun battery. Having been assigned a target, the radar operator would select the assigned target from any other aircraft returns (or other returns such as clouds etc.) on the radar display and initiate automatic tracking of that target by the fire control system as long as radar contact of the target was maintained. Once a track was established by the target tracking radar, target horizontal range and elevation information was displayed on electro-mechanical automatic plotting boards on the Tactical-Control-Console. A third panel provided the fire control computer operator the ability to select the type of track prediction desired for a given target as well as a means to adjust the level of track smoothing needed so the fire control computer could generate a fire control solution. Finally, the Monitor and Control Panel on the Tactical-Control-Console provided the battery commander the summary status of the gun battery, as well as the detailed status of the batteries’ guns, fire control computer, and target track. The panel also included controls which allowed the Battery Commander to sound the alert siren, and issue “fire” or “cease fire” orders to the battery.
Using the Target-Tracking Console, three radar operators would control the acquisition and target tracking radars. Displays on the console provided long range and precision track displays, as well as bearing and elevation views of the track. Control switches permitted the radar operators to monitor the health of the radar and make necessary adjustments to improve the quality of the track as well as counter the effects of radar jamming by the enemy.

The tracking radar antenna itself was located on top of the radar trailer. Once the tracking radar established a track on a target, the tracking antenna would be driven by an electronic servo system which automatically kept the antenna pointed at the target as long as the track was maintained. A periscope was also attached to the radar antenna and positioned such that an operator inside the radar trailer could view the target being tracked and confirm the tracked target was a hostile aircraft. Since the tracking radar had an operational range of approximately 120 miles, the periscope was seldom an effective method for target identification at long distance. In 1954 Identification Friend or Foe (IFF) subsystems were provided to the Army Air Defense Command and subsequently fitted to the fire control system’s acquisition radar to provide enhanced target identification at longer range.

A Typical Engagement:

During the early 1950's the United States and Canada jointly agreed to establish a series of long range surveillance radars in Newfoundland, Labrador, the North West Territories, and Greenland. These were referred to as the “Pinetree Plan”. Enhancements known as the “Mid-Canada Line” and “Distant Early Warning (DEW) Line” provided additional long range surveillance coverage. Collectively, long range surveillance of the Polar Regions was intended to provide Canada and the United States advanced warning of any attack by the Soviets. There were two types of sites, unmanned (which worked autonomously) and manned. The manned sites were staffed by U.S Air Force and Canadian Forces personnel. There was also an early warning radar site at the Tule Air Force Base in Greenland which was manned by U.S. Air Force personnel.40

The specific details of how advanced early warning information reached the Niagara – Buffalo Army Air Defenses in the early 1950s are unknown; however, as the command and control systems of the early 1950s were relatively basic, it is likely it was communicated via voice radio through the various echelons of the Air Defense Command Structure. As previously stated, it is recorded that by 1953-1954 that the Lockport Air Force Station was providing long range air surveillance radar support for the Niagara-Buffalo region, and it was likely part of the command and control chain.

Having been given a threat warning, Air Force and Army Air Defense forces would have placed their respective resources on alert. Within the 2nd Antiaircraft Artillery Group, early warning data and sector assignments would be relayed down from the AOCC to the gun batteries via radio or telephone. The alert would be announced at the AAA Battery by the Battery Commander and target acquisition radars at the various batteries would begin surveillance of their assigned sectors.

If the AAOC was given authority to engage a hostile target or set of targets, they would authorize the assigned targets to one or more batteries who would then acquire the target with their respective target tracking radars. Once the assigned target track was established, the firing battery would report the track status to the AAOC.

The AAFCS M33 maintained a radar track on the target and automatically computed a fire control solution. Part of this solution was a set of electrical commands referred to as “gun orders” which were sent to the guns in the battery. The gun orders actually aimed the guns at the predicted future position of the target, thereby allowing time for the projectile to fly out and intercept the target at its future position.
At the appropriate time, the gun crews would be given a command to load the guns and once loaded, a “fire” order would be issued. The handling teams for the gun mounts would keep the guns supplied with ammunition and the gun crew would load the gun. The gun would be fired, the gun crew would remove the spent cartridge case, and, as appropriate, and reload the gun with another round. On M1A1 guns, setting the fuze was a manual operation conducted on each round prior to loading the gun, whereas on M2 version guns, the fuze setter on the gun would automatically set the mechanically fuzed ammunition to the proper value. When using VT fuzed ammunition, no fuze setting was required. See Figure 1-12 which illustrates a gun crew practicing the loading of a 90mm M2 antiaircraft gun.

![Figure 1-12. 90mm M2 Antiaircraft Gun, protective shields forward, showing crew loading gun](Photo credit: NARA)

The AAFCS M33 radar operators monitored the effectiveness of the gunfire on the radar and applied corrections to the gun orders as needed to improve the effect of the fire. Once a radar track was lost, either radar operator or an optical observer would look through the radar trailer periscope to determine if the target has been destroyed. Target status would be reported to the AAOC and the battery would either be ordered to either “hold fire” or “break engagement” on the previous track and commence tracking a new target. At any point in the engagement if the AAOC was told by higher command authority to cease fire, the order would be relayed to the Battery Commander.

**Technological Constraints of the System:**

While the fielding of AAFCS M33 Fire Control System, 90mm M2 guns and VT fuzed ammunition were substantive improvements in gun-based antiaircraft defense, jet engine and rocket-based weapon delivery technology were beginning to come of age in the early 1950s and would soon transform the threat. The advance of these technologies quickly drove the need for major improvements in long range surveillance, command and control, and defensive weapons systems. Fortunately these needs had already been anticipated much earlier.
By 1953 when the 90mm gun batteries of the 44th and 606th AAA Battalions were finally deployed in the Niagara Frontier, the U.S. Army had already been working for eight years on the next generation of air defense. Bell Laboratories, the developers of the AAFCs M33, had been studying a guided missile based AAA system and gave a verbal report on the results of the study to the Army Ordnance Corps on 14 May 1945. By 1951 development of this proposed system had progressed significantly. In “live fire” (simulated target engagements using live missiles and radio controlled B-17 bombers as targets) tests, sixteen aircraft had been intercepted by the Nike I missiles. A contract was awarded to Western Electric and Douglas Aircraft to produce 1000 missiles and 60 sets of ground based equipment; launchers, missile assembly equipment, and fire control systems for what would become known as Nike Ajax. Mass production of these systems was soon to follow. The missile age had begun.
Background:

In part one, we discussed the “Gun Era” of the Army Air Defense of Western New York. 90mm gun batteries and a basic command and control system were deployed as an interim defense against the perceived Soviet bomber threat. It was recognized at the time that the AAA batteries were of some help in countering a bomber attack, but that they were quickly being rendered technologically obsolete.

On 12 August 1953 the Soviets detonated their first hydrogen bomb and by 1956 and 1957, Soviet Long Range Aviation Squadrons began receiving Bear Bombers which had turboprop propulsion, giving them a maximum speed of 510 mph and an impressive 8,000 nautical mile operational range. In May of 1957 the Soviets also began flight testing of the R-7 Semyorka missile (later named “SS-6 Sapwood” by NATO). It was to become the world’s first Intercontinental Ballistic Missile (ICBM). The first launch of the SS-6 was in August of 1957. An early variant of the Sapwood was used on 4 October 1957 to launch the Sputnik satellite, a significant surprise to the United States as it demonstrated that the Soviets had a much greater space launch capability than we did at the time.

By February of 1945, the Army Ordnance Corps had awarded Bell Laboratories a study contract to explore options for a missile-based antiaircraft system to combat future enemy bombers invading friendly territory at high speeds and altitudes. In May, Bell Laboratories provided a verbal report on the study, followed in July by a written document titled “A Study of an Antiaircraft Guided Missile System”. Following the verbal report, the Army Ordnance Corps charged Western Electric and Bell Laboratories with full responsibility for development of the proposed system. Douglas Aircraft was selected by Bell and Western Electric as a major subcontractor for the design of the missile, booster and launcher. It took until April 1952, six and three quarter years, to complete the entire research and development (R&D) program through system test and demonstration. The R&D system tests were an unqualified success.

The program was accelerated shortly after the first Soviet atomic bomb test. Western Electric and Bell Labs were tasked to develop a tactical version of the Nike as soon as possible. The objective was achieved in two years. Ultimately Western Electric produced 358 ground batteries and delivered 14,000 missile guidance units to Douglas Aircraft for assembly in a similar number of Nike Ajax Missiles. Figure 2-1 depicts the Western Electric Nike Production Facility, also known as the “Tarheel Missile Plant”.

A Nike deployment plan was submitted in February 1952. Under direction of the Army Antiaircraft Artillery Command, (ARAACOM), regional commands began the investigation of candidate basing sites. Meanwhile, preparing for wide-scale deployment, the Army began studies on staffing, logistical support, and manpower cost. It was determined that significant cost savings could be realized by employing National Guard Units to man Nike Sites; however, the initial manning of the sites was done by Regular Army personnel. Training for the officers and enlisted men who would operate and maintain the Nike Ajax System began at the Army Antiaircraft & Guided Missile School, Fort Bliss, Texas. In parallel, the U.S. Army Ordnance and Guided Missile School at Redstone Arsenal, Alabama, provided training courses for military and Civil Service personnel who supplied intermediate level support to the Nike sites. The first Nike Ajax missile battery became operational December 1953 at Fort Meade, Maryland. By 1957, 244 Nike Ajax batteries were in operation in the United States.
The Army’s Transition from Gun Antiaircraft Artillery to Guided Missiles:

The Eastern Army Antiaircraft Artillery Command, (EASTARAACOM), was replaced in May of 1954 by ARAACOM, which assumed overall command for Army AAA defense of the United States. The Niagara-Buffalo Army Air Defense Mission was placed under the 53rd Brigade which reported to ARAACOM. The Continental Air Defense Command, (CONAD), also established in 1954, consisted of ARAACOM, and the Air Force’s Air Defense Command (ADC), under a unified command structure. On 21 March 1957, having already established many Nike Ajax missile batteries across the nation, the Army redesignated ARAACOM as the Army Air Defense Command (ARADCOM). Later the same year, CONAD, and the Canadian Air Defense Command, merged to become the North American Defense Command, (NORAD).

Nike Missile Site Implementation in Western New York:

In Niagara County, a dual battery Nike Ajax site was built at the former Lake Ontario Ordnance Depot (currently known as Model City) and by 1955 construction had begun on a second Nike Ajax dual battery site in Cambria. In neighboring Erie County, a third dual battery site was constructed on Grand Island. Four other sites were announced as planned for the Buffalo area; Millersport, Lancaster, Hamburg, and Orchard Park. Both Hamburg and Orchard Park were also to be dual sites. While the Nike Ajax Batteries were being built, the 606th AAA (Gun) Battalion manned AAA batteries on Grand Island, remaining there until 20 December 1957 when the unit was inactivated at Niagara Falls.

Following the completion of the 32 week Nike Ajax Missile training course at the Army Air Defense School, the 44th AAA (Gun) Battalion personnel returned to Fort Niagara. The 44th was subsequently redesignated the 44th AAA Missile Battalion (Nike) 22 March of 1955. The full battalion passed in review at Fort Niagara 15 June, just prior to manning their assigned Nike Ajax missile batteries at Model City, Grand Island, and slightly later, at Cambria.
1 June 1956 the 465th AAA Missile Battalion was activated at Fort Niagara. During 1956, personnel of the 456th Battalion were given “on-the-job” training by the 44th AAA Missile Battalion at the operational Nike Ajax missile sites they manned at Model City and Cambria. Following their training, the 456th AAA Missile Battalion crews manned new Nike Ajax sites in Erie County at Millersport and Lancaster.

On 1 September 1958, the Army restructured its forces under the Combat Arms Regimental System, (CARS), and redesignated Regular Army units to link them with their “parent regiments”. Under this action, the 44th AAA Missile Battalion became the 1st Missile Battalion, 4th Artillery, and the 456th AAA Missile Battalion became the 2nd Missile Battalion, 62nd Artillery. Army Reserve and National Guard Units were similarly reorganized in 1959.

In summer of 1961, the Army Air Defense Command Post, (AADCP) relocated from Fort Niagara to the Lockport Air Force Station, (LAFS), in Shawnee/Sanborn which co-located the Missile Master detachment with the Air Force electronic and manual interceptor control detachment. In March of 1966, the Niagara-Buffalo Defense was redesignated as the 101st Artillery Group (Air Defense). The Headquarters Battery became the Group Headquarters and Battery B (Cambria) retained their former designation as 1st Missile Battalion, 4th Artillery.

In 1966 the Niagara-Buffalo Army Air Defense was comprised of the 101st Artillery Group (Air Defense) based at Lockport Air Force Station, with Battery B (NF-16) manned by the 1st Battalion (Hercules) 4th Artillery (Regular Army) attached, and the 2nd Battalion (Hercules) 209th Artillery, New York Army National Guard, which manned the Grand Island (NF-41) and Lancaster (BU-18) Nike Hercules Missile batteries. Table 2-I lists the Nike missile sites of the Niagara-Buffalo Defense, their locations and units assigned.

### The Nike Guided Missiles:

Named after the Greek Goddess of Victory, Nike, the Nike Guided Missile was developed as a counter to the evolving Soviet manned bomber threat. Ultimately, this same progression of technology was to affect the Nike Missile Program during its lifecycle. The result was two large-scale development and deployment projects across the United States.

Nike Ajax, (Ajax was a large, strong warrior-prince in Greek Mythology who carried a large shield) was the world’s first operational, surface-to-air guided missile. Figure 2-2 shows two Nike Ajax Missiles on the above ground launchers, elevated to firing position. In the background is one Nike Hercules Missile on its launcher. The Nike Ajax was a one foot diameter, thirty-four foot, ten inch long, two-stage guided missile that weighed 2,455 pounds. The first stage consisted of a solid fuel booster with three fins which provided 59,000 pounds of thrust for a period of ~3 seconds. After the short boost phase, the booster separated and fell to the ground.

The second stage consisted of the guided missile, which included an airframe; four control fins for stabilization; four hydraulically actuated elevons (control surfaces) one at the bottom of each control fin; four steering fins, one located just forward of each control fin; a guidance section; a sustainer rocket motor; and three warheads. The sustainer rocket motor, designed by Bell Aerospace of Buffalo, New York, was liquid fueled and used a pressurization system to mix JP-4 (jet fuel), an oxidizer, Red-Fuming Nitric Acid, (RFNA); and Unsymmetrical Dimethylhydrazine, (UDMH). The UDMH was sprayed into the rocket motor causing spontaneous combustion of the JP-4 and RFNA. The sustainer rocket motor was automatically ignited when the booster separated.
<table>
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<th>Site</th>
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<th>Years</th>
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<td>redesignated to 1st Missile Battalion, 4th Artillery</td>
<td>9/58 - 3/70</td>
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<td>Grand Island (Dual Site)</td>
<td>44th AAA Missile Battalion, Battery “C”</td>
<td>3/55 - 9/58</td>
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<td>9/58 - 4/63</td>
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<tr>
<td>74/75)</td>
<td></td>
<td>2nd Missile Battalion, (Nike) 209th Artillery, NYARNG</td>
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<td>9/58 – 12/61</td>
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Table I notes:
1. Data compiled from multiple sources
2. Redesignation of these units was an Army-wide directive under the Combat Arms Regimental System in January of 1959.
4. 2nd Missile Battalion, 106th Artillery, NYARNG was redesignated 2nd Missile Battalion, 209th Artillery (NYARNG) 1 May 1962.
It was necessary to fuel the missile before it was placed in the launch area magazine. The fueling operation was performed in a revetted area for safety. Once fueled, the missile was transported to the launcher area underground magazine where it was stored in a ready to launch state.

To enable maneuvering of the guided missile, each control fin had a hydraulically controlled elevon located at its aft end. The elevons were linked to each other and were used to roll (rotate) the guided missile after launch such that its belly was facing the enemy aircraft. After the roll maneuver was completed, the four steering fins were used to steer the missile. Guided by a series of maneuver commands from the ground-based fire control system, the onboard guidance section decoded these commands and “steered” the missile to target intercept by moving the steering fins.

The Nike Ajax missile contained three high-explosive fragmentation warheads, which were mounted in the nose, mid, and aft sections of the missile respectively. At the optimum time, the ground-based fire control system sent a “burst” command to the missile and the warheads were detonated.

Nike Ajax had a range of between 25 and 30 miles, a ceiling up to 70,000 feet, and a maximum speed of Mach 2.3 (1,679 miles per hour). Nike Ajax was operational from March 1954 until November 1963. The last operational Ajax missile site in the United States ceased operations in May 1964. In 1967, Nike Ajax installations were deployed in countries that shared common defense interests with the United States, such as Belgium, Denmark, France, Greece, Italy, Japan, the Netherlands, Norway, Taiwan, Turkey and West Germany. The Army also continued to fire Ajax missiles at McGregor Range near Fort Bliss, Texas, as part of annual proficiency exercises for deployed batteries.

Looking ahead and anticipating continued advances in combat aircraft technology, hostile electronic countermeasures, and the eventuality that manned bombers would be replaced by ICBMs, the Army received approval to begin development of the successor missile to Ajax, the Nike Hercules. The Nike Hercules development ran from July of 1953 through August of 1967.

Nike Hercules was named after a Greek hero, the son of Zeus, who had immense strength. Nike Hercules was also a two stage missile, but was much larger than its predecessor. With a diameter of thirty inches, an
overall length of forty-one feet, and a weight of 10,710 pounds, Hercules had a range of over 75 miles, a ceiling of 150,000 feet, and a maximum speed of Mach 3.65 (2,707 mph). The booster, which consisted of a cluster of four Nike Ajax boosters, had four fixed fins. The guided missile used elevons at the aft end of the control fins for the roll maneuver and steering the missile during flight.

Unlike its predecessor, Hercules had a solid fuel sustainer motor in the missile which eliminated the need for pre-launch fueling. The Nike Hercules had the capability to accommodate either the 1,106 pound T-45 conventional blast-fragmentation warhead, or a nuclear warhead. The W-31 nuclear warhead weighed 1,123 pounds and could be set for three different yields. It was felt that the nuclear warhead would allow one Nike Hercules to destroy a formation of hostile bombers, not just a solitary aircraft.

Like the Nike Ajax, the Nike Hercules was guided to target intercept by a ground-based fire control system which used command guidance. The steering orders were sent to the missile through the missile tracking radar beam.

**A Typical Nike Missile Battery:**

A typical battery required approximately 48 acres of land. The Army preferred to use Government owned or public land wherever possible, but when necessary the land was purchased from private land owners. This last category turned out to be the predominant mode of acquiring property. Numerous early announcements on the plans for Nike missiles on the Niagara Frontier and the land requirements for the Nike Batteries were posted in local newspapers.

As might be expected, the Army had to implement a significant public relations program to address concerns and fears associated with basing missiles in the host communities. The “PR” program included face to face meetings with community leaders, introductory pamphlets and movies on Nike, open house sessions at the Nike batteries, where guided tours would be given, and later, the Army started a program called “Operation Understanding” where selected members of the community went to White Sands Missile Range to witness a live Nike launch. By mid 1954 the Army Corps of Engineers had acquired most of the land and site construction was well underway.

A Nike Missile battery was divided into three sections, the Launcher Area, (LA) the Integrated Fire Control Facility, (IFC), and the Administration Area. The LA and the IFC, typically separated by 1,000 – 6,000 yards, had to be within line-of-sight of each other. The separation was due to the slew rate of the Missile Tracking Radar and the speed of the missile when launched. The following subsections describe the function and key equipments at each area.

**LA -** This segment of a Nike site required 40 acres of land and provided facilities for maintaining, storing, and firing Nike missiles. Once the nuclear-capable Nike Hercules was deployed the launch area, it became a secure exclusion area with a second fence around the launch section, with restricted access. Armed guards and a security dog patrolled the perimeter fence around the exclusion area. The dogs were specially trained to be aggressive, see Figure 2-3.

The principal structure in the LA was an enclosed concrete missile storage magazine, built either beneath, or above ground level. If built above ground level, the structure was completely surrounded by earth berms. The underground magazine, shown in Figure 2-4, is sometimes erroneously referred to as a silo, which it is not. Launch Section magazines were commonly referred to as Pits, A-Pit, B-Pit etc. Each magazine contained storage racks for the missile rounds (the assembled missile and booster) and a Launcher which was mounted on an elevator. Nike sites had two configurations; single or dual. Each launch section had four launchers. Single sites had two or three launch sections; dual sites had 4 to 6. Above ground there were additional launchers and racks, the quantity being dependent on site configuration, single or dual.
To fire a missile, missile handing personnel in the underground magazine would roll the missile round off the loading & storage rack and onto the elevator-mounted launcher. The overhead magazine doors would be opened and the launcher would then be raised by an elevator to ground level. If the missile was to be loaded on one of surface launchers, the missile handlers would slide the missile round off the elevator mounted launcher, laterally transfer the missile round to the designated surface launcher using the surface storage racks, and then load it onto the designated launcher. It was also possible to fire from the elevator mounted launcher once it was at the surface level.
There were two versions of launcher; the M-22 for Nike Ajax; and the M-36 universal launcher which could accommodate either Nike Ajax or Nike Hercules. Due to the larger size and weight of Nike Hercules, the loading and storage racks, elevator, and in some cases the magazine structure itself required modification to accommodate the missile. Four different underground magazines accommodated the changing missile design. The "A box" was designed for Nike Ajax missiles, the larger "B box" also accommodated Nike Hercules missiles, the "C box" was, essentially, a former Ajax magazine that had been modified to hold Hercules missiles and finally, the "D box," designed for Nike Hercules missiles. The “D box” was the largest magazine. After 1958, the Army constructed all Nike facilities with “D Box” magazines. Many sites had a mix of magazine sizes and missile types.

Other structures in the LA included the Missile Test & Assembly Building; the Acid Fueling Station and two storage sheds, one for the RFNA, and one for the JP-4 fuel, (note that both of these sheds were unique to Nike Ajax); the Generator Building; the Warheading Building (not at all sites); the Ready Building and the Launcher Control Trailer (LCT). Depending on the site configuration, the Admin Area was sometimes located in the LA. Each structure is briefly described in the following paragraphs.

Nike missiles arrived at the site in shipping containers unassembled and unarmored. The Missile Test and Assembly building is where the missiles would be uncrated, assembled and tested. The missile’s hydraulic and propulsion air tanks were pressurized, a charged battery was installed in the guidance section, and the warheads were installed. At this point, the Nike Ajax missiles were ready to be fueled. The solid fueled rocket motors of the Nike Hercules did not require fueling.

The missile liquid fueling operation, unique to Nike Ajax, was conducted outdoors at the Fueling Area. This area had a concrete pad that was encircled by an eight foot high earth berm. Figure 2-4 shows a Nike Ajax missile being fueled. Note that the crewmen are wearing protective suits due to the toxicity of the fuel and oxidizer. The picture clearly shows the JP-4 fuel container (above left crewman in can) and the RFNA oxidizer, (in can to the right of the second crewman). The support structure for the fuel and oxidizer lifts the fuel barrel to a allow gravity flow from both containers. The fueling system was a closed loop to prevent fumes from the RFNA oxidizer to vent to the atmosphere. Nearby the fueling station was a shower in case of accidental exposure to hazardous chemicals.

Figure 2-4. Crewmen of the 44th Antiaircraft Artillery Missile Battalion fuel a Nike Ajax Missile.
(Note unit insignia on the booster fin of the missile).
Photo courtesy of Gordon Lunn
In the LA, shown in Figure 2-5 above, Nike Launchers (three dark rectangles per row) are visible in the LA Exclusion Zone. The doors for the two elevators appear as two elongated white rectangles adjacent to the left most launcher in each of the two rows, one in foreground, and one to the rear. The missile fueling area is in the crescent shaped revetment to the left of the fenced exclusion zone. The white radomes for the IFC radars can be seen in the distance.

The final step in missile assembly was connecting the warheads to the Safe & Arming (S&A) subsystem, which was done in the casemate. Nike Ajax missile had three warheads and two arming devices. The warheads and arming devices were connected to the safe-arm devices by detonating cord. The Nike Ajax missile had S&A devices which armed the warheads after launch by the inertia of missile launch. The detonating cord leading from these devices to the warheads was normally not connected unless a tactical engagement was imminent.

The missiles were mated with their boosters on a Missile Handling Rail. The booster was placed on the rail first then the missile was mated to the booster. Missile handing rails held the complete missile and allowed them to be pushed onto a launcher or to their storage locations in the pits.

The Generator Building contained diesel generators, frequency converters and switching gear. It provided the LA with either commercial or generator provided power. As most of the Nike ground equipment used 400 Hz power, frequency converters were used to change commercial 60 Hertz power to 400Hz power. There was one frequency converter for each magazine section. When a battery was at alert, only generator power was used.

The Ready Building was typically a simple, above ground, heated structure at the Launch Area which provided the crewmen a dining and day room, sleeping area, and toilet facilities. In addition to the Ready Building, all of the Launch Sections had a personnel room that was a separate part of the underground magazine. The room was separated from the magazine by blast-proof doors and provided the crewmen a safe refuge once their alert chores were completed. An emergency escape hatch provided personnel egress from the personnel room to the outdoors.
The Launch Control Trailer (LCT) was usually located in the Service and Assembly Area and served as the control point for the Launcher Area. All launcher/missile related communications from the IFC were channeled through the LCT. In-turn, the LCT relayed specific information to the respective missile pits. Information from respective missile pits was channeled through the LCT which relayed it to the IFC.

The Admin Area was an above ground structure which, depending on the configuration of the Nike Site, was typically located in either the Launcher Area or the Integrated Fire Control Area. In some sites, it was located elsewhere. It contained offices, a bunk room, toilet facilities, a food preparation area and dining hall.

**IFC Area** - The Battery Control, or IFC Area, as it will be referred to from this point forward, contained the equipment to launch and guide a Nike Guided Missile to intercept a target. Because the radars at the IFC and were critical to acquiring and tracking targets and providing guidance orders to the missile, the IFC area had to be within line of sight to the Launch Area and be as free as possible from natural or man-made obstructions that would interfere with transmission and reception of radio frequency signals. The following subsections will describe each major component located at the IFC. Figure 2-6 depicts a Nike Hercules IFC area. Not seen in the photo are the BCT and RCT which are located in a hardened building at the center of the photograph.

Battery Control Trailer, (BCT) – The Nike Weapon System was designed to be field mobile so much of the system was either trailer based or had transporters. In the Continental United States, all of the Nike missile batteries were based at fixed locations. The BCT contained the early warning plotting board, battery control console, acquisition radar cabinet, computer, an event recorder, and the switchboard cabinet. The watch stations within the BCT included the Battery Control Officer, the Early Warning Plotting Board Operator, Acquisition Radar Operator, Computer Operator, and the Switchboard Operator.

Radar Control Trailer, (RCT) - The RCT contained the Consoles, Receiver Groups, and Power Supplies for the Target Tracking Radar (TTR), Target Ranging Radar, (TRR) and the Missile Tracking Radar, (MTR). It also contained the Coder-Decoder Cabinet. The TTR, TRR, and MTR Consoles provided the control and displays necessary for the operation of the respective radars. The consoles were watch stations manned by the respective radar’s operator.

Acquisition Radar - (Also known as the Low Power Acquisition Radar (LOPAR) in the Improved Nike Hercules System), is the same acquisition radar that was used in the M33 Antiaircraft Fire Control System (see Part 1, Figure 1-8), but with updated with additional features to address the enhanced threats of the Nike Era. The most significant improvements included Electronic Counter-Counter Measures (ECCM) to counter radar jamming by the enemy and Identification Friend or Foe (IFF).

The Acquisition Radar was composed of the acquisition antenna, receiver, and transmitter. The radar rotated constantly at a predetermined speed. Through the acquisition radar scope, the battery commander, (or battery control officer), received a video image of a potential enemy target coming within range of the Nike installation. The acquisition radar is visible in Figure 2-6, lower center, mounted on a tower without a radome.

Target identification was typically provided by the Army Air Defense Command Post (AADCP). This was the case in the Niagara Buffalo Army Air Defense. In situations where the AADCP was not available, the Battery Commander could determine target identification using the Selective Identification Feature (SIF)/IFF system. In this situation the SIF/IFF system would electronically challenge the tracked aircraft. If the aircraft was friendly, the beacon on the aircraft would respond to the interrogation appropriately and the track symbol on the Acquisition Radar display would display a symbol adjacent to the track symbol.
Generally, the radars at permanent Nike Sites were mounted directly onto concrete pads. In some cases, because of visual obstructions between the IFC and the LA, it was necessary to mount the radars on towers. These towers consisted of steel reinforced concrete columns sheathed in aluminum for even heat distribution. The acquisition radar was positioned between the target-tracking and missile-tracking radars, although not in exact line with them.

High-Power Acquisition Radar (HIPAR) – The HIPAR was only installed at Nike Missile batteries with the Improved Nike Hercules Integrated Fire Control System. The HIPAR was capable of locating targets at much higher altitudes and longer ranges than the LOPAR, and was better suited to exploit the Nike Hercules missile’s maximum ceiling and range. These features improved the systems reaction time against high speed, high altitude threats. HIPAR antennas were typically located on a support structure, often as high as 50 feet. A dome-shaped cover, known as a radome, surrounded the radar antenna, providing environmental protection. The HIPAR antenna is located in the large white dome at the upper center of Figure 2-6.

HIPAR Equipment Building - This building was adjacent to the HIPAR and housed electronic equipment necessary to operate and maintain the HIPAR radar. The building appears directly below the HIPAR radome in Figure 2-6.

TTR - The TTR tracked the enemy aircraft's range, azimuth, and elevation, and transmitted this data electronically to the fire control system computer. The radar was composed of the target tracking antenna, receiver, and transmitter.

TRR – The TRR was only installed at Nike Missile batteries with the Improved Nike Hercules Integrated Fire Control System. The TRR tracked the enemy aircraft’s range and transmitted this data electronically to the fire control system computer. The radar was composed of the ranging antenna, receiver and transmitter.

MTR – The MTR antenna was very similar in appearance to the TTR and TRR. The MTR continuously tracked the missile throughout its flight, and transmitted this data to the computer. In turn, the computer
transmitted continuous steering commands to the missile via a coded beacon in the missile. There were 17 available codes a missile battery could use. Each battery within the Niagara-Buffalo Defense was assigned a different code in order to prevent adjoining batteries from inadvertently taking control of missiles from another battery. When an MTR was not locked onto a designated missile, it was locked onto the Flight Simulator, which was mounted on a mast connected to the Launch Control Trailer. This allowed for continuous monitoring of the beacon’s signal strength and the receiver sensitivity of the MTR.

The TTR, TRR and MTR are visible in Figure 2-6, all are mounted on towers to the left and right of the LOPAR.

Generator Building - The generator building housed the diesel generators used to provide 400 Hertz power to operate the IFC during alert periods, and when commercial power was not available. Like the Generator Building at the LA, it also contained 60-400Hertz frequency converters, which converted commercial 60 Hertz power to 400 Hertz power for the IFC equipment.

Radar Collimation Mast Assembly - The radar collimation mast assembly was composed of the radar test set which had two track-radar frequency band generators; the radar collimation mast, which was usually about 60 feet tall; the target head assembly; and cross arms, for correcting bore sighting. The mast assembly was used for collimating (adjusting the line-of-sight), testing, and adjusting the TTR, TRR and MTR. Typically, the mast assembly was located approximately 600 feet from the MTR and TTR. The Collimation Mast is not visible in Figure 2-6.

Improved Nike Hercules Antiaircraft & Anti-Ballistic Missile System:

By 1956, anticipating future enhancements in the threat, studies were conducted on the Nike Hercules System to identify areas needing additional improvements to meet the post-1960 threat. The advent of higher speed enemy aircraft, smaller aircraft-launched cruise missiles, and enemy Electronic Counter Measures (ECM), necessitated improvements in the standard Nike Integrated Fire Control System to enhance the system’s target acquisition and Electronic Counter-Counter Measures, (ECCM). Accordingly a High-Power Acquisition Radar (HIPAR) and a new Target Ranging Radar, (TRR), were added to the system. The first improved Nike Hercules systems were installed at Nike Sites in June 1961.78

Additional studies conducted later, showed that the Improved Nike Hercules System needed the ability to counter enemy launched Tactical Ballistic Missiles (TBM’s). These enhancements required changes to the HIPAR, the fire control system computer, the fire control system presentation system, and the plotting boards.

The world’s first successful intercept of a TBM took place 3 June 1960 at White Sands Missile Range when the Improved Nike Hercules ATBM System fired a Nike Hercules Missile against a U.S. Army Corporal Surface-to-Surface ballistic missile. Figure 2-7, shows a Nike Hercules missile to the left, a Corporal Missile to the right, and the photographic coverage of the intercept. This test was followed by a second successful test, where one Nike Hercules missile successfully intercepted another Nike Hercules missile.
Nike Battery Integration with Long Range Surveillance and Command Control Sites:

By 1956/57 the “Pine Tree Line” and further North, the “Mid-Canada Line” long-range surveillance radars, as well as Navy Radar Picket Ships and Air Force early-warning aircraft on the East and West Coast were providing critical early warning of any Soviet Manned Bomber Attack against the United States. Work had also begun on the Distant Early Warning (DEW) Line and the Semi-Automatic Ground Environment System, (SAGE). SAGE was used initially by the Air Force’s Air Defense Command (ADC) for pairing U.S. Air Force, (USAF), Tactical Air Command fighter-interceptors with hostile air tracks and also enabling the targeting and launch of USAF BOMARC surface-to-air missiles. (BOMARC was a long range, ram-jet powered missile with a nuclear warhead. It had a range of 400 miles). SAGE significantly mechanized the assessment and distribution of long-range surveillance data. Together these systems greatly improved our surveillance and Command-Control (C2). CONAD, and later NORAD, provided a single point source of early warning information and direction for ADC.79

Within the ARADCOM structure, two additional C2 nodes were added to better utilize the capabilities of Nike Missile batteries. The first was “Missile Master”, an electronic fire-distribution center capable of coordinating up to 24 Nike Missile Batteries. It significantly automated the manpower-intensive and time consuming process of assessing and designating targets to Nike Missile Batteries and it also helped to avoid the situation where multiple missile batteries engaged the same target. A smaller variant of Missile Master, the Battery Designation and Radar Display System, (BIRDIE), was also developed for situations where there were 16 or less Nike Batteries to coordinate.80
Both Missile Master and BIRDIE integrated digitally with SAGE and thereby had access to long-range surveillance data from NORAD. Missile Master was first operational in 1957 at Fort Meade, Maryland, and was subsequently installed at the Lockport Air Force Station in 1959, thereby completing the electronic integration of the Niagara-Buffalo Army Air Defense batteries with SAGE System. At this point the AADCP was relocated from Fort Niagara to Lockport Air Force Station.

The Army Air Defense Commander, (AADC), controlled the Niagara-Buffalo Nike Missile Batteries. The current readiness status of Nike Missile Batteries and the status of underway engagements were maintained by Missile Master in the AADCP. The AADCP established the Weapons Control Status, which was either Centralized or Decentralized, with Decentralized being the normal mode. In this mode, targets were selected by the Nike Missile Batteries in accordance with pre-established rules of engagement. In the Centralized Mode, the AADCP would designate targets, via Missile Master or BIRDIE to the missile batteries. By 1965, following the closure of Niagara-Buffalo Nike Ajax sites, there were only three Nike Hercules Sites to coordinate and BIRDIE replaced Missile Master at the AADCP.

Typical Surface to Air Engagement of a Hostile Track:

Figure 2-8 depicts a Nike Hercules Surface-to-Air Firing Mission which is described in the following paragraphs. The description is based on the system configuration deployed in the Niagara-Buffalo Air Defense.

The mission begins with the Nike Missile battery being set to an Air Defense Warning State of Red or Yellow. Yellow meant “Attack by hostile aircraft or air breathing missiles is probable”, while Red meant “Attack by hostile aircraft or air breathing missile is either imminent or in progress”. Additional weapons control instructions would be provided including target assignment, target information, “Hold Fire”, “Cease Fire” and “Cease Engagement”. Target information would be plotted on the Early Warning Plotting Board in the BCT by the Plotting Board Operator. The manual early warning plotting board was largely a Nike Ajax target acquisition tool. It was superseded by automated tools like Missile Master and BIRDIE discussed above.

The HIPAR and LOPAR radar operators would be given target coordinates and would commence searching when the target reached the acquisition radars maximum range. Having been alerted of imminent action, the Battery Control Officer would select the type of missile to use and notify the missile handing team to bring up a specified number of missiles from the underground magazine and prepare them for launch.

Once the TTR and TRR acquired and commenced tracking the target, the target position would be provided to the Fire Control System computer. The TTR and TRR provided continuous target position data (azimuth, elevation and range) to the computer which in turn continuously calculated a predicted target intercept point. Once the computer generated an intercept point, the Battery Control Officer would receive an alert.

A missile would be assigned and the fire control system computer sent steering orders to the missile tracking radar (MTR). The MTR converted the steering orders to guidance commands, consisting of coded pulses of radio frequency (RF), energy that were transmitted to the designated missile on a launcher. A transponder in the missile responded to the guidance commands by transmitting RF response pulses. The transmitted missile response pulses enabled the MTR system to "lock on" to the designated missile’s beacon prior to launch, and also to track the missile after launch.

Initial Turn Command data, which is used by the missile at launch to automatically roll towards the predicted intercept point, would then be downloaded to the missile. The fire command was generated manually and sent from the Fire Control System to the launch control group as tactical control data, which was then sent.
on to the missile on the launcher as a launch order. At launch, the missile booster provided a 3.4 second burn accelerating the missile towards the target.

Figure 2-8. Nike Hercules Surface to Air Firing Mission

During booster burn, the warhead circuits in the missile were armed. At booster motor burn out, which occurred at approximately 4,000 feet, the booster, being less aerodynamic than the missile, separated from the missile and fell to the ground. At booster separation, an arming lanyard was pulled, which activated two thermal batteries in the missile igniting the missile sustainer motor. The missile continued its flight and executed the pre-launch initial turn command which had been previously downloaded to the missile prior to launch. The missile continued to climb, turned towards the target, and executed what was called a “Belly up Command”, thereby orienting its coded beacon transmit and receive antennas with the MTR. A period of 7 seconds elapsed before the fire control system computer started sending steering commands to the missile which allowed time for the missile to complete its initial turn command.

The computer system, receiving continuous target position data from the TTR and continuous missile position data from the MTR, determined what maneuvers were necessary to cause the missile to intercept the target and sent the appropriate steering orders to the MTR. Onboard the missile, the missile guidance set converted the MTR guidance commands into control surface deflections that produced the required missile maneuvers.

The missile was guided to a point above, and in front, of the target. When the missile-to-target range closed to within the lethal range of the warhead, the computer sent the missile a burst order which caused the missile warhead to detonate and thereby destroy the target.
Transition from Regular Army to N.Y. National Guard:

Recall that when the U.S. Army did their manpower studies, they concluded that it would be more cost effective to man the Nike Missile Sites with National Guard rather than Regular Army troops. This had been demonstrated during the 90mm gun days of air defense. While this did not happen initially, by 1957 it was being openly discussed in the newspapers. However, by 14 May 1959, it was announced by Colonel Michael Krisman, Commander of the 2nd Antiaircraft Group at Fort Niagara, that the 2nd Missile Battalion, 209th Artillery, New York Army National Guard, (NYARNG), would begin doing their monthly weekend, and regular two-week annual “active duty” training at several local Nike Sites to prepare for eventually assuming responsibility for selected sites in the Niagara-Buffalo Defense. The conversion to National Guard became reality 19 April 1963 when the 2nd Missile Battalion, Headquarters Battery, and Batteries “A” & “B”, of the 209th Artillery NYARNG, relieved the 1st Missile Battalion, 4th Artillery at the Grand Island (NF-41) and Lancaster (BU-14) Nike Sites.

Life at a Nike Site in the 1950s & 1960s:

Nike Ajax & Hercules veterans typically use short phrases to describe daily life at the missile batteries. Some examples include: “No Sleep”, “24 (hours) on and 24 off”, “constantly repeating the same maintenance on our gear, even if it was already operating properly”. One veteran said, “We conducted six hour checks (which took about an hour each time to complete) during our 24 hour shift, these were done in the morning, afternoon, evening and again in the early morning prior to shift change”. In addition, this same individual said that in between the six hour checks, they ran maintenance, practiced tracking aircraft for two hours, and also stood two four-hour guard watches.

Practice alert drills and inspections were frequent, as were multi-day “War Games” which exercised the entire chain of command and frequently included the USAF and the Navy. Figure 2-9 depicts the not infrequent reminder that holidays in the “other (meaning civilian) world” were “celebrated” differently by servicemen during the Cold War. Note the original photo caption in the upper left hand corner.

![Figure 2-9. Specialist 4 Robert Putnam, 1st Missile Battalion, 4th Artillery at MTR Console](photograph-courtesy-of-nike-historical-society)

Each missile battery was required to undergo Operational Readiness Evaluations (OREs), conducted by an independent team consisting of personnel from other commands, and Short Notice Annual Practice (SNAP) exercises.
SNAPs were intense tests of proficiency and were required each fiscal year for both Regular Army and National Guard Nike Batteries. The unit would be alerted by telephone and priority message on the last watch of the preceding Thursday, and had 4 days from the time they were notified to send two watch crews to McGregor Range, New Mexico. The crew included personnel from the IFC, Launcher, maintenance, and service & assembly areas. The unit would typically fly by a commercial air carrier to El Paso, Texas. They would then travel by bus to McGregor Range arriving Monday morning, where they would get barracks and firing site assignments. The crew was issued two missiles which required full assembly and preparation. The IFC area also had to be fully inspected and prepared for firing. The battery was given 5 days to fire their missiles.

Once the decision was made that all was prepared, range personnel conducted the test. The test consisted of the battery coming to an alert status and running a crew drill to prepare to fire a missile. The IFC area locked on to a simulated electronic target and one of the two missiles. The missile was fired and monitored for a successful intercept. Once the first firing was completed the second crew repeated the process with the second missile.

The range cadre went through everything with a fine tooth comb. They checked for proper procedures being followed and for all tolerances and settings being absolutely correct. A battery could have two successful intercepts yet fail SNAP due to incorrect procedures, tolerances, or settings being observed or followed. Units were scored for excellence and trophies were awarded for those who performed the exercise with high scores. Inadequate performance could make a unit subject to recall for a repeat exercise which was also given at short notice.

According to records, the 209th had a very good performance record, passing all annual SNAPS and OREs. In 1964, the unit received the Eisenhower Trophy, an annual award by the Chief of the National Guard Bureau, to the most outstanding National Guard Unit in each State, and also the New York State Militia Association’s Outstanding Army National Guard Unit Award. In 1969, Battery “A” of the 209th was awarded the ARADCOM “E” Award for excellence in combat proficiency and Battery “B” was recognized as a top National Guard Unit.

On the serious side, life on the battery was not without its dangers. A list Nike Site Hazards has been assembled by veterans of the Nike era. There were also humorous times. You can read about both of these topics and more at the Nike Historical Society’s website: [http://nikemissile.org/](http://nikemissile.org/).

**Deactivation of the Niagara-Buffalo Defense Nike Sites:**

With the launch of the first Soviet Inter-Continental Ballistic Missile, (ICBM) in 1957, and the later Soviet leadership statement that future wars would be fought with ICBMs deep into enemy country, the Soviets began focusing their defense industry on manufacturing ICBMs. The threat to the U.S. was changing yet again. The Department of Defense (DOD) began devoting significant funding to study ballistic missile defense. By the mid 1960’s, the nation had become deeply involved in fighting the spread of Communism in the Far East.

As previously mentioned, the Army demonstrated that Nike Hercules had a limited anti ballistic missile capability in 1960 when a Nike Hercules missile intercepted and destroyed a Corporal missile at White Sands Missile Range. It was the first time a defensive missile had intercepted a ballistic missile. Later, a test demonstrated the Nike Hercules ability to intercept another Nike Hercules which was the “fastest target available” at the time. Still, these intercepts while impressive at the time, were not against targets representing nuclear re-entry vehicles from an ICBM.
Facing budget and manpower shortages due to the Viet Nam War, the Government decided to save money by reducing the number of Nike Missile Batteries. The first round of cuts in 1968 did not impact the Niagara-Buffalo Defense. However on 19 December 1969, the story on page one of the Union-Sun Journal announced that the Headquarters Unit and the Nike Hercules site in Niagara County at Cambria, and Nike Hercules sites in Erie County at Grand Island and Lancaster would be deactivated within 105 days. These were the last three Nike Sites in the Niagara-Buffalo Defense. The article went on to say that a total of 265 persons at the Headquarters Unit and Cambria Site would be affected while in Erie County the number was 340. The Army Air Defense Mission at Niagara-Buffalo had come to an end.

When the Nike Sites were finally shut down, the assigned battery crew was responsible for packaging and shipping all the missiles, launchers, fire control system units etc. to Army Depots where they were received, inspected and in some instances, refurbished as necessary, for eventual sale to allied countries where the equipment was made part of their air defense system. Any fixed structures such as buildings, radar towers etc. were left on site. The Government Accounting Office was responsible for disposal of the real estate that was acquired at Government expense.

Some sites were simply transferred to local governments and in several cases the former barracks have taken on a second life as community centers and local government offices. For example, at the Launcher Area of the former NF-16 Nike Hercules Site in Cambria, the land was used to build the new Cambria Town Hall, a highway department facility, a community building and a playground. The former NF-16 IFC, which still has the radar towers in place, is owned by Franklin Traffic Services Inc. which is a transportation and logistics company.

A 30 April 2012 newspaper article in the Union Sun & Journal reported “Bye, bye, Lockport Air Field” which described the partial demolition of the former Lockport Air Station. Occasionally an old Nike Site appears for sale. In the URL listed below, incorrectly named a USAF Missile Site, you can see the remnants of the former Model City Nike Site, NF-03/05. As is true with many historic landmarks, they don’t last forever!

http://www.landandfarm.com/property/U_S_Air_Force_Nike_Base-250019/

One exception to this is the former Nike Site SF-88 in San Francisco, just northwest of the Golden Gate Bridge. It was a Nike Hercules Battery in the San Francisco Defense. Some years ago a number of Nike Veterans got authorization to renovate the site, which has since transferred to National Park System ownership. It is a “living museum”, and quite likely the last one around, where you can still walk through a Nike Missile Site and see the actual equipment first hand. Visit the following website to learn more: http://nikemissile.org/site_sf88.shtml.

See Travel Advisor visitor comments on SF-88: http://www.tripadvisor.com/ShowUserReviews-g60909-d2578161-r238376667-Nike_Missile_Site_SF_88-Mill_Valley_Marin_County_California.html#REVIEWS.

Those readers, who would like to capture the sense of the Nike Era, or perhaps relive it for a short time, may enjoy watching the following movie: https://www.youtube.com/watch?v=wUwwNsNlm7A.
Part 3
Command History

Overview

Part 3 describes the many units that served in the Niagara-Buffalo Army Air Defense Mission between 1953 and 1970. The story begins with a brief background, which includes a map showing the approximate locations of the Nike Missile sites, followed by a table that lists the units and their assignments.

The Background is followed by a short section for each unit assigned to the Niagara-Buffalo Army Air Defense where the history of each unit is provided, a photograph of the Distinctive Unit Insignia (DUI), a listing of the Commanding Officers and Battery Commanders, newspaper articles that provide detailed insight to significant events in the units history while in the Command and last but not least, historical photographs of the sites and men who manned them.
Background

Between 1952 and 1970, the United States Army and the United States Air Force both provided Antiaircraft defense to the Niagara-Buffalo Region. This paper focuses on the U.S. Army and the New York Army National Guard, NYARNG units that comprised the Army Air Defense of the Niagara-Buffalo Region.

The initial Army defense consisted of 90mm Antiaircraft Artillery sites in Niagara and Erie Counties. Due to their temporary status, the precise location of the sites was not well recorded. By 1953/54 the 44th and 606th AAA (Gun) Battalions, Regular Army, (RA), manned sites at Fort Niagara, Lewiston, the Tuscarora Indian Reservation, Wheatfield, Niagara Falls, and Grand Island. By 1955 NYARNG AAA (Gun) Battalions were added and in 1956, the 465th Antiaircraft Missile Battalion joined the command.

As the NYARNG, is controlled by the State of New York Military Department, the operational command of these units remained with the NYARNG; however, due to the complexity of divided chains of command, an agreement was made that in case of attack, the NYARNG units would come under the control of the RA Niagara-Buffalo Army Air Defense Commander. Table 3-I lists the known AAA gun sites and the units that manned them. Due to the nature of these sites, the information in the table may not be totally accurate.

Table 3-I. Niagara – Buffalo AAA Gun Sites

<table>
<thead>
<tr>
<th>Site</th>
<th>Location</th>
<th>Units Assigned</th>
<th>Years at Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fort Niagara</td>
<td></td>
<td>44th AAA (Gun) Battalion, Battery B</td>
<td>1952 to 1955</td>
</tr>
<tr>
<td>North 5th Street Lewiston</td>
<td></td>
<td>44th AAA (Gun) Battalion, Battery A</td>
<td>1953 to 1955</td>
</tr>
<tr>
<td></td>
<td></td>
<td>606th AAA (Gun) Battalion, Batteries A &amp; C</td>
<td>1955 to 1957</td>
</tr>
<tr>
<td>64th Street Niagara Falls</td>
<td></td>
<td>44th AAA (Gun) Battalion, Battery C</td>
<td>1953 to 1954</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Temporary Site</td>
<td></td>
</tr>
<tr>
<td>Tuscarora Indian Reservation</td>
<td></td>
<td>44th AAA (Gun) Battalion, Battery D</td>
<td>1953 to 1955</td>
</tr>
<tr>
<td></td>
<td></td>
<td>606th AAA (Gun) Battalion, Battery A</td>
<td>1955 to 1957</td>
</tr>
<tr>
<td>Wheatfield</td>
<td></td>
<td>606th AAA (Gun) Battalion, Battery C</td>
<td>1953 to -1955</td>
</tr>
<tr>
<td></td>
<td></td>
<td>106th AAA (Gun) Battalion, NYARNG</td>
<td>1956 to 1957</td>
</tr>
<tr>
<td>Grand Island Staley Road</td>
<td></td>
<td>606th AAA (Gun) Battalion; Headquarters, B</td>
<td>1953 to 1955</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and C Batteries</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>106th AAA (Gun) Battalion NYARNG</td>
<td>9/1956-?</td>
</tr>
</tbody>
</table>

Authors note: The table above was compiled using multiple sources which, in the case of the AAA gun sites, did not always agree. The sources used were: US Army AAA Gun Site Program; 1951-1959; 2nd AAA Group History, prepared by the 2nd Artillery Group; (date and author unknown); New York Department of Military and Naval Affairs, Adjutant Generals Annual Reports; and finally, the Niagara Falls Gazette and the Buffalo Courier Express newspaper archives.

No official Army records of the Niagara-Buffalo Army Air Defense have been found despite significant research by the author. It is the author’s belief that given this, newspaper articles of the period represent the next best source of this information. In most instances the newspaper articles cite “Fort Niagara” as the source of the information in the article and the articles were written very close to the time the event occurred.

A number of the AAA Gun sites were temporary, the units moved around several times, and official records providing an accounting of which unit was present at a given time and for what period of time have been lost to history.
By midyear in 1955, Nike Ajax guided missile sites had begun to replace the gun batteries. The Nike Sites were more permanently constructed and in most cases some physical evidence of above ground buildings, radar towers and underground missile magazines exist to this day.

The 44th AAA Gun Battalion converted to a Nike Missile Battalion in 1955 and was the first Battalion to take command of a newly constructed guided missile site of the Niagara-Buffalo Defense at Model City (near Ransomville), Cambria and Grand Island. With this change, the 606th AAA Battalion, RA, and the 106th and 336th AAA Battalions, NYARNG, assumed the 90mm gun batteries that were vacated by the 44th. Also in 1955, the 465th Missile Battalion joined the Niagara-Buffalo Defense and later took command of newly constructed Nike Ajax sites in Millersport, Lancaster, Orchard Park and Hamburg.

In 1957 the 336th AAA Battalion, NYARNG, was redesignated the 106th AAA Battalion, NYARNG, and crews of that unit manned gun batteries in Niagara Falls and Buffalo. Later in the year the U.S. Army terminated the AAA Gun mission. The 606th AAA Battalion, RA, was deactivated in Niagara Falls in December, and NYARNG AAA Gun units began training their crews to qualify them for a future role as Nike missile battery crews.

In 1958 the U.S. Army implemented the Combat Arms Regimental System (CARS) which restructured the U.S. Army. Within the Niagara-Buffalo Army Air Defense, two units were redesignated. The 44th Antiaircraft Missile Battalion, RA, became the 1st Missile Battalion, 4th Artillery, RA, and the 465th Missile Battalion, RA, became the 2nd Missile Battalion, 62nd Artillery, RA. The conversion from Nike Ajax to the more capable Nike Hercules also began in 1958.

By 1960, Nike Hercules missiles replaced the Nike Ajax and two of the Nike Ajax sites of the Niagara-Buffalo Defense, Model City and Orchard Park, were transferred to 2nd Missile Battalion, 106th Artillery, NYARNG. These two sites remained operational until August of 1960 when they were closed. The remaining two Nike Ajax sites, Hamburg and Millersport, were both phased out in 1961. Cambria, Grand Island, and Lancaster sites were converted from Nike Ajax to Nike Hercules.

In April of 1963, the 2nd Missile Battalion, 209th Artillery, NYARNG, assumed responsibility for the Grand Island and Lancaster Nike Hercules Batteries which were previously manned by the 1st Missile Battalion, 4th Artillery, RA, and the 2nd Missile Battalion, 62nd Artillery, RA, respectively. The remaining RA unit in the Niagara-Buffalo Army Air Defense was the 1st Missile Battalion, 4th Artillery which was stationed at the Cambria site. On 20 June 1968 Antiaircraft Artillery Units were redesignated by the U.S. Army as Air Defense Artillery.

Prior to the closing of the Niagara-Buffalo Army Air Defense Mission in 1970, Nike Hercules was replaced by the more capable Improved Nike Hercules.

Figure 3-1 illustrates the approximate locations of the Nike missile sites in Niagara and Erie Counties. The labeling in the figure has a dash and letter following each site number. C = Integrated Fire Control Area, and L = Launcher Area. A Nike Missile Battery consisted of both areas which were within a mile of each other. Table I is a list of the gun and missile sites and describes which units were assigned.

Table 3-II lists the Niagara-Buffalo Nike Sites and the units that manned them. Lacking official records for the units or Niagara-Buffalo Army Defense Command, the dates are approximate.
Figure 3-1. Locations of Niagara-Buffalo Nike Missile Sites
<table>
<thead>
<tr>
<th>Site</th>
<th>Location</th>
<th>Units Assigned</th>
<th>Years at Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fort Niagara</td>
<td>Youngstown</td>
<td>HQ 2&lt;sup&gt;nd&lt;/sup&gt; AAA Group &amp; Manual AADCP</td>
<td>3/53 - 3/58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HQ 2&lt;sup&gt;nd&lt;/sup&gt; Artillery Group (Air Defense) &amp; AADCP</td>
<td>3/58 - 8/61</td>
</tr>
<tr>
<td>NF-03/05</td>
<td>Model City (Dual Site)</td>
<td>44&lt;sup&gt;th&lt;/sup&gt; AAA Missile Battalion, A Battery</td>
<td>3/55 - 9/58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>redesignated to: 1&lt;sup&gt;st&lt;/sup&gt; Missile Battalion, 4&lt;sup&gt;th&lt;/sup&gt; Artillery, A Battery</td>
<td>9/58 - 8/60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Missile Battalion, 106&lt;sup&gt;th&lt;/sup&gt; Artillery, Btys B&amp;C, NYARNG</td>
<td>8/60 - 3/63</td>
</tr>
<tr>
<td>NF-16</td>
<td>Cambria (Dual Site)</td>
<td>44&lt;sup&gt;th&lt;/sup&gt; AAA Missile Battalion, B Battery</td>
<td>6/55 – 9/58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>redesignated to 1&lt;sup&gt;st&lt;/sup&gt; Missile Battalion, 4th Artillery</td>
<td>9/58 - 3/70</td>
</tr>
<tr>
<td>NF-41</td>
<td>Grand Island (Dual Site)</td>
<td>44&lt;sup&gt;th&lt;/sup&gt; AAA Missile Battalion, Battery C</td>
<td>3/55 - 9/58</td>
</tr>
<tr>
<td>(Formerly NF-74/75)</td>
<td></td>
<td>redesignated to: 1&lt;sup&gt;st&lt;/sup&gt; Missile Battalion, 4&lt;sup&gt;th&lt;/sup&gt; Artillery</td>
<td>9/58 - 4/63</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2nd Missile Battalion, (Nike) 209&lt;sup&gt;th&lt;/sup&gt; Artillery, NYARNG</td>
<td>4/63 - 3/70</td>
</tr>
<tr>
<td>NF-17</td>
<td>Lockport AFS Shawnee</td>
<td>AADCP (Initially Missile Master, became BIRDIE 9/63)</td>
<td>8/61 - 3/70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HQ 2&lt;sup&gt;nd&lt;/sup&gt; AAA Group (Air Defense)</td>
<td>8/61 – 10/61</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Redesignated 31&lt;sup&gt;st&lt;/sup&gt; Artillery Brigade (Air Defense)</td>
<td>10/61-3/66</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Redesignated to HQ 101&lt;sup&gt;st&lt;/sup&gt; Artillery Group (Air Defense)</td>
<td>3/66-11/68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Redesignated to 18&lt;sup&gt;th&lt;/sup&gt; Artillery Group (Air Defense)</td>
<td>11/68-3/70</td>
</tr>
<tr>
<td>BU-09</td>
<td>Millersport</td>
<td>465&lt;sup&gt;th&lt;/sup&gt; Missile Battalion (Nike), Battery A</td>
<td>6/56 - 9/58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>redesignated to 2&lt;sup&gt;nd&lt;/sup&gt; Missile Battalion, 62&lt;sup&gt;nd&lt;/sup&gt; Artillery</td>
<td>9/58 -12/61</td>
</tr>
<tr>
<td>BU-18</td>
<td>Lancaster</td>
<td>465&lt;sup&gt;th&lt;/sup&gt; Missile Battalion (Nike), Battery B</td>
<td>6/56 - 9/58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Redesignated to 2&lt;sup&gt;nd&lt;/sup&gt; Missile Battalion, 62&lt;sup&gt;nd&lt;/sup&gt; Artillery</td>
<td>9/58 - 12/61</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Missile Battalion, 4&lt;sup&gt;th&lt;/sup&gt; Artillery</td>
<td>12/61 - 4/63</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Missile Battalion, 209&lt;sup&gt;th&lt;/sup&gt; Artillery, NYARNG</td>
<td>4/63 - 3/70</td>
</tr>
<tr>
<td>BU-34/35</td>
<td>Orchard Park (Dual Site)</td>
<td>465&lt;sup&gt;th&lt;/sup&gt; Missile Battalion (Nike), Battery C</td>
<td>11/56 - 9/58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>redesignated to Bty C, 2&lt;sup&gt;nd&lt;/sup&gt; Missile Battalion, 62&lt;sup&gt;nd&lt;/sup&gt; Artillery</td>
<td>9/58 - 8/60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Missile Battalion, 106&lt;sup&gt;th&lt;/sup&gt; Artillery, Btys A&amp;D, NYARNG</td>
<td>8/60 - 3/63</td>
</tr>
<tr>
<td>BU-52</td>
<td>Hamburg (Dual Site)</td>
<td>465&lt;sup&gt;th&lt;/sup&gt; Missile Battalion (Nike), Battery D</td>
<td>1/56 - 9/58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>redesignated to 2&lt;sup&gt;nd&lt;/sup&gt; Missile Battalion, 62&lt;sup&gt;nd&lt;/sup&gt; Artillery</td>
<td>9/58 – 12/61</td>
</tr>
</tbody>
</table>
Major References for Part 3:

Antiaircraft Journal – This publication was originally named the Coast Artillery Journal, but changed names in 1948 to the Antiaircraft Journal. It ran until 1954. It was a large format periodical with interesting articles on the subject, many illustrations and a section which listed assignments of AAA Officers. Fort Sill, the current Artillery Center for the US Army, has a reasonably good collection of the Antiaircraft Artillery Journal available on line at: http://sill-www.army.mil/ada-online/antiaircraft-journal/. When used as a source in Part 3, it is referred to as AA Journal.

Ralph Liebing – A veteran of the 1st Missile Battalion (Nike), 4th Artillery RA, who wrote a unit history of the 2nd Artillery Group Missile Master Detachment.


An undated Change of Command pamphlet prepared by the U.S. Army for the transfer of command of the Grand Island and Lancaster Nike Hercules Batteries to the 2nd Missile Battalion, (Nike) 209th Artillery, NYARNG; an undated “Operation Understanding” pamphlet prepared by the U.S. Army for a visit of Niagara-Buffalo Industry and Educational leaders to Fort Sill, Oklahoma; and papers of the author’s father.

U.S. Army AAA Gun Site Program 1951-1959, prepared by John McGrath, date unknown.

Correspondence with John Briggs, Eddie Bartin, John Carlin, Gordon Lunn, Ezio Nurisio, Ron Parshall, and David Taber, all 1st Missile Battalion (Nike), 4th Artillery, RA veterans and Allen Steinfield, who served in the 44th Antiaircraft Artillery Battalion and its successor, the 1st Missile Battalion, 4th Artillery. Vince Burolla who served with the USAF at Lockport Air Force Station. Michael Moniuszko, who lived on 5th Street in Lewiston, nearby the 90mm AAA Gun Battery.

Battery Commander newsletters; aerial photographs; and an August 2004 letter from the late Ed Close, a Niagara-Buffalo Army Air Defense Veteran, who served with the NYARNG.


New York Department of Military and Naval Affairs, Adjutant Generals Annual Reports which were helpful in understanding the reorganizations of the NYARNG and where the various NYARNG units were assigned.

Niagara-Buffalo area newspapers also a good source of key events for the command, key personnel assignments and occasionally photographs. Unfortunately the quality of many of the photographs are not up to current day standards. The name of the newspaper cited, date of issue and page where the article appeared is listed with each item.
2nd Antiaircraft Artillery Group, (RA):

Unit Motto: Faithful beyond the end

Distinctive Insignia: A gold eagle superimposed upon the intersection of a dark blue saltire cross, bordered white all within a pierced red circlet bearing FIDUS ULTRA FINEM in gold letters. The sample of the badge depicted was originally approved on 13 January 1926 by the 2nd Coast Artillery [Sawicki, Volume 1, pages 55-58].

The history of the 2nd Artillery Group dates back to 1821 in the Regular Army as the 2nd Regiment of Artillery and organized from units with Headquarters at Baltimore, Maryland.

The Regiment was broken up 13 February 1901 and its elements reorganized and redesignated as separate numbered companies and batteries of Artillery Corps.

Reconstituted 1 July 1924 in the Regular Army as the 2nd Coast Artillery (Batteries “E”, “G”, and “H” concurrently reorganized and redesignated from existing units in the Canal Zone).

(Battery “C” activated 30 April 1926 in the Canal Zone; Battery G concurrently inactivated in the Canal Zone. Batteries “C” “E” and “H” inactivated 15 April 1932 in the Canal Zone).

Regimental headquarters and Batteries “C”, “E” and “H” activated 30 April 1932 at Fort Monroe, Virginia.

(Battery “A” activated 1 September 1935 at Fort Monroe, Virginia; Battery “H” concurrently inactivated at Fort Monroe, Virginia. Batteries “B” and “D” activated 1 November 1938 at Fort Monroe, Virginia. Battery “F” activated 1 February 1940 at Fort Monroe, Virginia. Remainder of the 1st and 2nd Battalions activated 1 August 1940 at Fort Monroe, Virginia. Battery “G” activated 1 March 1941 at Fort Monroe, Virginia. Remainder of the regiment activated 30 April 1942 at Fort Monroe, Virginia.

Regiment broken up 1 October 1944 and its elements reorganized and redesignated as follows:

   Headquarters and Headquarters Battery and Batteries “A”, “B”, “C”, “G”, “H” and “I” as the 2nd Coast Artillery Battalion

   (2nd Coast Artillery Battalion inactivated 1 April 1945 at Fort Monroe, Virginia; activated 1 August 1946 at Fort Winfield Scott, California; inactivated 25 November 1946, at Fort Winfield Scott, California.)

   Batteries “D”, “E” and “F” as elements of the 175th Coast Artillery Battalion (inactivated 20 July 1946 at Fort Monroe, Virginia.)
Former elements of the 2nd Coast Artillery reconstituted and/or consolidated 28 June 1950 to form the following units:

Headquarters and Headquarters Detachment, 2nd Coast Artillery Battalion, consolidated with Headquarters Battery, 2nd Antiaircraft Group and consolidated unit designated as Headquarters and Headquarters Battery, 2nd Antiaircraft Artillery Group.

Headquarters and Headquarters Battery, 1st Battalion, 2nd Coast Artillery, reconstitutes in the Regular Army and redesignated as Headquarters and Headquarters Battery, 2nd Antiaircraft Artillery Battalion; concurrently Battery “A”, Harbor Defenses of Chesapeake Bay (formerly Battery “A”, 2nd Coast Artillery Battalion), Batteries “B” and “C”, and Coast Artillery Battalion, and Battery “F”, 2nd Harbor Defenses of Chesapeake Bay, (formerly Battery “A”, 175th Coast Artillery Battalion), redesignated as Batteries “A”, “B”, “C”, and “D”, 2nd Antiaircraft Artillery Battalion, respectively.


Headquarters and Headquarters Battery, 3rd Battalion, 2nd Coast Artillery, reconstituted in the Regular Army; concurrently consolidated with Battery F, 2nd Coast Artillery Battalion, Battery “E”, 175th Coast Artillery Battalion and 42nd Antiaircraft Artillery Automatic Weapons Battalion, an element of the 9th Infantry Division.

After 28 June 1950, the above units underwent changes as follows:

Headquarters and Headquarters Battery, 2nd Coast Artillery, 2nd Antiaircraft Artillery Group, activated 10 June 1951 at Camp Edwards, Massachusetts. [2nd Air Defense Artillery Lineage].

With the formation of the Niagara-Buffalo Army Air Defense Command in 1952, the 2nd AAA Group moved to Fort Niagara, New York. The initial defense was Battery “B”, 44th AAA Battalion (Gun) RA, which occupied 90mm AAA gun battery at Fort Niagara, overlooking Lake Ontario. Eventually the 44th AAA Battalion manned additional 90mm gun batteries on the Tuscarora Indian Reservation and at two sites on Grand Island.

In February 1953, 606th AAA Battalion (Gun), RA, was activated at Lewiston, N. Y. It subsequently established and manned 90mm AAA gun batteries in Lewiston, Wheatfield, and on Grand Island.

Construction began on area Nike Missile sites in 1955 and the 44th AAA Battalion (Gun); RA, was redesignated as the 44th AAA Missile Battalion (Nike), RA, on 22 March 1955.

Another element was added to the command in 1956 with the activation of the 465th AAA Missile Battalion (Nike), RA, on 22 March 1955. During 1956, the personnel of the 465th were given on-the-job training at the missile sites of the 44th Missile Battalion. Following this preparation, the 465th Missile Battalion moved to their own Nike Ajax missile sites in the Buffalo area as they were completed. With the addition of a second missile battalion to the defense of the Niagara Frontier, the 606th AAA Battalion (Gun), RA was deactivated in December 1957.

(Author’s note: In the 6 October 1957 Niagara Falls Gazette Newspaper article on page 6-C, which detailed the deactivation of the 606th AAA Battalion (Gun), RA, it states “To remain in operation are the 90mm gun sites maintained by the
NYARNG in Wheatfield and Grand Island. These units are operated under the 106th and the 336th AAA Battalions, NYARNG”.

The Air Defense of the Niagara Frontier entered another era in 1958 when two batteries began converting from Nike Ajax to Nike Hercules. In order to better reflect the current mission of the command, on 20 March 1958 the Group was designated the 2nd Artillery Group (Air Defense). Redesignation of other Niagara Frontier defense units followed in January of 1959 under the U.S. Army’s Combat Arms Regimental System, (CARS). The 44th Missile Battalion became the 1st Missile Battalion, 4th Artillery, RA, and the 465th Missile Battalion became the 2nd Missile Battalion, 62nd Artillery, RA.

The first Nike Hercules site, (NF-16), was manned by the 1st Missile Battalion, 4th Artillery, RA, at Cambria, N.Y. The second Hercules site, (NF-41), was manned by Battery “C”, 1st Missile Battalion, 4th Artillery, RA, on Grand Island, N.Y. and the third site, (BU-18), was manned by Battery “B”, 2nd Missile Battalion, 62nd Artillery, RA, at Lancaster, N.Y. The Niagara-Buffalo ring of Nike Hercules sites was completed 25 November 1959 with the activation of (BU-18).

The New York Army National Guard units joined the local air defense picture in July 1960 when Batteries “B” & “C” of the 2nd Missile Battalion, 106th Artillery, NYARNG, assumed control of the Nike Ajax dual site (NF-03) at Model City, New York, which was formerly occupied by Battery “A”, 1st Missile Battalion, 4th Artillery, RA, and the dual Nike Ajax site (BU-34), formerly occupied by Battery “C”, 2nd Missile Battalion, 62nd Artillery, RA, at Orchard Park, New York. The 106th was subsequently redesignated as the 2nd Missile Battalion, 209th Artillery, NYARNG.

In late 1960 the phase-out of Nike Ajax sites formerly manned by RA battalions was announced. The actual closing of these sites was completed in the fall of 1961.

1 August 1961, the 2nd Artillery Group (Air Defense) assumed Command of the 18th Artillery Group, (Air Defense), of Pittsburgh, Pennsylvania. This move, brought about by the realignment of the Army Air Defense regions to conform to the North American Air Defense Command’s, (NORAD’s), regional structure, more than doubled the area of responsibility of the 2nd Artillery Group.

On 1 August 1961, the 2nd AAA Group moved its headquarters from Fort Niagara to the Lockport Air Station to co-locate with the recent Missile Master installation, and with its expanded area and additional missile batteries, began to operate as a provisional brigade. Brigade status was officially reached on December 15, 1961 with the deactivation of the 2nd Artillery Group (Air Defense) and the activation of the 31st Artillery Brigade (Air Defense). [2nd Antiaircraft Artillery Group History prepared by Headquarters Battery, Fort Niagara, N.Y., date and author unknown].

2nd Antiaircraft Artillery Group & 2nd Artillery Group (Air Defense) Commanding Officers:

<table>
<thead>
<tr>
<th>Date</th>
<th>Officer</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 June 1951</td>
<td>Colonel Charles G. Patterson</td>
<td>(NF Gazette, 27 February 1953, page 28).</td>
</tr>
<tr>
<td>8 August 1952</td>
<td>Colonel Adam S. Buynoski</td>
<td>(NF Gazette, Sept 30, 1952, page 1).</td>
</tr>
<tr>
<td>8 July 1954</td>
<td>Colonel Thomas H. Harvey</td>
<td>(Niagara Falls Gazette, 8 July 1954, page 28).</td>
</tr>
<tr>
<td>29 August 1956</td>
<td>Colonel Francis K. Newcomer, Jr.</td>
<td>(Niagara Falls Gazette, 23 March 1957, page 15).</td>
</tr>
<tr>
<td>December 1958</td>
<td>Colonel Michael J. Krisman</td>
<td>(Tonawanda News, 8 July 1960, page 5).</td>
</tr>
</tbody>
</table>
Mentioned in the newspapers:

8-20 January 1954 – 90mm guns were test fired at Fort Niagara using standard ammunition to enable the grouping of guns with similar range in the same battery. The firing zone was a “pie-shaped sector, 30 degrees on either side of a north-south line drawn from the firing site at the fort on the Lake Ontario shore.” Boaters were warned to stay at least 12 miles off shore. (Niagara Falls Gazette 9 January 1954, page 15).

(Author’s note: The interior of gun barrels wear with use which reduces the range of the gun by reducing its muzzle velocity. In a four gun battery, such as those used by the 2nd AAA Group, this would result in a dispersion of the batteries salvo. Grouping guns with similar wear would thus improve the overall effectiveness of the gun battery.)

A 28 May 1955 Buffalo News article provided a colorful description of the Niagara Frontier Army Air Defense: in describing the manual Antiaircraft Operations Center, (AAOC), at Fort Niagara, the article states; “The operations room team practices daily to be ready to send “deadly Nikes whooshing through the sky” at the enemy. Colonel Kauffman (Commanding Officer of the 2nd AAA Group), “the man with his finger on the trigger,” was described as “a brisk, alert, man with piercing eyes and a no-nonsense manner”.
(Buffalo News, 28 May 1955, pages 1-4).

Guided missile sites at Model City and Cambria Center in Niagara County and on Grand Island in Erie County are operational. Sites near Millersport, East Aurora and Hamburg are expected to be finished by the end of the year. A seventh, in the Town of Lancaster is scheduled for completion during 1957. (Island Dispatch 26 September 1956).

Nike Hercules was announced as coming to the Niagara-Buffalo Army Air Defense according to Colonel Newcomer, Commanding Officer of the 2nd AAA Group. (Hamburg Sun & Erie County Independent, 21 March 1957, page 1).

The United States Air Force, Niagara Falls, N.Y. and the Operations Staff at the 2nd AAA Group Operations Center conducted War Games as a training exercise. Each element of the Niagara-Buffalo Army Air Defense was involved in the exercise. Major Grant, Officer-in-Charge of the Niagara-Buffalo Army Air Defense AAOC, was described as a “soft spoken Army artillery veteran”. Sergeant First Class; Warren D. Thomason reported during an average all-day, all-night alert that the AAOC staff consumes over five gallons of coffee. (Niagara Falls Gazette, Wednesday 1 April 1957, page 27).

A delegation of four senior officers and one civilian from the Japanese Defense Agency toured Battery “C” of the 44th Antiaircraft Missle Battalion and Battery “C” of the 606th Antiaircraft (Gun) Battalion both on Grand Island, and the AAOC at Fort Niagara with Colonel Francis K. Newcomer, Commanding Officer of the 2nd AAA Group. (Niagara Falls Gazette 4 April 1957, page 22).

The 2nd AAA Group sponsored a large scale “Open House” for the public at Niagara-Buffalo AAA sites in the “Power for Peace” Armed Forces Week Program 13-19 May. (Niagara Falls Gazette 23 May 1957, page 28).

The 2nd AAA Group announced it has been redesignated as the 2nd Artillery Group (Air Defense). The redesignated Command is comprised of the 44th and 465th Missile Battalions. (Niagara Falls Gazette, 5 April 1958).

Colonel Michael J. Krisman, Commanding Officer of the 2nd Artillery Group (Air Defense) and Fort Niagara, stated that personnel of the 2nd Missile Battalion (Nike), 209th Artillery, NYARNG, will take intensive training from 27 June to 11 July at the at the Model City, Orchard Park and Hamburg Nike Batteries and that personnel from the National Guard Headquarters Battery will train at the Headquarters Battery of
the 2nd Missile Battalion, 62nd Artillery at the Lancaster Site. The training prepared Guardsmen to
eventually man selected sites of the Niagara Frontier’s Nike Defense just as they previously manned some of
the Frontier’s gun sites. (The Sun & Erie County Independent, Hamburg, New York, 14 May 1959, page 6).

It was announced that on 17 November 1959 that the Lancaster Nike Site will be armed with Nike Hercules
missiles. The Cambria Nike Site was reported to have been converted in May. (Tonawanda News, 14 November 1959, page 5).

(Authors note: Three Nike Ajax sites on the Niagara Frontier were converted to Nike Hercules. These were Cambria, which
was the first, Grand Island, which was the second and Lancaster, which was third. This completed the conversion to Nike
Hercules).

The long awaited Missile Master Fire Direction System was dedicated at Lockport Air Force Station.
Construction commenced in July 1958 at a cost of $3.5M. (Tonawanda News, 8 July 1960, page 5).

30 June 1963, the U.S. Army officially deactivated Fort Niagara and returned the land to New York State later
in the fall.

(Authors Note: Colonel Adam Stephen Buynoski was the first Commanding Officer of the 2nd AAA Group at Fort Niagara.
He was a West Point Graduate, Class of 1936, had very interesting career in the Army and retired 1966 in San Francisco,
California. Colonel Buynoski passed 17 March 1999 and is buried at West Point. A memorial biography about Colonel
Buynoski can be read at the following URL :) http://apps.westpointaog.org/Memorials/Article/10517/.)
Unit Photographs

ANTIAIRCRAFT EQUIPMENT ARRIVES HERE—Huge tractors and gun carriages to be used by anti-aircraft artillery personnel in defense of the Niagara Frontier arrived by train yesterday. The equipment will be used by units of the 2nd AAA group, stationed around the city. Advance parties have been setting up gun site camps. The main body of troops is scheduled to arrive tomorrow by motorcade from Ft. Devens, Mass.

Photo Credit: Niagara Falls Gazette 2 October 1952, page 20

M33 Fire Control Van inspected by 2nd AAA Group Officers, (L to R) 2nd Lt. James H. Floyd Battery Commander, Colonel Adam Buynoski, C.O. 2nd AAA Group, and Captain Justin Ormsby, 2nd AAA Group Public Information Officer

Photo Credit: Niagara Falls Gazette, 9 April 1953, Page 1
Unit Photographs

2nd Antiaircraft Artillery Group Firing 90mm M1A1 Artillery at Fort Niagara in “Grouping Trials”
Photo Credit: Niagara Falls Gazette 9 January 1954

Fort Niagara Main Gate – Note sign behind sentry: “Headquarters, 2nd Antiaircraft Artillery Group. This undated photo had to have been circa 1952 – 1958 since in 1958 the unit was redesignated as 2nd Artillery Group (Air Defense).
Photo courtesy of Old Fort Niagara Association

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Unit Photographs

Fort Niagara radio room circa 1953. *Note dog under bench.*
Photo Credit: Vince Burolla

U.S. Army Decommissioning Fort Niagara as an Active Army Post 30 June 1963
Photo Credit: Old Fort Niagara Association
Missile Master Detachment, 2nd Artillery Group, Niagara – Buffalo Army Air Defense, (RA):

The AN/FSG-1 Missile Master was an electronic fire distribution system. These systems were only based within the Continental United States. It provided rapid and accurate flow of information between the Army Air Defense Command Post (AADCP), air defense artillery missile batteries, adjacent AADCPs and the Semi-Automatic Air Ground Equipment (SAGE). It was capable of monitoring and directing up to 24 Nike Hercules Missile batteries against approximately fifty targets.

The detachment was organized using personnel from the Nike Firing Batteries with the addition of newly trained officers who had finished their Officer’s Basic Missile Course at Fort Bliss, Texas. The unit was located in the specifically constructed, bomb-proof, Missile Master Building at the Lockport Air Force Station at the intersection of Routes 425 and 31, just west of Lockport, New York.

The command center was in communication with, and directed fire from all Niagara – Buffalo Nike missile batteries and later, the firing batteries which had been turned over to the NYARNG.

The operational staff of this detachment consisted of a Lieutenant Colonel who was the Detachment Leader, an assistant with the rank of Major, and approximately eight enlisted personnel with administrative duties. Four “shifts” were formed to man the Operations Room and equipment on a 24 hour per day, seven days a week basis. The shifts created their work schedule which called for a shift to work 8 hours on duty, followed by 24 hours off duty, on a rotating basis. Weekends called for two shifts to be off, while another worked 0800-1800, Saturday and Sunday, and the fourth shift worked 1800-0800 Saturday and Sunday. Each shift ran this schedule each month.

The shifts were commanded by a Captain, 4 Lieutenants, and 22 Enlisted. Two Lieutenants were assigned as Surveillance & Entry officers who used raw radar data to identify targets. The other two were Tactical Monitors who received targets on synthetic radar screens and who then assigned firing batteries to each target. This worked to prevent overkill on any one target and prevented insertion of a target without it being assigned to a firing battery.

The detachment was supported by a small (10-15) person Signal Corps unit which supplied spare parts for the equipment, and performed troubleshooting and maintenance actions. The Missile Master Unit was also supported by the 2nd Artillery Group (Air Defense) command structure and facilities which were located at Fort Niagara, New York. [Ralph Liebing].

Unit Photograph

Typical Missile Master Installation

Photo Credit: https://thenewtropic.com/hidden-history-florida-parks/nike-missile-tracking/
31st Artillery Brigade (Air Defense), (RA):

With the establishment of the 31st Artillery Brigade, there were additional organizational changes. Effective 1 October 1961, the 18th Artillery Group at Pittsburgh was deactivated. The 31st Artillery Brigade was divided into two elements; the headquarters, which was stationed at the Lockport Air Force Station, and an Army Air Defense Headquarters Detachment, which was stationed at Oakdale, Pennsylvania. The operation of all the Nike Missile Batteries in the group were controlled from the brigade’s two Missile Master Units, one at Lockport Air Force Station, the other at Oakdale, PA.

On 19 April 1963, Battery “A” of the 2nd Missile Battalion, 209th Artillery, NYARNG, assumed control of Nike Hercules Site (NF-41) at Grand Island from Battery C of the 1st Missile Battalion, 4th Artillery, RA; and Battery “B” of the 2nd Missile Battalion, 209th Artillery, NYARNG, assumed control of the Lancaster Nike Hercules Site (BU-18) from Battery “A”, 1st Missile Battalion, 4th Artillery, RA. The remaining Nike Ajax sites in the Niagara-Buffalo Defense were deactivated. In June 1963 the 31st Artillery Brigade Headquarters was transferred to Oakdale, Pennsylvania, in preparation for an enlarged mission.

The staff of the 1st Missile Battalion, 4th Artillery, RA, then became the Defense Staff and that Battalion continued to man the Niagara-Buffalo Army Air Defense AADCP and the Nike Hercules Site in Cambria. The U.S. Army Support Center on Porter Road in Niagara Falls, New York assumed support of the Defense.

With the reduction of missile batteries brought about by the retirement of Nike Ajax sites, in September 1963 the more compact AN/GSG-5 or 6 Brigade Integration and Radar Display, (BIRDIE), equipment replaced the Missile Master installation in the AADCP. In the later months of 1963, the Grand Island Battery received the second HIPAR radar in the Defense and became the third unit of the Defense to be equipped with an Improved Nike Hercules battery.

In March of 1966 the Niagara-Buffalo Defense was redesignated as the 101st Artillery Group (Air Defense).

**Motto:** Ready and Vigilant

Distinctive Insignia:

The blue background represents the sky; and the two white segments symbolize the radar and electronic calculating device which pinpoint the enemy's aerial object. The golden bow alludes to the launching pad, and the arrow a missile. The red stars are the eventual hit explosions in the sky. The three stars are themselves the three of the "31st" and the arrow the "1."
31st Artillery Brigade (Air Defense) Commanding Officers:

15 December 1961 - Colonel Lincoln A. Simon (Niagara Falls Gazette, 11 July 1960).

Mentioned in the newspapers:

Colonel Lincoln A. Simon, Commander of the 31st Artillery Group (Air Defense), addressed attendees of the Deactivation of the 2nd Artillery Group (Air Defense) and Activation of the 31st Artillery Brigade (Air Defense) change of command ceremony hosted at the Lockport Air Station. (Niagara Falls Gazette, 14 December 1961, page 5).

Commander 31st Artillery Brigade, Colonel Lincoln A. Simon, was involved in an accident “narrowly missing death” Friday morning, when he walked into the whirling propeller of twin engine military transport aircraft at Hancock Field, Syracuse, New York. “The propeller apparently caught the metal insignia in his hat and smashed it into his head”. He was reported in good condition in St Joseph’s Hospital. (Post Standard, (Syracuse N.Y.), 16 December 1961, page 9).

Group Sergeant Major Beryle W. Dunn, with more 22 years service in the U.S. Army, retired at Niagara Falls. His replacement was Sergeant Major Anthony J. Klepis. (Niagara Falls Gazette, 24 April 1962, page 17).

113 men of the 31st Artillery Brigade, including personnel in the Niagara – Buffalo Army Air Defense and Pittsburgh, Pennsylvania Defense, re-enlisted in the first quarter of 1962 thereby winning the Brigade Commander’s Award. The most popular options for the re-enlistments were Army Schools and retaining current assignments. (Niagara Falls Gazette, 24 April 1962, page 17).


Captain Ronald J. Mc Quaid was the AADCP Tactical Director and Operations Officer. (Lockport Union Sun & Journal 23 January 1965, page 3).

Colonel Donald K. Stevens’s farewell dinner on 23 January 1965 was held at the Niagara Falls Air Force Base in Niagara Falls. Lieutenant Colonel John M. Lane, Commanding Officer of the 1st Missile Battalion, 4th Artillery, RA, and Major Floyd M. White, Commanding Officer, 2nd Missile Battalion, 209th Artillery, NYARNG, presented mementoes of service to Colonel Stevens. Also present was Charles J. McClure, Adjutant General of the New York State National Guard (Courier Express, 24 January 1965, page 6A).

Colonel William F. Roton accepts the 31st Artillery Brigade flag from General Justin W. Stall, Commanding Officer of the 31st Artillery Brigade, as he relieves Colonel Donald K. Stevens as Commanding Officer of the Niagara-Buffalo Army Air Defense. (Niagara Falls Gazette, 30 January 1965, page 9).

Unit photographs: None Available
101st Artillery Group (Air Defense), (RA):

In March 1966 the Niagara-Buffalo Defense was redesignated again, this time as the 101st Artillery Group (Air Defense). The Headquarters Battery became the Group Headquarters Battery at the AADCP at Lockport Air Force Station. Lockport Air Force Station was also the home of the 763rd Radar Squadron (SAGE) and the 763rd Radar Squadron, USAF.

Nike Battery B retained its former designation, (1st Battalion, (Hercules) 4th Artillery, RA,) manned the Cambria Nike Hercules Site, and was attached to the 101st Artillery Group. The Group also included Batteries A & B of the 2nd Missile Battalion (Hercules), 209th Artillery, NYARNG, which manned the Lancaster and Grand Island Nike Hercules sites respectively.

Motto: None known

Distinctive Insignia: None known

101st Artillery Group (Air Defense) Commanding Officers:


Mentioned in the newspapers:

Colonel David R. Lyon, Commanding Officer of the 101st Artillery Group, (Air Defense), escorted an “Operation Understanding” group of 10 business leaders and educators from the Niagara-Buffalo Air Defense area on a one day tour of the U.S. Army Artillery & Missile Center and School at Fort Sill, Oklahoma. (Lawton Constitution (Oklahoma), 27 April 1967, page 15).

David Rich, a veteran of prior service in the Niagara-Buffalo Army Air Defense, Battery “B”, 1st Missile Battalion, 4th Artillery, RA, who received a field commission to 2nd Lieutenant, and was awarded the Silver Star and Purple Heart following heroic combat service as a sergeant in Viet Nam, was recognized by the 1st Region, Army Air Defense Command, (ARADCOM), which presented him a Certificate of Achievement. (Niagara Falls Gazette, 30 October 1967, page 5).

Colonel Oliver D. Street III appeared in the “Niagara Personality” column of the Niagara Falls Gazette endorsing the role of the United States in Viet Nam. (Niagara Falls Gazette, 20 October, 1968, page 8A).

It was announced by the Army in Washington, D.C. that 23 Nike Missile Sites across the country would be closed in a budget cutting move that was to save $18.8M in the current year budget and $54M in succeeding years. No Niagara-Buffalo Army Air Defense units were impacted by this action. (Lockport Union Sun Journal, 16 August 1968, page 1).
Unit photographs:

Sign at the entrance of Lockport Air Force Station, Circa 1967


USAF Insignia, 763rd Radar Squadron

Photo Credits: Vince Burolla
Unit photographs:

Lockport Air Force Station Long Range Air Search Radars Circa 1967

Photo Credits: Vince Burolla
18th Artillery Group, (Air Defense), (RA):

On 15 November 1968, the Niagara – Buffalo Army Air Defense was once again redesignated, this time as the 18th Artillery Group (Air Defense).

Commanding Officers:

Mentioned in the newspapers:

Colonel I. J. Irvin is pictured in a newspaper article covering a Christmas party at Rest-Well nursing home at 8022 Buffalo Avenue, Niagara Falls. The 18th Artillery Group purchased a record player for the home and sang Christmas Carols with the residents. (Niagara Falls Gazette, 18 December 1968, page 26).

Scheduled events for Armed Forces Day were announced in a newspaper article in May of 1969. The 18th Artillery Group (Air Defense) had open house at their three Nike Hercules sites: Cambria, Grand Island and Lancaster, and at the Group’s Headquarters at Lockport Air Force Station. (Niagara Falls Gazette, May 1969).

It was announced that two Cambria bases have been affected by new armed forces cutbacks. The units affected include Battery “B”, 1st Missile Battalion, 4th Artillery, RA; the Headquarters Unit of the 18th Artillery Group, and the 2nd Missile Battalion, 209th Artillery, NYARNG, headquarters and firing battery at Lancaster and the firing battery on Grand Island. It was estimated payroll impact of these cuts to the local community was in excess of $1M dollars. The closures are scheduled for 31 March 1970. (Union Sun Journal, 19 December 1969, page 1).

The Pentagon Confirmed Closing of Three Area Nike Bases – Lancaster, Grand Island and Cambria Nike Hercules firing batteries as well as the Headquarters, 18th Artillery Group (Air Defense) and the Army Support Center on Porter Road, Niagara Falls, will be closed due to Department of Defense funding cuts. (Niagara Falls Gazette, 19 December 1969, page 16).

Unit photographs: None Available
Gun & Missile Battalions Assigned to the Niagara-Buffalo Army Air Defense

44th Antiaircraft Artillery Battalion, (RA):

Constituted 30 June 1924 in the Regular Army as the 3rd Battalion, 4th Coast Artillery, (Harbor Defense) and organized from former companies of the 4th Regiment of Artillery as follows:

Headquarters, 3rd Battalion. 4th Coast Artillery constituted new and activated 15 March 1940 at Fort Kobbe, Canal Zone.

43rd Company, Coast Artillery Corps, Constituted in the Regular Army Company M, 4th Battalion, Corps of Artillery, Southern Division, and organized during 1816 at St. Marks, Florida, Captain George P. Peters, commanding; redesignated 1 June 1821 as Company I, 4th Regiment of Artillery; redesignated 2 February 1907 as 43rd Company, Coast Artillery Corps; redesignated 3 July 1916 as 1st Company, Fort Terry, New York; redesignated 31 August 1917 as 12th Company, Coast Defenses of Long Island Sound; redesignated 2 December 1918 as 8th Company, Coast Defenses of Long Island Sound; redesignated 4 March 1921 as 2nd Company Coast Defenses of Long Island Sound; redesignated 17 December 1921 as 5th Company, Coast Defenses of Long Island Sound; redesignated 1 June 1922 as 43rd Company, Coast Artillery Corps; and inactivated 30 June 1924 in the Coast Defenses of Long Island Sound, redesignated Battery I and activated 18 August 1924 at Fort Amador, Canal Zone.

44th Company, Coast Artillery Corps (Organized during 1838 as Company K, 4th Regiment of Artillery) and redesignated 13 February 1901 as 44th Company, Coast Artillery, Artillery Corps; redesignated 2 February 1907 as 44th Company, Coast Artillery Corps; redesignated 1 March 1916 as 1st Company, Fort Sherman [Canal Zone] in July 1916; redesignated 31 August 1917 as 1st Company, Coast Defenses of Cristobal; redesignated 1 June 1922 as 44th Company, Coast Artillery Corps; and inactivated 30 June 1924 at Fort Sherman, redesignated Battery “K” and activated 18 August 1924 at Fort Amador.

(Battery “L” constituted 10 September 1940 in the regular Army; activated 27 January 1941 at Fort Amador and inactivated 17 April 1942 at the same location.)

(Battery “M” constituted 10 September 1940 in the regular Army; activated 14 October 1940 at Fort Armador and inactivated 17 April 1942 at the same location.)

Disbanded 1 November 1944 in the Canal Zone. Reconstituted 28 June 1950 in the Regular Army as the 44th Antiaircraft Artillery Battalion; redesignated as the 44th Antiaircraft Artillery (Gun) Battalion and activated at Fort Stewart, Georgia, 1 April 1951. The battalion arrived at Lewiston, N.Y. in October 1952 to establish its portion of the AAA defense of the Niagara Frontier. The unit was redesignated 3 August 1953 as the 44th Antiaircraft Artillery Battalion. The Battalion was reorganized and redesignated 22 March 1955 as the 44th Antiaircraft Artillery Missile Battalion and converted to Nike Ajax.

The Battalion was inactivated at Niagara Falls, New York, and consolidated 1 September 1958, with the 4th Artillery, a parent regiment under the Combat Arms Regimental System, as the 1st Missile Battalion, 4th Artillery.

[Sawicki, Volume 1, pages 134-135].

Decorations: None
**Unit Motto:** Any Time, Any Place

**Distinctive Insignia:** The insignia is shield and motto of the coat of arms.

The shield is scarlet for artillery. The arrow denotes service during the Indian Wars. The green fess, and the fishhook, taken from the coat of arms of the former 4th Coast Artillery, indicate descent from the 3rd Battalion of that Regiment, and symbolize service in the Mexican and Civil Wars. The unit fought in the wheat field at Gettysburg. The fishhook symbolizes the shape of the Federal line of battle at Gettysburg.

The insignia was approved for wear on 7 May 1952. [Sawicki, Volume 1, pages 134 – 135].

“In our youthful exuberance, when referring to the Battalion Crest, we often called it our license to hunt, swim and fish.”

Quotation provided by Allen Steinfeld, 44th Antiaircraft Artillery Missile Battalion Veteran

**Battalion Commanding Officers:**


**Gun Battery Commanders:**


**Missile Battery Commanders:**


Battery “C” – 1956 – Captain John Popovics (Correspondence with Gordon Lunn).
Niagara-Buffalo Nike Batteries served by the 44th Antiaircraft Artillery Missile Battalion:

NF-03 Battery “A” - Model City, a dual Nike Ajax site (3/55 – 9/58)
NF-16/16R Battery “B” - Cambria, a dual Nike Ajax site (3/55 – 9/58)
NF-41 Battery “C” - Grand Island, a dual Nike Ajax site (3/55 – 9/58)

Mentioned in the newspapers:

On 15 February 1953, Gun Battery “D”, Commanded by Captain Loren O. Bishop, located in Niagara County, N.Y. on the Tuscarora Indian Reservation, held an open house at the site for 250 members of the Tuscarora Nation. (Niagara Falls Gazette, 16 February 1953, page 13). See related figures on page 22.

44th moved into refurbished barracks at Fort Niagara 5 November 1953. “It’s just in time, for the wind off the lake gets colder every day” said the soldiers who previously were living in temporary shelters with conditions that were “tougher than Korea” for the past 16 months. The move to the new barracks was reported to be about 200 yards. Approximately 500 troops were involved. “The morale of the unit, like the 90mm antiaircraft shells they fire, shot sky-high with the men of the 44th”. (Buffalo News, 1953).

Battery “C”, Commanded by Captain Gerald P. Wolfe, previously based at 62nd Street in Niagara Falls, moved back to Fort Niagara on 13 September 1954. “C” Battery achieved the highest score for the 1954 season (98.3 out of 100) at the Wellfleet, Massachusetts, Antiaircraft Artillery firing range. (Niagara Falls Gazette 11 September 1954, p10).

AAA Defense Units to Relocate In Preparation for Guided Missile – Fort Niagara, 4 April 1955, Due to the conversion of the 44th AAA Gun Battalion to a guided missile battalion, a number of units employed in local AAA defenses on present sites in preparation of the arrival if Nike Guided Missiles. The relocations were described in the article as follows: Battery “A” of the 44th Guided Missile Battalion commanded by 2nd Lieutenant Kenneth J. Sharp, presently located in Lewiston, moved to Fort Niagara on 4 April. Battery “B” of the 606th AAA Battalion, commanded by 2nd Lieutenant James M. Lowerre, presently on Grand Island, will move to Lewiston on or about Thursday. Sometime around 11 April, Battery “D” of the 44th, under 1st Lieutenant Jack C. Eckels, will move from its present home on the Tuscarora Indian Reservation to Grand Island. Later in the month, “B” Battery of the 44th, presently located at Fort Niagara, under the command of 2nd Lieutenant Robert W. Ficken, will move to the former site of Battery “A” of the 606th AAA Battalion. Colonel Roy Kauffman, commanding officer of the 2nd Antiaircraft Group, stated that Lieutenant Colonel John P. Mial, commanding officer of the 44th Guided Missile Battalion, Lieutenant Colonel Joseph F. Butler, commanding officer of the 606th AAA (Gun) Battalion, and Captain Justin R. Ormsby, public relations officer for Fort Niagara, will be guests at the 20 April meeting of the Lewiston Community and Interclub Council in the Lewiston Town Hall, to answer any questions on how the people in the area can aid in the development of the Army’s Program. (Niagara Falls Gazette 4 April 1955).

AAA Personnel Likely to Move – Colonel Maurice Shaver, commanding officer of the 2nd Antiaircraft Artillery Group, announced at Fort Niagara today that personnel manning the 62nd Street School, (in Niagara Falls) will probably be moved to the fort for the winter along with some of its equipment. The Colonel also stated that the Army has given permission to the Board of Education to extend its projected 62nd street school 25 feet into the Army’s leased property. The school is slated to be completed in January 1955 at which time the question of moving the battery to a more permanent site will be aired. (Niagara Falls Gazette 5 May 1955).

On 14 June 1955, the first and last massing of the newly-formed Antiaircraft-Artillery Missile Battalion took place at Fort Niagara. The Battalion passed in review before Colonel John P. Mial, Commanding Officer of the 2nd AAA Group and his staff prior to departing Fort Niagara to man their recently completed Nike Ajax
missile batteries at Model City, Cambria, and Grand Island. A special cadre of Officers and enlisted men
from the 44th had just returned from training on the Nike Ajax Guided Missile Weapon System at Fort Bliss,
Texas. This cadre will provide on-the-job training to other members of the Battalion.
(Niagara Falls Gazette, 15 June 1955, page 10).

Private Walter T. Beck, age 23, an operatic tenor from Pittsburgh, who is a launcher crewman at Battery “C”,
Grand Island, New York, has been selected to represent Fort Niagara and the Niagara-Buffalo Defense at the
1957 Army Talent Contest. Note: Private Beck also served as barracks orderly at the Grand Island Site.
(Niagara Falls Gazette, 1 March 1957, page 12).

2 Nike Units Win Awards for Scoring 3 “Kills” - Two batteries of the 44th AAA Missile Battalion, (Nike), –
the Ontario Battery Site located at Model City, and the Cambria Battery Site on Upper Mountain Road, have
been awarded the U.S. Army Air Defense Command’s Outstanding Service Practice Award. The outstanding
Service Practice Awards were presented to Lieutenant Colonel Tom D. Collison, the 44th AAA Missile
Battalion Commander; Captain Raymond R. Allen, Commanding Officer, Battery “A”, 44th AAA Missile
Battalion; and Lieutenant Rodney L. Waterstrat, Commanding Officer, Battery “B”, 44th AAA Battalion; by
Colonel Underwood. A formal presentation to the two firing batteries will be made by Colonel Collison on
Tuesday and Wednesday. (Niagara Falls Gazette, 18 November 1957, page 3).

Battery B of the 44th AAA Missile Battalion won nearly every trophy in the Fort Niagara and 2nd Artillery
Group’s air defense model airplane meet at Fort Niagara Thursday evening. The overall champion of the
meet was Battery “B’s” Specialist 3rd Class William C. Bowe, who also won the aerobatics event. Second
place in aerobatics went to Private First Class John L. Souza of Battery “B”. Bowe, Souza and PFC Antoine
Amaral Jr. comprised the Battery “B” team. Major Donald L. Grant, Headquarters, Artillery Group, was
third in the aerobatics event. Other events were limited by wind gusts and light rain. After the meet
Lieutenant Colonel Robert H. Johnson, Deputy Commander, presented trophies and attendees were with a
buffet supper. Judges for the meet were Don Waite and Sam Moldoban, Pittsburgh, Official Academy of
Aeronautics contest director. Another contest was scheduled for next month, the winners of which will be
eligible to participate in the First United States Army meet. (Niagara Falls Gazette, July, 1958).
Unit photographs

“Open House” at 44th AAA (Gun) Battalion, Battery “D”, Tuscarora Indian Reservation 15 February 1953
Photo Credit: Niagara Falls Gazette, 16 February 1953, page 13.

“Open House” as above, note Quonset Hut Shelters for troops, and two 90mm M1A1 Guns
Photo Credit: Niagara Falls Gazette, 16 February 1953, page 13.
Unit photographs

Unofficial Patch for Battery “B” (Model City) 44th AAA Missile Battalion
Photo credit: Harry DeBan

NF-41, “C” Battery (Grand Island) - Nike Ajax Missiles being elevated to firing position
Photo credit: Gordon Lunn

NF-41 “C” Battery (Grand Island) - Captain John Popovics, Commander,
Photo credit: Gordon Lunn
NF-16 “B” Battery (Cambria) - IFC Area Layout
Image courtesy of Allen Steinfeld
Unit photographs

NF-41 “C” Battery, (Grand Island), Eight Nike Ajax Missiles Elevated to Firing Position

NF-41 “C” Battery, (Grand Island), Twenty-four Nike Ajax Missiles in Firing Position

Photo Credits for above: Gordon Lunn
Unit photographs

NF-41, “C” Battery, (Grand Island) - Nike Ajax Missile Fueling
Blue barrel (right) contains IRFNA, olive drab barrel (left) contains fuel

NF-41 “C” Battery, (Grand Island) - Launch Crew
(Left-Right) Sp Chambliss, Sp Watts, Section Chief Sgt Perez

Photo Credit for above: Gordon Lunn
Unit photographs

NF-41, “C” Battery, (Grand Island) AN/TPS-1D Surveillance Radar

NF-41, “C” Battery, (Grand Island) – LOPAR (right) and MTR (center)

Photo Credit for above: Gordon Lunn
1st Missile Battalion, 4th Air Defense Artillery, (RA):

Constituted 20 October 1786 in the Regular Army as Captain Henry Burbeck’s Company of Artillery and organized at West Point, New York. Redesignated 3 October 1787 as Captain Henry Burbeck’s 3rd Company, Battalion of Artillery. Redesignated 1792 as Captain Daniel McLane’s Company of Artillery, Battalion of Artillery. Redesignated 1792 as Captain Daniel McLane’s Company of Artillery of the 4th Sublegion, Legion of the United States. Redesignated 9 May 1794 as Captain Daniel McLane’s Company, 1st Battalion, Corps of Artillerists and Engineers. 1 November 1797 as Captain George Ingersoll’s Company, 1st Battalion, Corps of Artillerists and Engineers. Redesignated 27 April 1798 as Captain George Ingersoll’s Company, 1st Battalion, 1st Regiment of Artillerists and Engineers. Consolidated 1 April 1802 with Captain George Izard’s Company, 1st Regiment of Artillerists and Engineers, Captain Frederick Frye’s Company, 1st Battalion, 1st Regiment of Artillerists and Engineers, and Captain Peter Tillman’s Company, 1st Regiment of Artillerists and Engineers and consolidated unit was redesignated as Captain Henry M. Muhlenberg’s Company, Regiment of Artillerists. Redesignated 24 November 1804 as Captain James B. Many’s Company, Regiment of Artillerists. Redesignated 11 January 1812 as Captain James B. Many’s Company, 1st Regiment of Artillery. Redesignated 16 August 1813 as Captain Thomas G. Murray’s Company, 1st Regiment of Artillery. Redesignated 12 May 1814 as Captain Thomas G. Murray’s Company, Corps of Artillery, Southern Division. Redesignated 21 August 1816 as Company “G”, 3rd Battalion, Corps of Artillery, Southern Division. Redesignated 1 June 1821 as Company “D”, 4th Regiment of Artillery.

Reorganized and redesignated 1901 as the 39th Company, Coast Artillery, Artillery Corps. Redesignated 2 February 1907 as the 39th Company, Coast Artillery Corps. Redesignated 30 June 1916 as the 1st Company, Fort Morgan, Alabama. Redesignated 31 August 1917 as the 1st Company, Coast Defenses of Mobile. Inactivated 18 September 1921 at Fort Morgan, Alabama. Redesignated 1 June 1922 as the 39th Company, Coast Artillery Corps.

Redesignated 1 July 1924 as Battery “D”, 4th Coast Artillery. Activated 18 August 1924 at Fort Amador, Canal Zone. Disbanded 3 October 1944 in the Canal Zone.


Decorations: Philippine Presidential Unit Citation, 1950.
Unit Motto: *Audacia* (Boldness or Audacity)

Distinctive Unit Insignia: The insignia is red with two white stripes, with a gold sheaf of wheat centered over the two white stripes and bearing a bull’s-eye. A gold fishhook pierces the bull’s-eye. The sheaf of wheat and fish hook commemorates the participation in the battle of Gettysburg in the Civil War. The fishhook depicting the shape of the federal battle line. Four gold arrows denote participation in the Indian Wars.

Commanding Officers:


Battery Commanders:

Battery “B” - Cambria – Captain John L. Peoples Jr.
Battery “C” – Grand Island – Captain John Popovics

Niagara-Buffalo Nike Batteries served by the 1st Missile Battalion, 4th Artillery:

<table>
<thead>
<tr>
<th>Battery Code</th>
<th>Battery Name/Location</th>
<th>Notes</th>
</tr>
</thead>
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<tr>
<td>NF-03</td>
<td>“A” - Model City, a dual Nike Ajax site</td>
<td>(9/58 – 8/60).</td>
</tr>
<tr>
<td>NF-16/16R</td>
<td>“B” - Cambria, a dual Nike Ajax &amp; later</td>
<td>(3/58 – 3/70).</td>
</tr>
<tr>
<td>NF-16/16R</td>
<td>(Cont.) the site became a single Hercules battery in May 1959.</td>
<td></td>
</tr>
<tr>
<td>NF-41</td>
<td>“C” - Grand Island, a dual Nike Ajax Site</td>
<td>(9/59 – 4/63).</td>
</tr>
<tr>
<td>NF-75</td>
<td>“D” - Grand Island, a dual Nike Ajax Site</td>
<td>(9/58 – 4/59).</td>
</tr>
</tbody>
</table>
Unit photographs

NF-16 “B” Battery (Cambria)
Nike Ajax Missile being Elevated

NF-16 “B” Battery (Cambria)
Nike Missiles

NF-16 “B” Battery (Cambria)
Nike Ajax Missiles Elevated to Firing Position
Photo Credits: Eddie Barton
Unit Photographs

NF-16 “B” Battery (Cambria)
Crew members at McGregor Range, NM, for SNAP
November 1964.
Photo Credit: Dave Taber
(standing on extreme right)

NF-16 “B” Battery (Cambria)
John Carlin & Henry Meyer in Battery Control Van
Photo Credit: John Carlin (on left)
Photo circa 1965-1966

Interior View of Nike Battery Control Van
Photo Credit: Allen Steinfeld

NF-41 “C” Battery (Grand Island)
Nike Hercules Missile
Photo Credit: Nike Historical Society
Unit Photographs

NF-16 “B” Battery (Cambria) IFC
Photo Credit: Dave Taber
Photo circa early 1965

NF-41 “C” Battery (Grand Island)
Note Caption in Photo Above
Photo Credit: Nike Historical Society

NF-16 “B” Battery (Cambria)
Left to Right
Col. Krisman, C.O. 2nd Artillery Group
& Fort Niagara;
Capt. Micinowski, “B” Battery C.O.
Col. J. F. Woods, C.O. 1st Missile Btn, 4th
Artillery
Photo Credit: Old Fort Niagara Association

NF-16 “B” Battery, (Cambria)
John Carlin & Henry Meyer
(NF-16)
Photo Credit: John Carlin (on left)
Unit Photographs

NF-16 “B” (Cambria) Launcher Area Assembly & Handling Crew Image provided by John Briggs (center row, 5th from left). April 1968 Photo By: Arthur Rich, Lockport, NY
106th Antiaircraft Artillery Battalion, (NYARNG):

Constituted 23 July 1940 in the New York Army National Guard, NYARNG, as the 1st Battalion, 209th Coast Artillery, (Antiaircraft). Organized in northwestern New York State and federally recognized 14 October 1940 with Headquarters at Buffalo. Inducted into Federal service 10 February 1941 at home stations. Departed New York Port of Embarkation 11 May 1942 for overseas service; arrived in Northern Ireland on 18 May 1942 and moved to England on 12 December 1942. Landed in North Africa on 3 January 1943 and moved on to Italy on 28 October 1943. Reorganized at Anzio, Italy, and redesignated 14 March 1944 as the 72nd Antiaircraft Gun Battalion (Mobile). Returned from overseas service and arrived at the New York Port of Embarkation on 25 November 1945. The unit was inactivated 26 November 1945 at Camp Kilmer, New Jersey. Reorganized and federally recognized 13 November 1947 with Headquarters at Buffalo, New York. It was redesignated 1 May 1950 as the 102nd Antiaircraft Artillery Gun Battalion. The unit was ordered into active Federal service at Buffalo, N.Y. on 14 August 1950, was released from Federal service 21 June and resumed State status. The unit was redesignated 1 October 1953 as the 102nd Antiaircraft Artillery Battalion (Gun). It was redesignated again 14 February 1958 as the 106th Antiaircraft Artillery Battalion. On 15 February 1958 the unit was again reorganized and redesignated as the 106th Antiaircraft Artillery Missile Battalion.

The 106th Antiaircraft Artillery Missile Battalion was consolidated 16 March 1959 with the 106th Artillery, a parent regiment under the Combat Arms Regimental System.

[Sawicki, Volume 1, pages 235, 236].

The 106th Artillery, NYARNG, was redesignated 1 May 1962 as the 2nd Missile Battalion, 209th Artillery, NYARNG.

Decorations: None

Unit Motto: None

Distinctive Unit Insignia: The insignia is the shield of the coat of arms.

[Sawicki, Volume 1, page 236, 237]
Commanding Officers:

Major Richard D. Wolf 1957
Lieutenant Colonel Charles J. McClure (Niagara Falls Gazette, 22 February 1959).

Niagara-Buffalo Nike Batteries served by the 2nd Missile Battalion, 106th Artillery NYARNG:
NF-03 Battery “B” - Model City, a dual Nike Ajax site (8/60 – 3/63) Site closed in 1963.
NF-03 Battery “C” - Model City, a dual Nike Ajax site (8/60 – 3/63) Site closed in 1963.
BU-34 Battery “A” – Orchard Park, a dual Nike Ajax site (8/60 – 12/63) Site closed in October 1962.
BU-34 Battery “D” – Orchard Park, a dual Nike Ajax site (8/60 – 12/63) Site closed in October 1962.

Mentioned in the Newspapers:

“Commander of Guard Unit Will Retire” – Lieutenant Colonel Robert W. Hook, 111 East Somerset Avenue, Town of Tonawanda, is retiring as the 106th AAA 90mm Gun Battalion Commander in the New York Army National Guard. Major R. G. Wolf is mentioned as a probably successor. The battalion has its headquarters in the 79 Delaware Street Armory in Tonawanda. Colonel Hook has served as the first commander of the antiaircraft units formed from Infantry units last February. Before the changeover, most men of the present batteries in the 106th were infantrymen in old Company K of the 174th Infantry in the guard. The battalion, along with the 102nd and 336th AAA gun battalions on the Niagara Frontier, comprises the 209th AAA Group of the NYARNG under the command of Colonel Eugene J. Welte of 56 Pfo1 Place in Williamsville. (Kenmore & Town News, 27 January 1956, page 1).

“Defense is a Community Project” – The two AAA Gun Battalions assigned to the 209th AAA Group, NYARNG which is under the command of Colonel Eugene J. Welte, that already have “on-site” units deployed are the 106th AAA Battalion (Wheatfield) and the 336th Battalion (Grand Island). The 102nd AAA (Gun) Battalion NYARNG is scheduled to assume gun sites in the near future. These NYARNG Artillery Battalions operate on the “volunteer fireman” principle. At each of the positions, some of the unit’s personnel are employed on a full-time basis as battery maintenance and security personnel 24 hours a day, seven days a week. All of these men are volunteers, who receive full pay for a 40 hour week and are employed as civilians but are also guardsmen in the unit. When an alert sounds, other members of the unit report directly to battle stations from home, job or other places they may be at that time. On the occasion of “Reserve Military Week,” beginning today, young men without prior service or veterans are urged to join in this community defense. Manpower is needed for these gun sites. Volunteers may apply at the any of the following armories: Headquarters 209th AAA Group NYARNG, 1015 Delavan Avenue; 106th AAA Battalion (90mm Gun) NYARNG, 79 Delaware Street, Tonawanda; or 336th AAA Battalion, (90mm Gun), 901 Main Street, Niagara Falls. (Buffalo Courier-Express, 22 April 1956, page 16).

Area Armed Forces to Hold Open House – Other open house activities in the Niagara area include Fort Niagara and the 2nd AAA Group; National Guard Armory in Niagara Falls; 606th AAA 90mm Gun Battalion batteries in Lewiston, Wheatfield and Grand Island; the New York Army National Guard’s 336th gun site on Grand Island and the 106th Battalion’s 90mm gun site in Lockport. (Niagara Falls Gazette, 18 May 1956, page 19).
The RA and the NYARNG will place all their air defense nest eggs in one basket on the Niagara Frontier as a result of a recent culmination of Guard training and qualification in the antiaircraft field. Effective today the Tonawanda National Guard’s 106th AAA Battalion will assume its operational responsibilities as a “Special Security Force” and tie in its operations in with the Army’s Niagara-Buffalo AAA Defense Headquarters at Fort Niagara Commanded by Colonel Francis K. Newcomer it was announced today. Major Richard D. Wolf, National Guard Commander of the 106th AAA Battalion (90mm Gun), NYARNG, at the Tonawanda Armory the change from “Mobilization Day Forces” to the new designation cuts down the time required to phase in 265 local Guardsmen into active antiaircraft duty in case of threatened attack on the Continental United States. “As “Special Security Forces” said Major Wolfe, our Battery “B” on Lockport Road in Wheatfield and our Battery “C” on Ransom Road on Grand Island would come under Regular Army command from the Army Air Defense Command Post of the 2nd AAA Group at Fort Niagara, in the event of attack. The Guard Units were previously required to receive alert orders from the 105th AAA Brigade National Guard Headquarters before joining the Army Air Defense set up here. The change is only in the emergency use of these units. Brigadier General Alfred H. Doud of Rochester, Commander of the 105th AAA Brigade of the New York National Guard will otherwise maintain command of their two units. The two National Guard Batteries are commanded by 1st Lieutenant Anthony Gordon of Tonawanda and Captain Francis Horgan of Buffalo. The commanders will usher their two units into new active duty roles today at ceremonies by the Army and National Guard representatives and civic officials of Niagara Falls and the Tonawandas. The two National Guard Sites were originally manned by the 44th AAA Battalion which moved into area Nike Sites about two years ago. The Guard moved into the sites and used them as training areas. The 106th took over the Wheatfield base in September 1955 and the Grand Island site a year later, and have used them ever since. The 90mm guns at both sites are still considered effective against low flying aircraft while the Army’s Nike guided missiles in this area are capable of knocking out high flying targets. To test the men and equipment of the National Guard units, Major Wolf announced that his Battalion will move its 245 troops and 90mm guns to the Oswego firing range on July 6th, each battery using its own four guns. The target practice will follow on the heels of the Regular Army’s 606th Gun Battalion which also has batteries on Grand Island and in Wheatfield. (Niagara Falls Gazette, 21 May 1957, page 9).

A spokesman for the 2nd Artillery Group (Air Defense) reported that Batteries “B” & “C”, of the 2nd Missile Battalion, 106th Artillery, NYARNG, will take over the Model City Nike Site (NF-03), and Batteries “A” & “D” of the 106th will take over the Orchard Park Nike Site (BU-34). The effective date was not announced. Units of the NYARNG have been training since February 1958 to operate these sites. (Niagara Falls Gazette, 31 October 1959, page 11).
106th AAA (Gun) Btn, NYARNG mans a 90mm M1A1 Antiaircraft gun at Wheatfield Site

As above. Portion of M33 Tracking radar in upper left of photo with acquisition radar in center of photo. The unit’s trucks are visible to right.

Photo Credit: Above images from the Buffalo Courier – Express Pictorial, 22 April 1956, page 16.
2nd Missile Battalion, 209th Artillery, (NYARNG):

Originally activated 9 September 1940 as the 1st Battalion, 209th Coast Artillery Regiment, it was inducted into Federal service on 10 February 1941 and trained in Camp Stewart, Georgia, before proceeding overseas to Europe in 1942.

After participating in the Tunisian Campaign as the 1st Battalion, 209th Coast Artillery (CA) Regiment, it participated in the Rome-Arno Campaign in Italy. During this period, it was redesignated as the 72nd Anti-Aircraft Gun Battalion. It subsequently participated in the assault of Southern France, the Ardennes-Alsace Central Europe, and Rhineland Campaigns.

The Battalion was deactivated after World War II but in 1947 saw its reactivation under the Command of Lieutenant Colonel Eugene J. Welte. Three years later the battalion was recalled to active service and returned to Camp Stewart, Georgia, this time as the 102nd AAA Gun Battalion. After completing its training the 102nd participated in the Philadelphia and Pittsburgh Army Air Defense.

During 1952, the battalion reverted to normal New York State National Guard status in Buffalo, New York. In February 1958, it was again redesignated, this time as the 2nd Missile Battalion, 106th Artillery.

Despite this numerical designation, the unit retained association with the 209th Artillery through unit colors and regimental insignia.

The 2nd Missile Battalion, 106th Artillery, was redesignated as the 2nd Missile Battalion, 209th Artillery on 1 May 1962. The battalion is presently commanded by Lieutenant Colonel Charles J. McClure, with its headquarters in Buffalo, New York.

[The Unit History was an enclosure to the Change of Command Ceremony Program dated 19 April 1963, where Captain Robert H. Dupont, Commanding Officer, Battery A, 2nd Missile Battalion, 209th Artillery, NYARNG, relieved Lt. Ronald McQuaid, Commanding Officer, Battery C, 1st Missile Battalion, 4th Artillery, United States Army, Grand Island, New York; and Captain Henry E. Close, Commanding Officer, Battery B, 2nd Missile Battalion, 209th Artillery, NYARNG, relieved Lieutenant William Pooley, Commanding Officer, Battery A, 1st Missile Battalion, 4th Artillery, United States Army, Lancaster, New York. Author and date unknown].

Unit Motto: *In Promptu* – (In Readiness)

Distinctive Unit Insignia: The insignia is the shield of the coat of arms. The colors of red and yellow, and the shell, symbolize the
artillery character of the battalion. The white griffin, emblematic of the first ship to sail the Great Lakes above Niagara Falls (Lake Ontario), refers to the home area of the unit.

Commanding Officers:
Lieutenant Colonel Charles J. McClure
Major Floyd M. White


Battery Commanders:
Captain Robert H. Dupont Battery NF-41, Grand Island, N.Y
Captain Henry E. Close Battery BU-19, Lancaster, N.Y.

(Niagara Falls Gazette, 19 April 1963).

Niagara-Buffalo Nike Batteries served by the 2nd Missile Battalion, 209th Artillery, NYARNG:

NF-41 (Formerly NF-74/75) Battery “A” - Grand Island, Nike Hercules Site (4/63 – 3/70).

Mentioned in the newspapers:

The Headquarters and Headquarters Battery, 2nd Missile Battalion, 209th Artillery, NYARNG, Commanded by Captain Thomas M. Pierino, was awarded the Eisenhower Trophy in 1964 for outstanding merit. (Annual Report 1965, New York Division of Military & Naval Affairs).

Battery Commander, Captain E. Close of B-18, reported that the site is within a week of completing the installation of the Improved Nike Hercules modifications, including the HIPAR Radar. The battery was at McGregor range in December 1963 and scored a 94.4% score at a Short Notice Annual Practice, (SNAP), exercise, firing three missiles. They were awarded a “Distinguished Fire Unit Award” from the First Region Command. (Battery “B” News Sheet, 7 March 1964).

Lieutenant Eugene T. Kawjawa was reported as the next Battery Commander at BU-18, Battery B effective 1 May 1964. In the same news letter, it was stated that since 1960, 2nd Missile Battalion, 209th Artillery, NYARNG, had fired 39 missiles at McGregor Range and had achieved 34 “clean kills” against the radio controlled targets, and had three launch failures, two due to boosters and one due to the missile guidance unit. (Battery B News Sheet, 17 April 1964).

Battery “B”, 2nd Missile Battalion, 209th Artillery, (Lancaster) departed at 0600 today for McGregor Range where they will participate in their annual SNAP exercise. Major Floyd M. White, Battalion Commanding Officer, accompanied his crew. (Niagara Falls Gazette, 13 September 1964, page C-1).

Unit Photographs: None available
336th Antiaircraft Artillery Battalion (90mm Gun), (NYARNG):


Decorations: None

Unit Motto: Defensores Caeli – (Defenders of the Heaven)

The shield is that of the coat of arms of the old 209th Coast Artillery within a border to indicate the descent of the 336th Antiaircraft Artillery Battalion from the second Battalion of that regiment. The colors red and yellow and the shell symbolize the Artillery character of the battalion. The Griffin, emblematic of the first ship to sail in Lake Ontario, above Niagara Falls, refers to the home area of the unit in Western New York.

Distinctive Insignia: The insignia is the shield of the coast of arms. The insignia was approved for wear on 16 January 1955.

[See Sawicki, Volume 2, pages 501-502].

Commanding Officers:

Colonel Tafe J. Swama - 1955

Battery Commanders:

Niagara-Buffalo Nike Batteries served by the 336th Antiaircraft Artillery Battalion, (NYARNG: Grand Island - 90mm Gun Battery (10/52 – 4/53)
**Mentioned in the newspapers:**

Civil Air Patrol cadets of Flight “A” were the guests of personnel of the 336th Antiaircraft Artillery Battalion yesterday. Upon arrival, the cadets, under the supervision of Donald Sullivan, witnessed a practice alert. The battery is under the Command of Lieutenant Edwin N. Reed and Lieutenant Robert E. Henenlotter. (Niagara Falls Gazette, 9 February 1953, page 14).

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AAA Defense Units to Relocate In Preparation for Guided Missile – Fort Niagara, 4 April 1955, Due to the conversion of the 44th AAA Gun Battalion to a guided missile battalion, a number of units employed in local AAA defenses on present sites in preparation of the arrival of Nike Guided Missiles. The relocations were described in the article as follows: Battery “A” of the 44th Guided Missile Battalion commanded by 2nd Lieutenant Kenneth J. Sharp, presently located in Lewiston, moved to Fort Niagara on 4 April. Battery “B” of the 606th AAA Battalion, commanded by 2nd Lieutenant James M. Lowerre, presently on Grand Island, will move to Lewiston on or about Thursday. Sometime around 11 April, Battery “D” of the 44th, under 1st Lieutenant Jack C. Eckels, will move from its present home on the Tuscarora Indian Reservation to Grand Island. Later in the month, “B” Battery of the 44th, presently located at Fort Niagara, under the command of 2nd Lieutenant Robert W. Ficken, will move to the former site of Battery “A” of the 606th AAA Battalion. Colonel Roy Kauffman, commanding officer of the 2nd Antiaircraft Group, stated that Lieutenant Colonel John P. Mial, commanding officer of the 44th Guided Missile Battalion, Lieutenant Colonel Joseph F. Butler, commanding officer of the 606th AAA (Gun) Battalion and Captain Justin R. Ormsby, public relations officer for Fort Niagara, will be guests at the 20 April meeting of the Lewiston Community and Interclub Council in the Lewiston Town Hall, to answer any questions on how the people in the area can aid in the development of the Army’s Program. (Niagara Falls Gazette, 5 April 1955).

The Regular Army and the New York National Guard will place all their air defense nest eggs in one basket on the Niagara Frontier as a result of a recent culmination of Guard training and qualification in the antiaircraft field. Effective today the Tonawanda National Guard’s 106th AAA Battalion will assume its operational responsibilities as a “Special Security Force” and tie in its operations in with the Army’s Niagara-Buffalo AAA Defense Headquarters at Fort Niagara Commanded by Colonel Francis K. Newcomer it was announced today. Major Richard D. Wolf, National Guard Commander of the 106th AAA Battalion (Gun
90mm), NYARNG, at the Tonawanda Armory the change from “Mobilization Day Forces” to the new designation cuts down the time required to phase in 265 local Guardsmen into active antiaircraft duty in case of threatened attack on the Continental United States. “As “Special Security Forces” said Major Wolfe, our Battery “B” on Lockport Road in Wheatfield and our Battery “C” on Random Road on Grand Island, would come under Regular Army command from the Army Air Defense Command Post of the 2nd AAA Group at Fort Niagara, in the event of attack. The Guard Units were previously required to receive alert orders from the 105th AAA Brigade National Guard Headquarters before joining the Army Air Defense set up here. The change is only in the emergency use of these units. Brigadier General Alfred H. Doud of Rochester, Commander of the 105th AAA Brigade of the NYARNG will otherwise maintain command of their two units. The two National Guard Batteries are commanded by 1st Lieutenant Anthony Gordon of Tonawanda and Captain Francis Horgan of Buffalo. The commanders will usher their two units into new active duty roles today at ceremonies by the Army and National Guard representatives and civic officials of Niagara Falls and the Tonawandas. The two National Guard Sites were originally manned by the 44th AAA Battalion which moved into area Nike Sites about two years ago. The Guard moved into the the sites and used them as training areas. The 106th took over the Wheatfield base in September 1955 and the Grand Island site a year later, and have used them ever since. The 90mm guns at both sites are still considered effective against low flying aircraft while the Army’s Nike guided missiles in this area are capable of knocking out high flying targets. To test the men and equipment of the National Guard units, Major Wolf announced that his Battalion will move its 245 troops and 90mm guns to the Oswego firing range on July 6th, each battery using its own four guns. The target practice will follow on the heels of the Regular Army’s 606th Gun Battalion which also has batteries on Grand Island and in Wheatfield. (Niagara Falls Gazette, 21 May 1957, page 9).

The 336th AAA Battalion, NYARNG, commanded by Colonel Tafe J. Swama, will start an all out recruiting drive Monday. The highlights of the drive will be a tour of an antiaircraft site, the swearing in of new members, the presentation of recruiting awards and the crowning of “Miss 336th” at the battalion dance which will be held at the end of the drive. All young men who are interested in seeing the equipment which will be used by the 336th AAA Battalion, will be taken on a tour of the 90mm antiaircraft gun site Sunday. Transportation from the Armory to the gun site will be provided. (Niagara Falls Gazette, 5 March 1955).
Unit Photographs

336th AAA Gun Battalion, NYARNG, gun crew at one of the Grand Island Battery’s 90mm M1A1 Antiaircraft Gun
Photo Credit: Buffalo Courier – Express Pictorial, 22 April 1956, page 16.

336th AAA Gun Battalion mans a M33 Antiaircraft Fire Control System Console at their Grand Island Battery
Photo Credit: Buffalo Courier – Express Pictorial, 22 April 1956, page 16.
465th Antiארillery Artillery Missile Battalion, (RA):

Constituted 30 August 1942 in the Army of the United States as the 465th Coast Artillery Battalion (Antiaircraft) (Automatic Weapons) and activated 15 October 1945 at Camp Davis, North Carolina. The unit was reorganized and redesignated 1 February 1943 as the 465th Antiaraircraft Artillery Automatic Weapons Battalion (Semi mobile). Departed Boston Port of Embarkation 22 June 1944 for overseas service; arrived England 29 June 1944 and landed in France on 30 July 1944. Converted and redesignated 1 May 1946 as Constabulary School Squadron. The unit was Inactivated 30 June 1948 in Germany. Converted and redesignated 11 December 1951 as the 465th Antiarcraft Artillery Battalion. Redesignated 465th Antiarcraft Artillery Missile Battalion and allotted to the Regular Army 3 May 1956. Activated 1 June 1956 at Fort Niagara, Youngstown, New York. The unit departed Fort Niagara in increments to man newly constructed Nike Missile batteries in Hamburg, Orchard Bark, Millersport and Lancaster, as the sites were completed. The unit was inactivated 1 September 1958 at Lancaster, New York. [Sawicki, Volume 2, page 612].

The 465th Antiarcraft Artillery Missile Battalion was redesignated in 1958 under the U.S. Army Combat Arms Regimental System, (CARS), as the 2nd Missile Battalion, 62nd Artillery and remained in service as a part of the Niagara-Buffalo Army Air Defense at the same Nike sites.


Unit Motto: Credo et Videbo – (I believe and Shall See)

[Sawicki, Volume 2, page 612]

Shield: Per pale gules and or, two piles in point counterchanged, in base two battle axes in saltire proper.

The scarlet is for the Coast Artillery Corps. The functions of the organization are allegorically illustrated by the wedge-shaped pile in point, representing both searchlight beams and the fire of the battalion. The ability to protect their allocated territory is indicated by the crossed battle axes, and ancient weapon of defense. The motto is expressive of the performance of Coast Artillery functions, and the faith of the personnel in the successful outcome of allotted duties.

Distinctive Unit Insignia: The 465th Antiarcraft Artillery Missile Battalion unit distinctive insignia is the shield and motto of the coat of arms.

The insignia was approved for wear 12 December 1956. [Sawicki, Volume 2, page 613].

Battalion Commanding Officers:

Battery Commanders:

Captain Louis Bush          BU-09    1957
Captain James T. Ryan, III  BU-09    Late 1959-November 1962.
Captain Hames C. Elder      BU-34/35  23 November 1956.

Niagara-Buffalo Nike Batteries served by the 465th Antiaircraft Artillery Battalion:

BU-09 - Battery “A”, Ransom Creek/Millersport        Nike Ajax Site   (9/56 – 9/58).
BU-34/35 Battery “C”, Orchard Park                   Dual Nike Ajax Site (9/56 – 9/58).

Mentioned in the newspapers:

Colonel La Hatte was quoted in a community newspaper article as saying “we may as well face the fact that in the light of world conditions, our antiaircraft installations are going to be as permanent a part of our community life as our police, fire and school departments”. He told county division leaders that the more than 400 enlisted men, who would be stationed in the community after 1 November, would be contributing to the Red Feather/Red Cross charity campaign. The article goes on to say that the following locations would be manned by personnel of the 465th Battalion: Battery “A” – Amherst (Millersport), Headquarters & HQ Battery – Lancaster, Battery “B” – Depew, Battery “C” – Orchard Park and Battery “D” in Hamburg. (Evans Journal 1 November 1956, page 1).

On Tuesday 27 November 1956 Battery “C” will move into the Orchard Park Site, a dual Nike Ajax facility, which will be commanded by Captain Hames M. Elder. Battery D occupied the Hamburg Site the previous week. The Lancaster and Millersport locations have not yet been occupied. All the Erie County Batteries will be operational by later this year, bringing the total of Nike Missile Sites in the Niagara-Buffalo Army Air Defense to seven. (Niagara Falls Gazette, 23 November 1956, page 16).

AAA Unit to Take Over New Amherst Nike Site – Anti-aerialcraft troops of Battery “A”, 465th AAA Missile Battalion (Nike) will take over the nearly completed 2 million dollar Nike Guided Missile Site in the Town of Amherst, between Millersport and Swormville, on Wednesday according to Colonel Francis K. Newcomer Jr, Commanding Officer of the Niagara-Buffalo Anti-Aircraft Defense. A convoy of 17 trucks will leave Fort Niagara at 10:00 A.M. transporting 95 technicians, radar operators, and teams of launcher crewmen who had temporary quarters at Fort Niagara. Radar antennas, and control equipment used to guide the supersonic missiles will also be transported by truck to the Amherst site. … A fourth site, which will also be the headquarters for the 465th Nike Batteries, is under construction at Lancaster, Colonel William F. LaHatte, commanding officer of the 465th Battalion, presently has the units headquarters at Fort Niagara. There also are Nike batteries of the 44th AAA Battalion and four 90mm AA gun batteries of the 606th AAA Gun Battalion in the Niagara Falls Area and on Grand Island. Once completed Battery “A” of the 465th will have 12 Nike launchers. Captain Louis Bush, Battery “A” Commander, will lead the convoy Wednesday and take over on-site duties. (Niagara Falls Gazette, 19 January 1957, page 8).

Private First Class Adrian L. Brasher, of the Headquarters Battery, 465th AAA Missile Battalion, was awarded the Soldiers Medal for Heroism demonstrated 5 August 1956 when he distinguished himself by jumping into the water and rescuing two passengers who had fallen overboard from a Canadian steamship preparing to dock in Toronto harbor, Ontario, Canada. Without hesitation and without regard to the great personal danger to himself, Private Brasher jumped into the water to aid the two individuals just as the ship had reverses its propellers and thereby creating a terrific undertow. He pulled one victim who was unable to
swim to safety, and re-entered the water to search for the second victim until further search became useless. **General Orders:** Department of the Army, (24 June, 1957).

Specialist third Class Robert W. Markowicz, of the 465th AAA Missile Battalion, a launcher crewman at the Hamburg Nike Ajax site, was named “Soldier of the Month” for 2nd AAA Group, in recognition of outstanding soldierly qualities. He was awarded a three day expense paid trip to New York City. (Sun & Erie County Independent, 31 July 1958, page 3).
Unit Photographs

BU-18 Lancaster, NY: IFC Area – Photo Credit: the late Ed Close

BU-18 Lancaster, NY: LA – Photo Credit: the late Ed Close
BU-34 Orchard Park, NY: IFC Area - Photo Credit: the late Ed Close

This site contained 2 complete sets of Nike Ajax equipment. I was the site commander, and CO of Btry D, the set to the left. Lt. Schnitzer was CO of Btry A, the set to the right. The "box-like" towers held the Missile Tracking Radars and Target Tracking Radars. The triangular tower held the search, or Acquisition Radar. Each set had its own set of power generating diesel generators located in the small square buildings at the end of the parking lots. The Radar Control Vans (RC) and the Battery Control Vans (BC), are joined together by an Interconnecting Corridor Building where the crews took their breaks and maintenance was performed; note that the cables from the radar towers run into the BC Van for each set. Photo probably taken in 1959, the year before I took command.
2nd Missile Battalion, 62nd Artillery, (RA):


Reorganized and redesignated 13 February 1901 as the 30th Company, Coast Artillery, Artillery Corps. Redesignated 2 February 1907 as the 30th Company Coast Artillery Corps. Redesignated in 1916 as the 1st Company, Fort Worden (Washington State). Redesignated 31 August 1917 as 1st Company, Coast Defenses of Puget Sound. Redesignated 1 June 1922 as the 30th Company, Coast Artillery Corps.

Reorganized and redesignated 14 September 1922 as Battery “E”, 62nd Artillery, (Antiaircraft) (Coast Artillery Corps) (concurrently additionally designated as the 30th Company, Coast Artillery Corps; additionally designation abolished 1 July 1924). Redesignated 1 July 1924 as Battery “E”, 62nd Coast Artillery.


Decorations: (50th Antiaircraft Artillery Automatic Weapons Battalion): Presidential Unit Citation (Navy) 1952, Republic of Korea Presidential Unit Citation, (3 awards): Inchon-Seoul-Hungnam 1952; Korea 1950-1952; and Defense of Korea 1957.

Motto: *Nimur in Alta* (We Aim at High Things)


**Distinctive Unit Insignia:** The 62nd Artillery’s insignia is the shield of the coat of arms.

The six embattled sectors symbolize participation in six wars by units of the 62nd Coast Artillery from which the 62nd Air Defense Artillery is descended – the War of 1812, Indian Wars, Mexican War, Civil War, War with Spain and the Philippine Insurrection. The blue and red and the sixteen stars commemorate the date 1798 when one element of the regiment was organized; the uniforms worn by artillery soldiers at that time were dark blue and faced with scarlet, and there were 16 states in the Union.

The insignia depicted was originally approved for wear by the 62nd Coast Artillery on 15 March 1929. [Sawicki, Volume 1, page 168].

**Commanding Officers:**


**Battery Commanders:**

18 June 1959 Battery “D” – Lieutenant Thomas C. King (Frontier Herald, page 7).

**Niagara-Buffalo Nike Batteries served by the 2nd Missile Battalion, 62nd Artillery:**

- BU-09 - Ransom Creek/Millersport
- BU-18 - Lancaster / Milgrove
- BU-34/35 - Orchard Park
- BU-52 - Hamburg

- Nike Ajax Site (9/58 -12/60), site converted in 1959 to Nike Hercules
- Dual Nike Ajax Site (9/58 – 12/60), site was transferred to the 209th on 8/60.

**Mentioned in the newspapers:**

2nd Missile Battalion, (Nike Ajax), 62nd Artillery, which mans batteries in Millersport, Lancaster, Orchard Park and Hamburg, departed 8 November for their Short Notice Annual Proficiency (SNAP) exercise at Red Canyon, New Mexico, where Nike Ajax missiles are fired at radio controlled targets. (Sun & Erie County Independent, 13 November 1958, page 14).

Hamburg Junior Chamber of Commerce visited the Hamburg Nike Site and had supper in the mess hall. They group learned that that the supper they ate was the same meal that was served to the soldiers and the visitors proclaimed that the food is “tops” at the Nike Base. (Frontier Herald, 18 June 1959).
Unit Photographs: None available
606th AAA (Gun) Battalion, (RA):

Constituted 25 February 1943 in the Army of the United States as the 120th Coast Artillery Battalion (Antiaircraft) (Gun) and activated 2 April 1943 at Camp Haan, California. Redesignated 28 June 1943 as the 120th Antiiaircraft Artillery Gun Battalion (Mobile). Departed New York Port of Embarkation 23 December 1943 for overseas service; arrived England on 29 December 1943 and landed in France on 16 June 1944. Returned to the United States after the war and arrived Hampton Roads Port of Embarkation on 4 December 1945. The unit was inactivated 4 December 1945 at Camp Patrick Henry, Virginia. Redesignated 5 December 1949 as the 606th Antiiaircraft Artillery Gun Battalion. Allotted to the Regular Army on 5 December 1949. Activated 14 February 1953 at Lewiston, New York. It replaced the 336th AAA Battalion, NYARNG.

The Battalion was redesignated 3 August 1953 as the 606th Antiiaircraft Artillery Battalion. The 606th occupied 90mm AAA Gun batteries in Western New York at North 5th Street in Lewiston (NF-92), Wheatfield (Battery “C”), and Grand Island, (NF-30) (Battery “B”). After the 44th Antiiaircraft became a missile unit, the 606th took over the Tuscarora Reservation and the Lewiston sites, which was previously occupied by Battery “D” of the 44th. The 606th was deactivated 20 December 1957, at Niagara Falls, New York.


Unit Motto: *Ad Finem Defensor* (Defenders to the End)

Distinctive Unit Insignia: The unit distinctive insignia is the shield and motto of the coat of arms.

The colors red and yellow are for Artillery. The antiiaircraft mission of the battalion is depicted by the pierced wings. The lion, taken from the English quarter of the coat of arms of Great Britain, and the bridge, taken from the coat of arms of Pontorson, Normandy symbolize the first campaign of the organization in Europe during World War II and its distinguished valor in defense of the bridges of Normandy.


Commanding Officers:

22 May 1956 - Lieutenant Colonel Herbert R. Odom (Niagara Falls Gazette, 24 November 1957, Page 2C.)
Battery Commanders:


Mentioned in the newspapers:

Mountain Moves – Entertainment Comes to AAA Servicemen – Servicemen stationed on 24 hour alert at the various ack-ack installations in the area are in a position to say “If Mohamed can’t go to the mountain then the mountain must come to Mohamed”. The mountain in question is a mountain of talent, which Miss Dorothea Kovelas, recreation supervisor for the 1st Army District, has succeeded in arranging for the G.I.s who are unable to take advantage of the Niagara Falls USO show. “D” Battery, 606th AAA Battalion, and “A” Battery 44th AAA Battalion will be provided entertainment shows at their respective sites tonight and on Wednesday. (Niagara Falls Gazette 19 May 1953, page 12).

“B” Battery – Grand Island - Cub Scout Visit with dads who were all ex AAA veterans – The CO Accompanied the tour and witnessed the delight of the youngsters. (AA Journal Nov/Dec 1953).

Sergeant Jerry E. Shaffer is now serving at Grand Island, New York with the 606th Antiaircraft Artillery Battalion where he is a gun section leader in Battery “C”. (Mansfield Ohio News-Journal, 1 August 1954, page 17).

Soldiers Appreciate (Christmas) Cookies – Various organizations were instrumental in providing Christmas cookies for military men at the various gun sites in the area under the chairmanship of Mrs. Maurice Doyle who has conducted an active campaign as a promoter of goodwill between the citizens and the soldiers and an exchange of letters to the various organizations in appreciation of the homemade articles provided to the 606th AAA Battalion Batteries. 2nd Lieutenant Donald R. Whilloughby, commanding officer of the Headquarters Battery, Grand Island; Lieutenant Donald Pugh, commanding officer of “A” Battery, Lewiston; 2nd Lieutenant James M. Lowerre, commanding officer of “B” Battery, Grand Island; and Lieutenant James O. Gross, commanding officer of “C” Battery, Grand Island were the respondents. (Niagara Falls Gazette, 13 January 1955, page 23).

AAA Defense Units to Relocate In Preparation for Guided Missile – Fort Niagara, 4 April 1955, Due to the conversion of the 44th AAA Gun Battalion to a guided missile battalion, a number of units employed in local AAA defenses on present sites in preparation of the arrival if Nike Guided Missiles. The relocations were described in the article as follows: Battery “A” of the 44th Guided Missile Battalion commanded by 2nd Lieutenant Kenneth J. Sharp, presently located in Lewiston, moved to Fort Niagara on 4 April. Battery “B” of the 606th AAA Battalion, commanded by 2nd Lieutenant James M. Lowerre, presently on Grand Island, will move to Lewiston on or about Thursday. Sometime around 11 April, Battery “D” of the 44th, under 1st Lieutenant Jack C. Eckels, will move from its present home on the Tuscarora Indian Reservation to Grand Island. Later in the month, “B” Battery of the 44th, presently located at Fort Niagara, under the command of 2nd Lieutenant Robert W. Ficken, will move to the former site of Battery “A” of the 606th AAA Battalion. Colonel Roy Kauffman, commanding officer of the 2nd Antiaircraft Group, stated that Lieutenant Colonel John P. Mial, commanding officer of the 44th Guided Missile Battalion, Lieutenant Colonel Joseph F. Butler, commanding officer of the 606th AAA (Gun) Battalion and Captain Justin R. Ormsby, public relations officer for Fort Niagara, will be guests at the 20 April meeting of the Lewiston Community and Interclub Council in the Lewiston Town Hall, to answer any questions on how the people in the area can aid in the development of the Army’s Program. (Niagara Falls Gazette 5 April 1955).
Lieutenant Carroll McRenyolds of Corsicana, Texas is engaged to marry Miss Jean Lewis of Waco, Texas. Lieutenant McRenyolds is a Texas A&M graduate who received a commission in the U.S. Army and is now serving in Niagara Falls, New York, with the 606th AAA Battalion. (Corsicana Semi-Weekly Light, 12 September 1955, page 4).

Area Armed Forces to Hold Open House – Other open house activities in the Niagara area include Fort Niagara and the 2nd AAA Group; National Guard Armory in Niagara Falls; 606th AAA 90mm Gun Battalion batteries in Lewiston, Wheatfield and Grand Island; the New York Army National Guard’s 336th gun site on Grand Island and the 106th Battalion’s 90mm gun site in Lockport. (Niagara Falls Gazette, 18 May 1956, page 19).

2nd AAA Officer will Speak at Lewiston – Lieutenant Colonel Herbert R. Odom, commanding officer of the 606th AAA Gun Battalion, will be the speaker at the fourth of July event here sponsored by the Lewiston Junior Chamber of Commerce. (Niagara Falls Gazette, 2 July 1956, page 9).

“C” Battery – Wheatfield reported their recent accomplishments which included; that they were rated as having “the most efficient radar in the 53rd Brigade” and that compliments were extended by all inspecting officers, and the praise of the 2nd AAA Group command, as one of the best maintained sites they had visited. As part of the 606th AAA Battalion, we were rated second in the Continental U.S. Defense. (Niagara Falls Gazette, 20 February 1956, page 11).

On 23 November 1956 is was reported that the 606th AAA Battalion has gun sites at Lewiston, Wheatfield, the Tuscarora Reservation and Grand Island in operation for over a year. (NF Gazette, 23 November 1956, page 16).

Battery A of the 606th AAA Gun Battalion will spearhead the Army’s efforts at the Niagara Falls Air Force Base Armed Forces Day shows on Saturday, 18 May and Sunday 19 May. The Wheatfield Battery is preparing to transport it’s four 90mm guns, and radar with electronic control equipment, to the Air Force Base in a convoy of 14 vehicles and set up their battery there. (Niagara Falls Gazette, 11 May 1957, page 28). Sergeant First Class Marion Phillips Jr. from Anniston, Alabama, is participating in “Operation Big Shot” with the 606th AAA Battalion at a firing range near Oswego, New York. During the three week exercise which is scheduled to end 6 July, Sergeant Phillips assists members of his unit in firing 90mm guns a radio controlled targets. He is regularly assigned to the battalion’s Battery “A” on Grand Island, New York. (The Anniston Star, Anniston, Alabama, 30 June 1957).

The 606th AAA (Gun) Battalion, deployed on the Niagara Frontier since February 1953, has been scheduled for deactivation. Fort Niagara announced that the officers and men of the 606th will be reassigned to Nike Missile battalions on the Niagara Frontier. (Niagara Falls Gazette, 6 October 1957).

Lieutenant Colonel Herbert R. Odom was presented with a Certificate of Achievement in recognition of his meritorious service as Antiaircraft Battalion Commander of the 606th by Colonel Underwood, Commanding Officer of the 2nd AAA Group. (Niagara Falls Gazette, 24 November 1957).
Unit Photographs

FT. NIAGARA AAA GROUP IN ACTION—Demonstrating defensive action resulting from a hypothetical air alert, these members of the 2nd AAA Battalion, Ft. Niagara, man their positions as the big 90 mm. anti-aircraft weapon is maneuvered into position. The gun will be on display at the foot of Center St., Lewiston, as part of the July 4th fireworks show sponsored by the Lewiston Junior Chamber of Commerce.

Photo Credit: Niagara Falls Gazette, 2 July 1956, page 9
Unit Photographs

606th AAA Battalion “C” Battery (Wheatfield), 90mm M1A1 Gun Pits & Crews, 15 May 1953
Photo Credit: U.S. Army

606th AAA Battalion “C” Battery – (Wheatfield) M33 Fire Control Van, 15 May 1953
Photo Credit: U.S. Army
U.S. Army Support Center & Combined Field Maintenance Shop, (CFMS)
Niagara – Buffalo Army Air Defense

Between 1952 and 1963, the Fort Niagara served as the Headquarters of the Niagara-Buffalo Army Air Defense Mission. What would become the U.S. Army Support Center & Combined Field Maintenance Shop began as the Fort Niagara Post Ordnance Activity. The early years were focused at making the Niagara-Buffalo Defense a reality. The AAA guns and fire control systems of the 44th Antiaircraft Artillery and 606th Antiaircraft Artillery were supported by members of the Post Ordnance Activity which was a mix of U.S. Army Officers, Enlisted Men and Department of the Army Civil Servants, who operated out of a small warehouse-like building at Fort Niagara adjacent to the Base Theatre.

As the gun units became Nike Units, the technical staff were sent off to Army Schools to learn about the new equipment they would be supporting.

By 1960, the U.S. Army needed more space for the Ordnance Activity and relocated the shop to Niagara Falls. For a short time the Combined Field Maintenance Shop occupied a series of Aircraft Hangars on Walmore Road adjacent to the Former Bell Aircraft Company. Ultimately they outgrew that location and moved again, this time to the former Niagara Falls Naval Air Reserve Facility on Porter Road, adjacent to Cayuga Creek.

The U.S. Army Support Center, Niagara Falls, N.Y. was under the command of a full Colonel. Much like the Gun and Nike Sites they supported, the Army Support Center & CFMS was the subject of numerous inspections and visits by high ranking Officers of First Army and ARADCOM.

The CFMS supported the Antiaircraft Gun and Missile Sites as well as all of the Regional Army Reserve Officers Training Corps (ROTC) units. Organizationally the CFMS consisted of eight shops, three of which were devoted just to Nike Missiles; the Guided Missile Internal, Guided Missile External and Guided Missile Mechanical; an Electronics & Communication Division; a Mechanical Division; an Automotive & Allied Trades Section, a Weapons Repair Shop, and the Nuclear Weapons Support Section of eight individuals, six of who were military and two civilians, that was led by a Chief Warrant Officer 3. The Table 3-III, lists the individuals who were on the CFMS Technical Staff circa 1966-1968.
Table 3-III.
U.S. Army Support Center Niagara Falls, N.Y. Staff
Commanding Officer: Colonel Walter Downey
Logistics Manager: Lieutenant Colonel Joseph K. Westbury
Facilities Manager: W.H. Robitaille
Shop Superintendent: Carl M. Babcock

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<tr>
<th>Guided Missile - External</th>
<th>Guided Missile - Internal</th>
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<tr>
<td>Forman: Robert Majchrzak</td>
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<td>T. Hook</td>
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<td>J. Soboleski</td>
<td>J. Mac Donald</td>
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<tr>
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<td>J. Dingwall</td>
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<tr>
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<td>O. Cimino</td>
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<td>L. Lucas</td>
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Author's father, Wilfred Robitaille, on left, with an unidentified Sergeant at 606th AAA Battalion’s “C” Battery – (Wheatfield) -1954
Photo credit: Author’s personal collection

Colonel W. Downey, U.S. Army Support Center C.O.; Lieutenant. General J. Seaman, Commanding General, First Army; and authors father, Wilfred Robitaille at CFMS Tour
Photo Credit: U.S. Army
Endnotes:

1 Niagara Falls Gazette, “Main Party of Antiaircraft Group to Arrive Tomorrow”, 30 September 1952, Page 1.
9 Ibid, page 52.
14 See endnote 1 above.
15 History of ARADCOM, Volume 1, the Gun Era 1950-1955, Headquarters ARADCOM Historical Project number 5M-I, page 132.
17 Sources include: US Army Gun Site Program 1951-1959 by John McGrath; The History of ARADCOM, Volume 1, the Gun Era 1950-1955; Antiaircraft Artillery Battalions of the U.S. Army, Volumes 1&2, by James A. Sawicki and Niagara Falls Gazette articles dated 20 April 1955 (page number illegible); 20 February 1956, page 11;
18 Quonset: Metal Living for a Modern Age, available on the internet at: http://www.quonsethuts.org/huts/
21 National Archives & Records Administration, (NARA), Greenbelt, Maryland, U.S. Army Signal Corps photograph 15 May 1953
23 “Nike People Webpage” at Ed Thelans Nike webpage. The individual was Sergeant Bob Wylie of Marlton, New Jersey.
26 Niagara Falls Gazette, “17 New 90mm Guns Unveiled at 4 Sites on the Niagara Frontier”, 23 March 1957, page 15.
27 NARA, Greenbelt, Maryland, U.S. Army Signal Corps photographs: SC 46604, 682nd AAA (Gun) Battalion, California National Guard at Camp Irwin, California; and SC 417259, 90th AAA (Gun) Battalion at an unidentified firing range. 
30 NARA Greenbelt, Maryland, U.S. Army Signal Corps photograph SC 4489949, 15 May 1953.
32 See endnote 7 above.
33 War Department, Field Manual FM 4-126, Antiaircraft Artillery Field Manual, Service of the Piece, 90mm AAA Gun, M1A1 Mount, 25 October 1943.

See 26 above.


See the following articles announcing Nike will be in the Niagara-Buffalo Defense and associated land requirements: Niagara Falls Gazette, 14 Sept 1953, page 21; 19 December 1953, and 24 February 1954, page 1; Buffalo News 28 May 1955; and the Blasdel - Woodlawn Front Page, 25 June 1964, page 1.

See the following newspaper articles on “Open House” events: Niagara Falls Gazette, 23 May 1957, page 28; The Sun and Erie County Independent (Hamburg, N.Y.) 10 October 1957, page 11, 6 November 1958, page 4, and 18 June 1959, page 7.


Drawing is available on the internet at the following URL: https://sites.google.com/site/playingwithfirememoirs/Playing-With-Fire/contents/missiles-1940-1960/nike-ajax.


See 4 above.

History of the Niagara-Buffalo Defense – Addendum to a change of command ceremony booklet dated 1963.

Article on the Lockport Air Station, available on the internet at the following URL: http://www.radomes.org/museum/documents/LockportAFSarticle.jpg.


History of the Niagara-Buffalo Defense – Later version than 41 above, but not dated.


Lesson 1, Introduction to the Improved Nike Hercules Missile System, MMS 150, page 6.


Niagara Falls Gazette, 9 October 1957, page 30.


Niagara Falls Gazette, Wednesday, 11 April 1957, page 27.


Missile-threat.com/defense-systems/nike-hercules/.


Lockport Union Sun & Journal, the article was posted on the internet at the following URL: http://www.lockportjournal.com/news/local_news/article_869de85ec-bb7421d9b23f.html?tmpl=jqm.