History of the Niagara – Buffalo Army Air Defense 1952 – 1970

By

Paul Robitaille

Introduction:

This collection consists of three documents that chronicle the history of the Niagara-Buffalo Army Air Defense between 1952 and 1970. The first two documents were articles on this subject written by the author for the Fort Niagara Journal, *Fortress Niagara.* Part 1, which covered "The Gun Era", where 90mm Antiaircraft Batteries in the Niagara Region provided a limited defense against Soviet bomber attack. It appeared in Volume XVI, Number 2, of *Fortress Niagara,* issued in December 2014. Part 2, which covered "The Nike Missile Era", where more capable Nike Guided Missiles replaced the dated antiaircraft guns, appeared in Volume XVI, Number 3, which was issued in March of 2015.

The third document, titled "Niagara-Buffalo Army Air Defense Command History", examines the history from a different perspective, describing the history of the top level command structure and the antiaircraft battalions that comprised the Niagara-Buffalo Army Air Defense. Included in this document are details obtained from several veterans who served in the 1st Missile Battalion, 4th Artillery during the Nike period, and related newspaper articles that ran in the Niagara Falls Gazette, Buffalo Courier Express, Lockport Union Sun and other papers of the Niagara-Buffalo region and beyond. The intent of this document was to create a framework for veterans of the units who served in the Niagara-Buffalo Army Air Defense to have a means to share their photos and memories with fellow veterans and residents of the Niagara-Buffalo area.

Copies of this collection have been distributed to Niagara-Buffalo area libraries and historical societies, and to those contributing veterans who have contributed photographs or reminiscences for their retention and sharing with others. It is the authors hope that this document will help to bring forward a richer collection of personal recollections and photographs from this period of history. Readers who have additional material on this subject such as recollections, photographs etc, may contact the author at the following address: robitaille60@gmail.com.

Respectfully,

Paul Robitaille

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Niagara County Historical Society
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Veterans who have contributed material to this research project

Fort Niagara and the Cold War Army Air Defense of Western New York
Part 1 – The "Gun" Era

By Paul Robitaille
24 March 2015

Background:

On 30 September 1952, the Niagara Falls Gazette announced arrival of the 2nd Antiaircraft Artillery Group, U.S. Army, from Fort Devens, Massachusetts.[1] 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.[2] On 1 October, heavy M4 tractors and 90mm antiaircraft guns arrived in Niagara Falls via rail.[3] 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.[4]

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".[5]

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. 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.

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 ability to deliver an atomic bomb to Chicago or Los Angeles on a one way mission.[6]

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.[7] 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".[8] 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 an AAA based defense was from 20-60% depending on the number of guns defending a given target.[9]

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.[10]

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, Lackawana, 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.[11] 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.[12]

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.[13] The Niagara Region Army Air Defense units were organized locally under the 2nd Air Defense Artillery Group, commanded by Colonel Adam S.

Buynoski.[14] 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 were 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] Figure 1 depicts the distinctive unit insignia of these battalions.

			
44th AAA (Gun) Battalion RA	106th AAA (Gun) Battalion NYARNG	336th AAA (Gun) Battalion NYARNG	606th AAA (Gun) Battalion RA

Figure 1. Distinctive Unit Insignia (DUIs) from Niagara-Buffalo based Antiaircraft Artillery Units Illustration is courtesy of the author's collection

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 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 article 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 ago, 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 I. Cold War Army AAA Gun Sites in the Niagara Region

Site	Location	Units Assigned
Fort Niagara	Youngstown, NY	44th, Battery B
Staley Road	Grand Island, NY	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.
Specific location unknown, possibly also at Staley Road	Grand Island, NY	44th and later replaced by 606th
Lewiston Village	North 5th Street, Lewiston, NY	Battery "A" of the 44th replaced in April 1955 by Battery "B" of the 606th
Tuscarora Indian Reservation	Near the intersection of Mt. Hope and Green Roads	Battery "D" of the 44th was replaced April 1955 by Battery "A" of the 606th
Wheatfield	NE of the intersection of Walmore & Lockport Roads, near Niagara Falls Air Force Base	Battery "C" of the 606th
Fort Niagara	Youngstown, NY	HQ 2nd AAA Group & 44th

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 deployed at less than their allocated manpower.

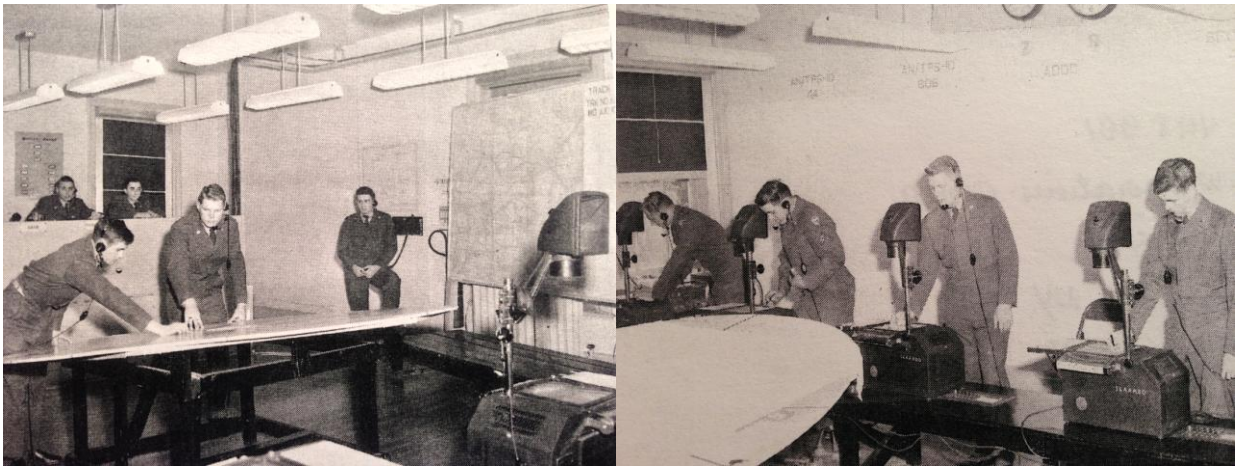
The troops were initially quartered in tents while arrangements were made to occupy several of the refurbished barracks at Fort Niagara. As the gun batteries were deployed, the crews occupied "Jamesway Huts", a wooden framework covered by insulated canvas, and in some cases, metal-shelled "Quonset Huts". 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 2 and 3, 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 2 confirms that at the time of the photo, (15 May 1953) the 2nd AAA Group had two TPS-1D search radars, one for the 44th AAA

Battalion, and one for the 606th AAA Battalion.[22] 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.[23] 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),[24] 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.[25] 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.



Figures 2 & 3. Two views of the 2nd AAA Group AAOC at Fort Niagara Army photographs dated 15 May 1953. Image courtesy of National Archives & Records Administration (NARA)

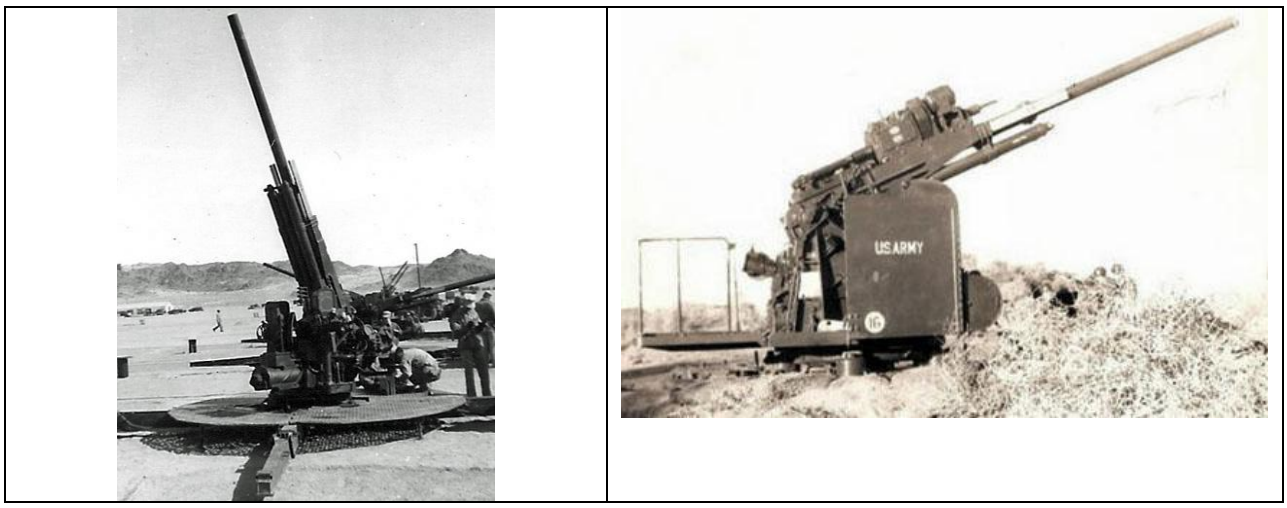
Description of a Gun Battery:

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.

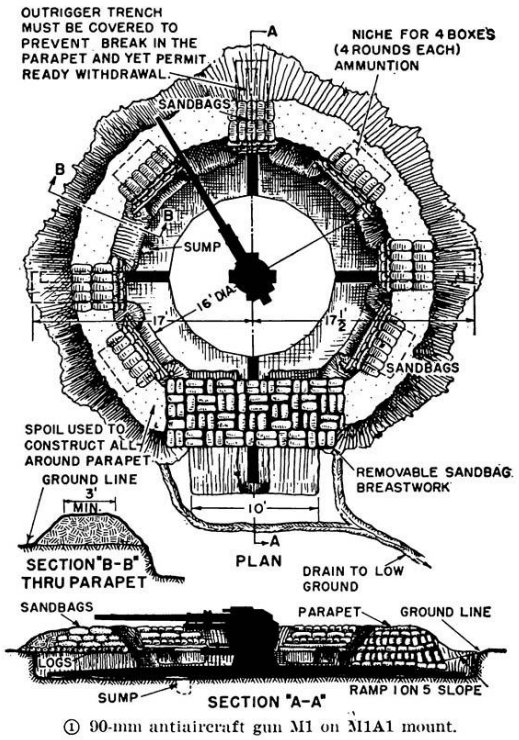
Guns - Two types of 90mm guns were used in the Niagara – Buffalo Region. Initially, the batteries were equipped with the older 90mm M1A1 gun mount, but subsequently were upgraded in 1957 with the more modern 90mm M2 mount.[26] Both guns are shown in Figures 4 and 5.[27] The M2 gun mounts differed principally in the addition of metal shields for crew protection and an automatic fuze setter-rammer.

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 6, 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 4 & 5. 90mm Antiaircraft Gun M1A1 (left) and M2 (right)
Photographs courtesy of NARA



① 90-mm antiaircraft gun M1 on M1A1 mount.

Figure 6. 90mm Antiaircraft Field Emplacement Details
Figure courtesy of War Department Field Manual 5-15, Field Fortifications, dated February 1944

Figure 7 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.[28]

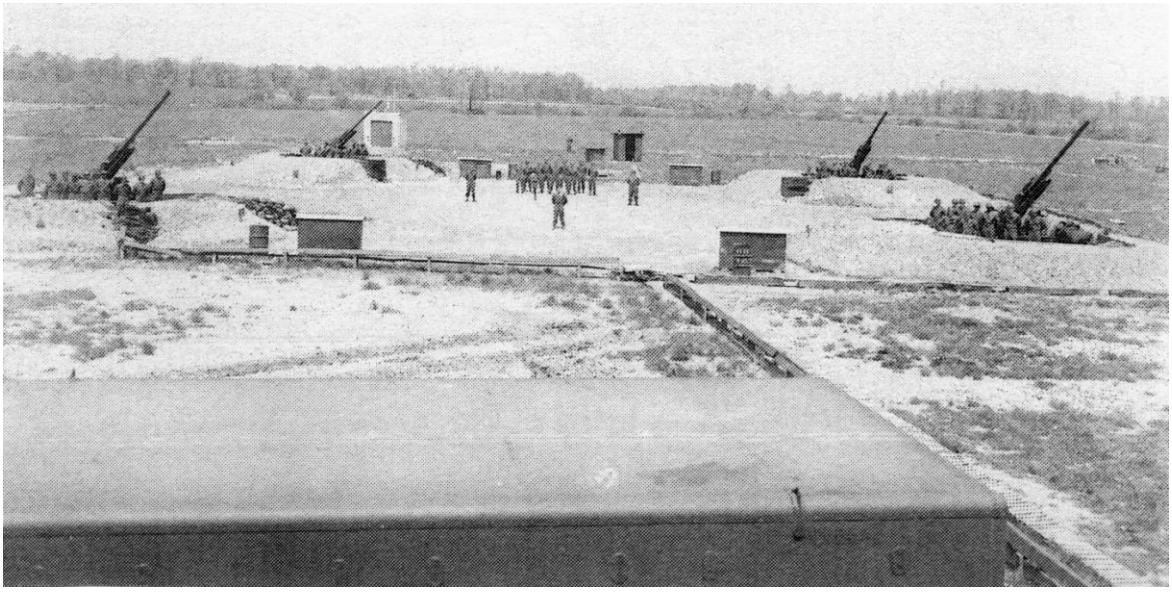


Figure 7. Wheatfield Gun Battery - 90mm M1A1 Gun
Army photograph dated 15 May 1953. Image courtesy of NARA

Ammunition - The M1A1 and M2 90mm guns both used the same ammunition. The 90mm M71round, shown in Figure 8, was classified as fixed ammunition, meaning that the cartridge case containing the seven-pound propelling powder charge and the shell were combined into a complete round. Each round weighed approximately 44 pounds and was approximately 37 inches long. High explosive (HE) shells, 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 mechanical time fuze or proximity fuze. The mechanical time fuze 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 projectile 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).[29] The "VT" fuze greatly improved the effectiveness of AA gunfire. Both types of fuze were armed when the gun was fired and 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 horizontal range was 13,000 yards.[30]

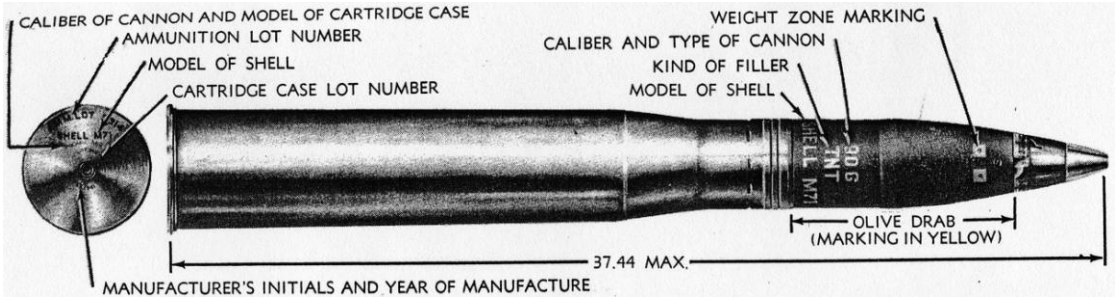


Figure 8. 90mm High Explosive Antiaircraft Round M71
Photograph courtesy of War Department Technical Manual TM-9-372, 15 November 1944

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.[31] 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.[32] 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.[33]

Unlike earlier AAFCSs, the M33 was equipped with its own acquisition radar, shown in Figure 9, 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 van by cables.[34]

Figure 10 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 be seen. The soldiers in the foreground are probably the fire control crew which manned the radar consoles in the adjacent radar trailer.[35]

Figure 9. M33 Fire Control System Acquisition Radar
Photo credit: A History of Engineering and Science in the Bell System – National Service in War and Peace (1925-1975), page 361.

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 or the Air Force AN/CPS-6B radars for long range target acquisition. A close look at the original of the AOCC illustration in Figure 2, lists TPS-1 D radar for the 44th AAA Battalion, and one for the 606th AAA Battalion on the status board behind the right most soldier. The pictures in Figure 2 and Figure 8 were both taken in May of 1953.

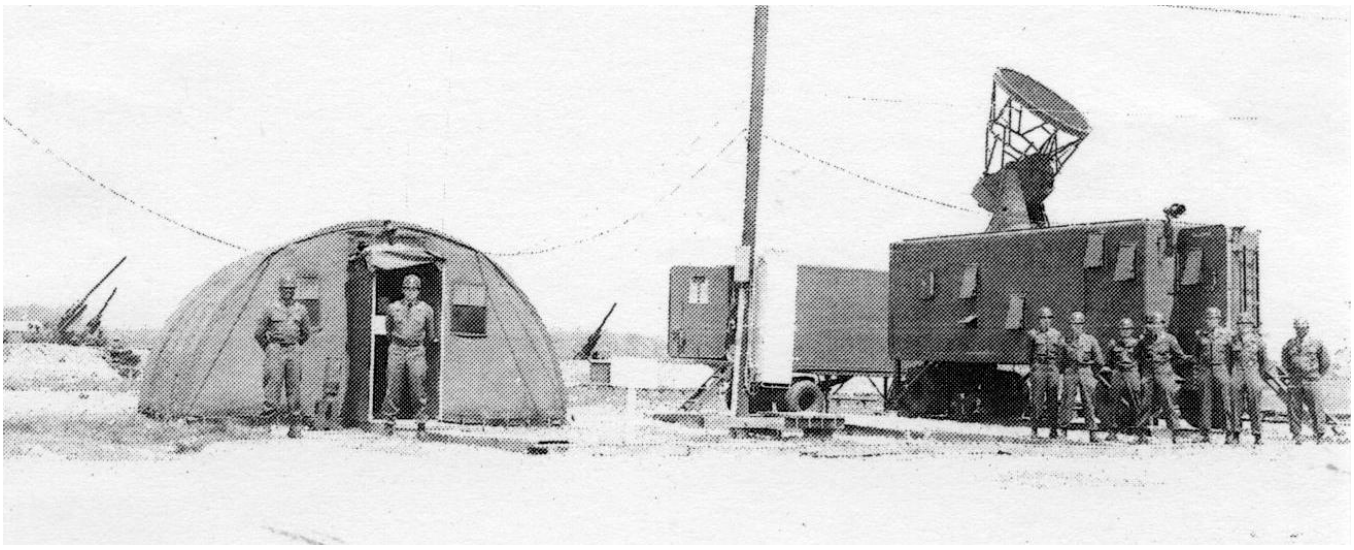


Figure 10. Wheatfield Gun Battery – AAFCS M33 Radar Trailer M242 and Crew
Army photograph dated 15 May 1953. Image courtesy of NARA

The M242 Radar Trailer served as the gun battery Command Post. As shown in Figure 11, 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.[36]

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.[37]

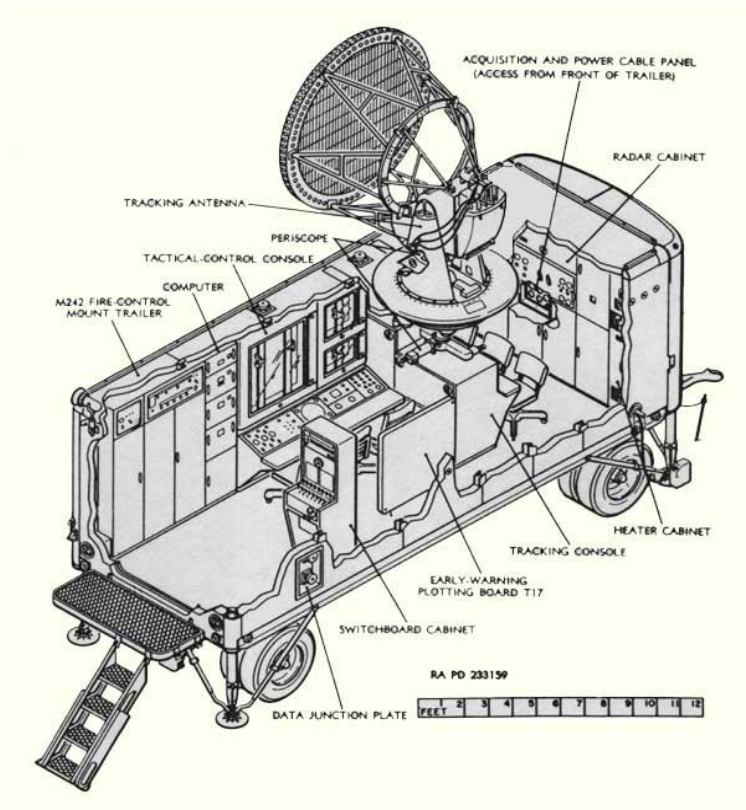


Figure 11. M242 Radar Trailer Cutaway View
Illustration credit: US Army M33 Training Manual

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 and 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.

Technical Support - The gun batteries of the Niagara – Buffalo Army Air Defense mission were supported by an Army Field Support Facility initially located at Fort Niagara, near what was then the base movie theatre. The facility later moved to an aircraft hangar on Walmore Road in Niagara Falls, near the former Bell Aircraft Facility, and eventually occupied most of the former Naval Air Reserve Station on Porter Road in Niagara Falls. The support facility was staffed by regular U.S. Army Ordnance Officers and Department of the Army Civil Service ordnance and fire control mechanics who had all been trained on the Antiaircraft Weapons System. Figure 12 shows the author's father, Wilfred Robitaille, at the Wheatfield gun site with an unknown Master Sergeant. They are in one of the gun emplacements, the 90mm M1A1 gun clearly visible behind them. At the time of the photograph, the author's father was an Army Civil Service Ordnance Mechanic who was assigned to the Combined Field Maintenance Shop and Support Center in Niagara Falls, New York.

Figure 12. Author's father at Wheatfield Gun Battery
Photograph courtesy of author's private collection

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.[38]
While 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 to the gun batteries via radio or telephone. The alert would be announced at the AAA Battery by the Battery Commandeer 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 the automatically compute 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 a 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 13 which illustrates a gun crew practicing the loading of an M2 90mm antiaircraft gun.

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 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.

Figure 13. 90mm M2 Antiaircraft Gun, protective shields forward, showing crew loading gun
Photo credit: NARA

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.[39] 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.

Part 2 of this paper will continue the story of the Cold War Army Air Defense of Western New York during the Nike Era.

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[22] NARA, Greenbelt, Maryland, US 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.
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Fort Niagara and the Cold War Army Air Defense of Western New York
Part 2 – The "Nike Missile" Era

By Paul Robitaille
25 March 2015

Background:

In Part 1 of this article, we discussed the "Gun Era" phase of the Army Air Defense of Western New York. Recall that 90mm Antiaircraft Artillery, (AAA), 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[1] and by 1956 and 1957, Soviet Long Range Aviation Squadrons began receiving Bear Bombers which had turboprop propulsion, giving them a maximum speed 510 mph and an impressive 8,000 nautical mile operational range.[2] In May of 1957 the Soviets also began flight testing of the R-7 Semyorka missile (later named "SS-6 Sapwood" by NATO).[3] It was to become the world's first Intercontinental Ballistic Missile (ICBM). The first launch of the SS-6 was in August of 1957.[4] An early variant of the Sapwood was used on 4 October 1957 to launch the first 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.[5]

In February of 1945, the Army Ordnance Corps 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 following 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.[6]

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;[7] 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 School, Fort Bliss, Texas. [8] 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.[9] The first Nike Ajax missile battery became operational December 1953 at Fort Meade, Maryland. By 1957, 244 Nike Ajax batteries in operation in the United States.[10]

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.[11] 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).[12]

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.[13] Four other sites were announced as planned for the Buffalo area; Millersport, Lancaster, Hamburg, and Orchard Park.[14] Both Hamburg and Orchard Park were also 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.[15]

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.[16] 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.[17]

1 June 1956 the 465th AAA Missile Battalion was activated at Fort Niagara.[18] 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.[19]

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.[20]

In summer of 1961, the Army Air Defense Command Post, (AADCP) relocated from Fort Niagara to the Lockport Air Force Station, (AFS), 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.

Table I lists the Nike missile sites of the Niagara-Buffalo Defense, their locations and units assigned. Figure 1 depicts the distinctive unit insignia for the Nike Missile Battalions assigned to the Niagara-Buffalo Army Air Defense.

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.[21]

Table I. Niagara – Buffalo Army Air Defense Nike Missile Batteries

Site	Location	Units Assigned	Years
Fort Niagara	Youngstown	HQ 2nd AAA Group & Manual AADCP	3/53 - 3/58
		HQ 2nd Artillery Group (Air Defense) & AADCP	3/58 - 8/61
NF-03/05	Model City (Dual Site)	44th AAA Missile Battalion, "A" Battery	3/55 - 9/58
		redesignated to: 1st Missile Battalion, 4th Artillery, "A" Battery	9/58 - 8/60
		2nd Missile Battalion, 106th Artillery, Btys "B"&"C", NYARNG	8/60 - 3/63
NF-16	Cambria (Dual Site)	44th AAA Missile Battalion, "B" Battery	6/55 – 9/58
		redesignated to 1st Missile Battalion, 4th Artillery	9/58 - 3/70
NF-41 (Formerly NF-74/75)	Grand Island (Dual Site)	44th AAA Missile Battalion, Batteries "C"&"D"	3/55 - 9/58
		redesignated to: 1st Missile Battalion, 4th Artillery	9/58 - 4/63
		2nd Missile Battalion, (Nike) 209th Artillery, NYARNG	4/63 - 3/70
NF-17	Lockport AFS Shawnee	AADCP (Initially Missile Master, became BIRDIE 9/63	8/61 - 3/70
		HQ 2nd AAA Group (Air Defense)	8/61 – 10/61
		31st Artillery Brigade (Air Defense)	10/61-
		Redesignated to 101st Artillery Group (Air Defense)	3/66 – 11/68
		18th Artillery Group (Air Defense)	11/68-3/70
BU-09	Millersport	465th Missile Battalion (Nike), Battery "A"	6/56 - 9/58
		redesignated to 2nd Missile Battalion, 62nd Artillery	9/58 -12/61
BU-18	Lancaster	465th Missile Battalion (Nike), Battery "B"	6/56 - 9/58
		Redesignated to 2nd Missile Battalion, 62nd Artillery	9/58 - 12/61
		1st Missile Battalion, 4th Artillery	12/61 - 4/63
		2nd Missile Battalion, 209th Artillery, NYARNG	4/63 - 3/70
BU-34/35	Orchard Park (Dual Site)	465th Missile Battalion (Nike), Battery "C"	11/56 - 9/58
		redesignated to Bty C, 2nd Missile Battalion, 62nd Artillery	9/58 - 8/60
		2nd Missile Battalion, 106th Artillery, Btys "A"& "D", NYARNG	8/60 - 3/63
BU-52	Hamburg (Dual Site)	465th Missile Battalion (Nike), Battery "D"	1/56 - 9/58
		redesignated to 2nd Missile Battalion, 62nd Artillery	9/58 – 12/61

Table I notes:
1. Data compiled from multiple sources[22]
2. Redesignation of these units was an Army-wide directive under the Combat Arms Regimental System in January of 1959.
3. The Niagara-Buffalo Nike Sites were supported by the Combined Field Maintenance Shop (CFMS) at the Niagara Falls, N.Y. U.S. Army Support Center. [23]
4. 2nd Missile Battalion, 106th Artillery, NYARNG was redesignated 2nd Missile Battalion, 209th Artillery (NYARNG) 1 May 1962.


44th AAA Missile Battalion

1st Missile Battalion 4th Artillery

465th Missile Battalion


2nd Missile Battalion 62nd Artillery


106th Artillery NYARNG


2nd Missile Btn 209th Artillery, NYARNG

Figure 1. Unit Distinctive Insignia of Niagara-Buffalo based Nike Batteries
Images are from Authors Collection

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)[24] was the world's first operational, surface-to-air guided missile. **Figure 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.[25] 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 wings, and four hydraulically actuated elevons (control surfaces) one at the bottom of each wing, a sustainer rocket motor, guidance section, and warheads. The sustainer rocket motor, designed by Bell Aerospace of Buffalo, New York, [26] was liquid fueled and used a nitrogen pressurization system to mix JP-4 (jet fuel) and an oxidizer; red-fuming nitric acid. It was necessary to fuel the missile before it could be launched. The missile sustainer motor ignited at booster separation.

The Nike Ajax missile contained three high-explosive fragmentation warheads, which were mounted in the nose, mid, and aft sections respectively. Guided by a series of 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 control surfaces on the aft end of the missiles wings.

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.[27]

The last operational Ajax missile site in the United States ceased operations in May 1964.[28] 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.[29] 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 and who had immense strength. Nike Hercules was also a two stage missile, but was much larger than its predecessor.[30] With a diameter of three feet, an overall length of forty-one feet and 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. As can be seen in **Figure 2,** was booster was massive when compared to the Nike Ajax.

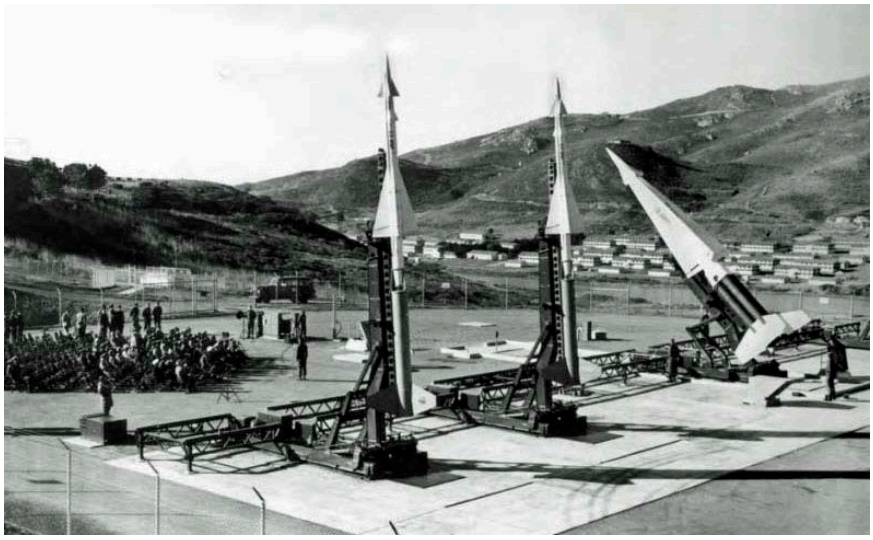

Figure 2. Two Nike Ajax and one Nike Hercules Missiles on Launchers at SF-88
Photo courtesy of U.S. Army

Unlike its predecessor, Hercules was designed with a solid fuel sustainer in the missile and 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.

Both Nike Ajax and Nike Hercules were guided to target intercept by a ground-based fire control system which used command guidance.

A Typical Nike Missile Battery:

A typical battery required approximately 48 acres of land.[31] 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.[32] 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.[33]

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.[34] 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 Launch Area, (LA) the Integrated Fire Control Facility, (ICF), and the Administration Area. The LA and the ICF typically separated by 1,000 – 6,000 yards, had to be within line-of-sight of each other.[35] 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.

Launching Area – 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 zone with an additional fenced perimeter, and full-time security patrol consisting of an armed sentry and guard dog. The dogs were specially trained to be aggressive, see **Figure 3** below.

Figure 3. Exclusion Area Armed Sentry and Guard Dog
Photo courtesy of Nike Historical Society

The principal structure in the Launching Area 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 4**, is sometimes erroneously referred to as a silo, which it is not. 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 or Launcher-Loader. Above ground there were additional launchers and racks, the quantity being dependent on site configuration, single or dual.

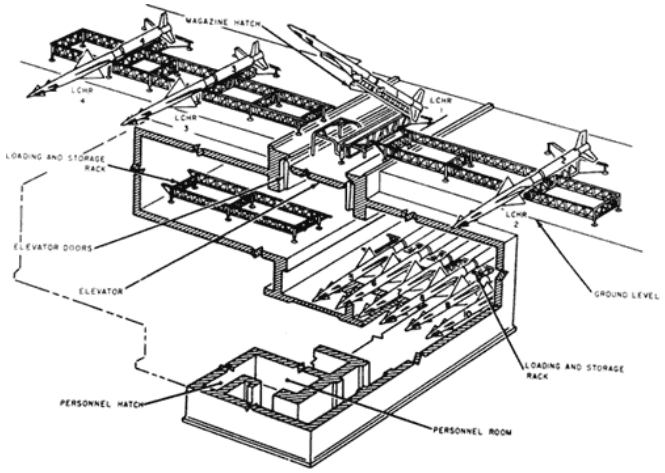

Figure 4. A typical Nike Underground Storage Magazine – Depicting Nike Ajax Missiles
Drawing courtesy of "Playing with Fire"[36]

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. It was the largest magazine.[37] 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 Launch Area included the Missile Test & Assembly Building; Acid Fueling Station & Acid Storage Shed (these were unique to Nike Ajax); Generator Building; Warheading Building (not at all sites); the Ready Building and the Launcher Control Trailer (LCT). Each structure is briefly described in the following paragraphs.

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

The liquid fueling operation for Nike Ajax was conducted outdoors at the Acid Fueling Station. This area had a concrete pad that was encircled by an eight foot high earth berm. **Figure 5** shows Nike Ajax missile being fueled, note that the crewmen are wearing protective suits due to the toxicity of the fuel and oxidizer. Once fueling was completed, the solid fueled booster was mated with the missile. Nearby the fueling station was a shower in case of accidental exposure to hazardous chemicals.

Figure 5. Nike Ajax Missile Fueling
Photo courtesy of http://ed-thelen.org/NikeMetznerAjaxUDMH-1-.jpg

The final step in missile assembly was connecting the warheads to the safe & arming subsystem, which was also done in the Acid Fueling Station. Nike Ajax had three warheads and two arming devices. The warheads and arming devices were connected to the safe–arm devices by detonating cord. Nike Hercules had a single warhead either a conventional "blast-fragmentation type or a nuclear. The warheads were installed during missile assembly and test.

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 switching gear and provided the Launch Area with either commercial or generator provided 60 Hertz (Hz) power. Most of the Nike ground equipment used 400 Hz power which was provided by 400Hz Frequency Converters which converted the 60Hz power to 400Hz power. There one converter for each magazine. 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 lieu of the Ready Building, a few of the Launch Areas 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.

Battery Control / Integrated Fire Control (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. In addition to the Nike weapon System equipment, the IFC frequently also accommodated the administration offices for the missile battery. The following subsections will describe each major component located at the IFC illustrated in **Figure 6 (Left)**.

Author's note: It was not possible to find a good image of an ICF using the BCT and RCT out in the open. Figure 7 depicts a special ICF configuration using buildings to accommodate the BCT and RCT. The building provided Nuclear-Biological and Chemical, (NBC), protection for the crew and included a bomb shelter. This site also has towers for the radars. The ICF radar dome can be seen in the distance in the upper part of the Launch Area photo on the right. Six above ground Nike Launchers (three dark rectangles per row) are visible in the Launch Area Exclusion Zone. The two elevators appear as two 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 earthwork to the left of the fenced exclusion zone.

Figure 6. Aerial view of the ICF Area (Left) and the Launch Area (right) at Nike Site W-25, Davidsonville, MD
Photographs courtesy of U.S. Army; SC549XXX (Left) & SC 549340 (Right)

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, nearly 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.

Low-Power Acquisition Radar (LOPAR) - The LOPAR 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 pictorial image of a potential enemy target coming within range of

the Nike installation. The battery commander, through Identification Friend or Foe, (IFF), electronic interrogation, could determine whether the target was "friend or foe." Generally, Nike radars were mounted directly onto concrete pads. In some cases, because of visual obstructions between the ICF and the Launch Area, 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. The LOPAR radar is visible at the lower center of **Figure 6 (Left).**

High-Power Acquisition Radar (HIPAR) - This radar, which was installed at Nike Missile batteries, equipped with Improved Nike Hercules missiles. The HIPAR was capable of locating targets at much higher altitudes and longer ranges than the LOPAR, and was better suited to exploit Nike Hercules maximum ceiling and range. Since a high-speed plane or ballistic missile may not have been detected until it entered the antenna beam, high-altitude coverage was necessary to give adequate reaction time to allow for an intercept at a safe distance. As shown in **Figure 6 (Left)** HIPARs were often located on a support and tripod structure, often as high as 50 feet. A dome-shaped cover, known as a radome, surrounded the radar antenna. The HIPAR is located in the large white dome at the upper center of **Figure 6 (Left).**

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

TTR - The TTR tracked the enemy aircraft's 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 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 was very similar in appearance and operation 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 Launcher Control Trailer. This allowed for continuous monitoring of the beacon's signal strength and the receiver sensitivity of the MTR. The minimum separation distance from the IFC to the Launch Area was 600 yards. This was due to the elevation slew rate of the MTR antenna. The separation distance reduced slew rate needed to keep the MTR antenna aligned with the accelerating missile at launch.

The TTR, TRR and MTRs are smaller the white radomes at the lower left and right of **Figure 6 (Left).**

Generator Building - The generator building housed diesel-driven generators for power to operate the ICF during alert periods or when commercial power was not available. Like the Generator Building at the Launch Area, it also contained 60-400Hz power converters

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 6 (Left)**.

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.[38]

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 mechanized 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 there were 16 or less Nike Batteries to coordinate.[39]

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 mid 1960 thereby completing the electronic integration of the Niagara-Buffalo Army Air Defense batteries with SAGE System.[40] 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 Army Air Defense Command Post, (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.[41] 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.[42]

Typical Surface to Air Engagement of a Hostile Track:

Figure 7 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 meaning "Attack by hostile aircraft or air breathing missile is either imminent or in progress" (Red) or if "probable", then (Yellow). Additional weapons control instructions would be provided; including target assignment, target information, Hold Fire, Cease Fire and Cease Engagement.[43] Target information would be plotted on the Early Warning Plotting Board in the BCT by the Plotting Board Operator. The HIPAR and LOPAR radar operators would be given target coordinates and 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.

When the target reached the maximum range of the Target Tracking and Target Ranging Radars, the targets current position would be provided electronically to the tracking radar operators. Once the TTR and TRR acquired and commence tracking the target, the target position would be provided to the computer. The TTR and TRR provided continuous target position data (azimuth, elevation and range) to the computer system which in turn continuously calculated a predicted target intercept point. Once the computer generated an intercept point, it notified the Battery Control Officer. A missile would be assigned and the MTR locks on to the missile's coded beacon. 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.[44]

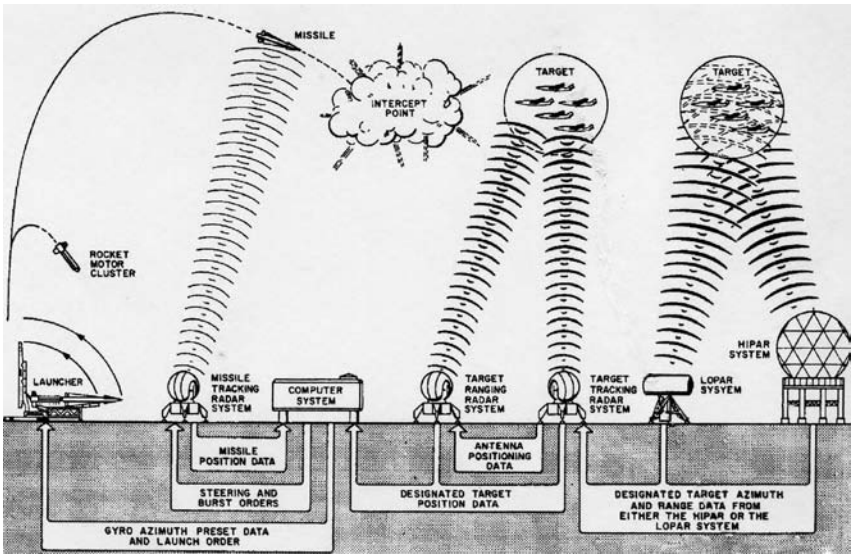

Figure 7. Nike Hercules Surface to Air Firing Mission[45]

The computer also supplies target data to the Battery Control Officers plotting boards which is used as a means of determining the optimum time to launch the missile.

At launch, the missile booster provides a 3.4 second burn accelerating the missile towards the target. During booster burn, the warhead circuits in the missile are armed. At motor burn out, which occurred at approximately 4,000 feet, the booster, being less aerodynamic than the missile, separates from the missile and falls to the ground. At booster separation, an arming lanyard is pulled, which activates two thermal batteries in the missile igniting the missile sustainer motor. The missile continues its flight and completes the pre-launch initial turn command which was previously downloaded to the missile prior to launch. The missile continues to climb, turning towards the target, and performs 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 computer would start sending steering commands to the missile. This allowed the missile to complete its initial turn command. The computer continually computes the target intercept point and sends steering orders to the missile via the MTR. The missile is guided to a point above, and in front, of the target. At the predetermined time the computer sends the missile a burst order causing the missile warhead to detonate, at the optimal time thereby destroying 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. 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.[46] 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-14) and Lancaster (BU-14) Nike Sites.[47]

According to records, the 209th had a very good performance record, passing all annual Short Notice Annual Inspections (SNAPS) and Operational Readiness Inspections. 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.[48] 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.[49]

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.[50] **Figure 8** 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 picture caption in the upper left hand corner.

Figure 8. 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 Service 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 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.[51] **Figure 9** shows some of the crew from Nike Site NF-16, the Cambria Battery in Niagara County, at McGregor Range for a SNAP in November 1964.

On the serious side, life on the battery was not without its dangers. A list has been assembled by veterans of the Nike era and can be seen at the Nike Historical Societies website where the reader can learn more about the both the hazards, and the lighter side of serving at a Nike Missile Site in the Cold War. The link is as follows: http://nikemissile.org/.

Figure 9. Soldiers from the 1st Missile Battalion, 4th Artillery, (NF-16) Cambria Site At McGregor Range, Fort Bliss, Texas, for SNAP Exercise Photograph courtesy of Dave Taber, who is standing on extreme right

Deactivation of the Niagara-Buffalo Defense Nike Sites:

With the launch of the first Soviet 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. The Army demonstrated that Nike Hercules had a limited anti ballistic missile capability in 1960 was 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.[52] 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, were not nuclear re-entry vehicles from an ICBM and facing money and manpower shortages, 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.[53] 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 a 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 Launch 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.[54] Occasionally a Nike Missile Site comes up for sale. A recent example can be seen at the following URL: http://www.landandfarm.com/property/US_Air_Force_Nike_Base-250019/. The previous hyperlink shows Nike Site NF-03/05 at Model City, it was not a USAF Nike Site. If you go to the listing and look at the aerial view, you can see where the launchers were. As is true with many historic landmarks, they don't last forever.

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 all the actual equipment first hand. Visit the following website to learn more: http://nikemissile.org/site_sf88.shtml. Travel advisor visitor comments on SF-88 can be read at: 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 want to watch the following movie: https://www.youtube.com/watch?v=wUwwNsNlm7A.

Acknowledgements:

I would like to express my sincere thanks to the following individuals for their help with Parts 1 and 2 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 Carlin, Ezio Nurisio, Ron Parshall, Allen Steinfeld, and Dave Taber*, all Nike veterans who served with the 1st Missile Battalion, 4th Artillery at the Cambria Nike Site and provided comments, photographs and memories of duty in the Niagara-Buffalo Army Air Defense; *Ellis Delahoy*, for his reminiscences 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, NY, for her help in obtaining photographs; 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.

Should the reader of this article have any corrections to add; wish to provide more information on the subject; especially veterans who may have served in Niagara-Buffalo Defense and have interesting stories to share; I would like very much like to hear from you. Of particular interest are photos of the Niagara-Buffalo Army Air Defense Sites, (1952-1970), when they were operational. These, and the records of which AAA Gun Battalions occupied specific sites in the Niagara-Buffalo Army Air Defense, both of which have proven hard to find. Your help on these items would be most appreciated. Please feel free to contact me at robitaille60@gmail.com. Thank you!

Endnotes:

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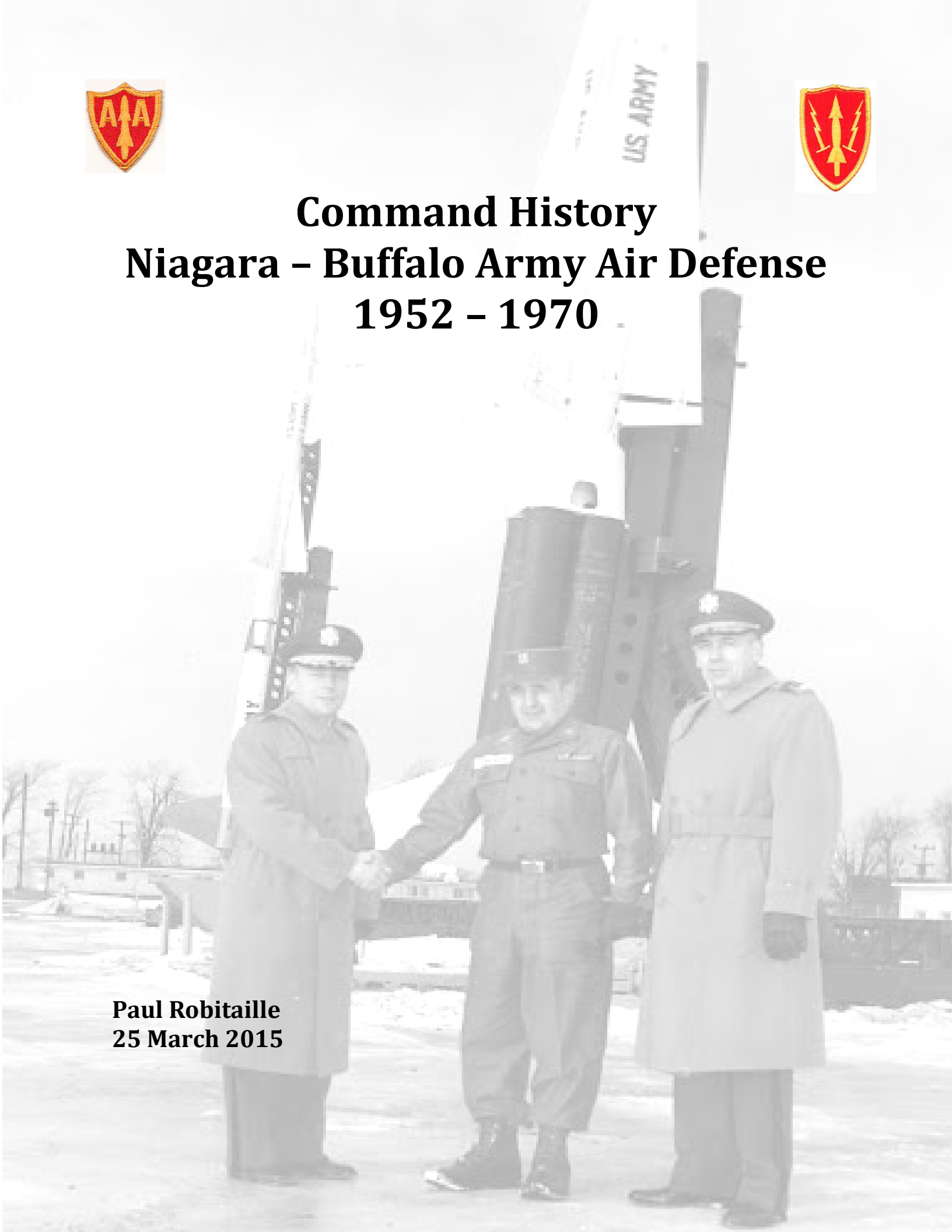

Command History
Niagara – Buffalo Army Air Defense
1952 – 1970

Paul Robitaille
25 March 2015

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Foreword

This document is different view of the history of the Niagara-Buffalo Army Air Defense which focuses on the history of the units that made up the Niagara-Buffalo Army Air Defense and the reminiscences of those who served in those units.

There is relatively little by way of official Army records be they text or photographs that is specific to the Niagara-Buffalo Army Air Defense mission 1952-1970. I can say this because I have searched for these artifacts for years. There are related on-line websites and books that discuss the systems that were used and even a reasonable amount of official documents formerly classified, now declassified that help to build the context of this history, but very little on the Command itself and the units that comprised the command. Fortunately I was able to connect with several of the surviving veterans of the 1st Missile Battalion, 4th Artillery: John Carlin, Ezio F. Nurisio, Ron Parshall, Allen Steinfeld, and David Taber. These veterans were kind enough to read this document and the related two articles in this folio (Part 1 – The Gun Era, and Part 2 - The Nike Missile Era) and share their knowledge on the technical aspects of the hardware, personal photos of the sites, and personal reminiscences of various events at the Cambria Nike Site with me. I am very grateful for their inputs because it helps to bring history to life. Another veteran of Army service from the "Gun Era", Ellis Delahoy, who was a M33 Antiaircraft Fire Control System Technician, was generous enough to share his memories of working on this equipment which was discussed in the "The Gun Era" article. While he was stationed at Aberdeen, Maryland, at the base adjoining the Proving Ground, while he worked on these systems, they were exactly the same equipment that was used by the troops at the Niagara Region Antiaircraft Artillery sites. It is my hope that additional veterans of the Niagara-Buffalo Army Air Defense will also find this history of interest and will be willing to share their comments, memories and photos to enrich the story I have just scratched the surface of. Additional comments or inputs, especially photographs of the sites or significant events, are most welcome. As you will see when reading this document, there is plenty of room for expansion!

This history is dedicated to my father, now passed, and the veterans who served in the Niagara-Buffalo Army Air Defense. He was a WW2 and Korean War Navy Veteran who continued his service to our Country for 20 additional years as a Department of the Army Civil Servant. Beginning his Army service at Camp Edwards, Massachusetts, Dad was able to find a position with the 2nd Antiaircraft Artillery Group which was just getting ready to move to the Niagara Region. We moved to the Niagara Frontier in 1952 where Dad supported the AAA gun and later, the Nike Missile batteries of the Niagara - Buffalo Army Air Defense from their inception through to their eventual retirement in 1970. Following their lead, that's when Dad retired as well. I wish he and I could have worked on this history together, but unfortunately his contribution was limited to the personal papers he saved and when he passed, they were given to me.

As a fellow veteran (1968-1976) of the Cold War era myself, I salute you and thank you for your service.

Paul Robitaille
robitaille60@gmail.com

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 is focused 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. The specific locations of the gun sites were not well recorded, and by 1953/54 the two original Regular Army RA AAA units, the 44th Antiaircraft Artillery Battalion and the 606th Antiaircraft Artillery Battalion, both 90mm gun Battalions, manned sites at Fort Niagara, Lewiston, the Tuscarora Indian Reservation, Wheatfield, Niagara Falls, and Grand Island. By 1955 NYARNG AAA (Gun) Battalions were added. In 1956, the 465th Antiaircraft Missile Battalion joined the command.

As the NYARNG, were maintained by the State Government, 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 I below lists the known AAA gun sites and which units manned them. As previously explained, the information on these is quite likely incomplete and dates may not be totally accurate.

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 Battalion converted to a Nike Missile Battalion in 1955 and was the first Battalion to take command of newly constructed guided missile sites in 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 would also take command of newly constructed Nike Ajax sites in Millersport, Lancaster, Orchard Park and Hamburg.

In 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 Gun AAA mission. The 606th AAA Battalion, RA, was deactivated in Niagara Falls in December, and NYARNG AAA Gun units began to 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 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 had been manned by the 1st Missile Battalion, 4th Artillery, RA, and 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.

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.

Below is Figure 1, which 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 lists the gun and missile sites and describes which units were assigned to the site.

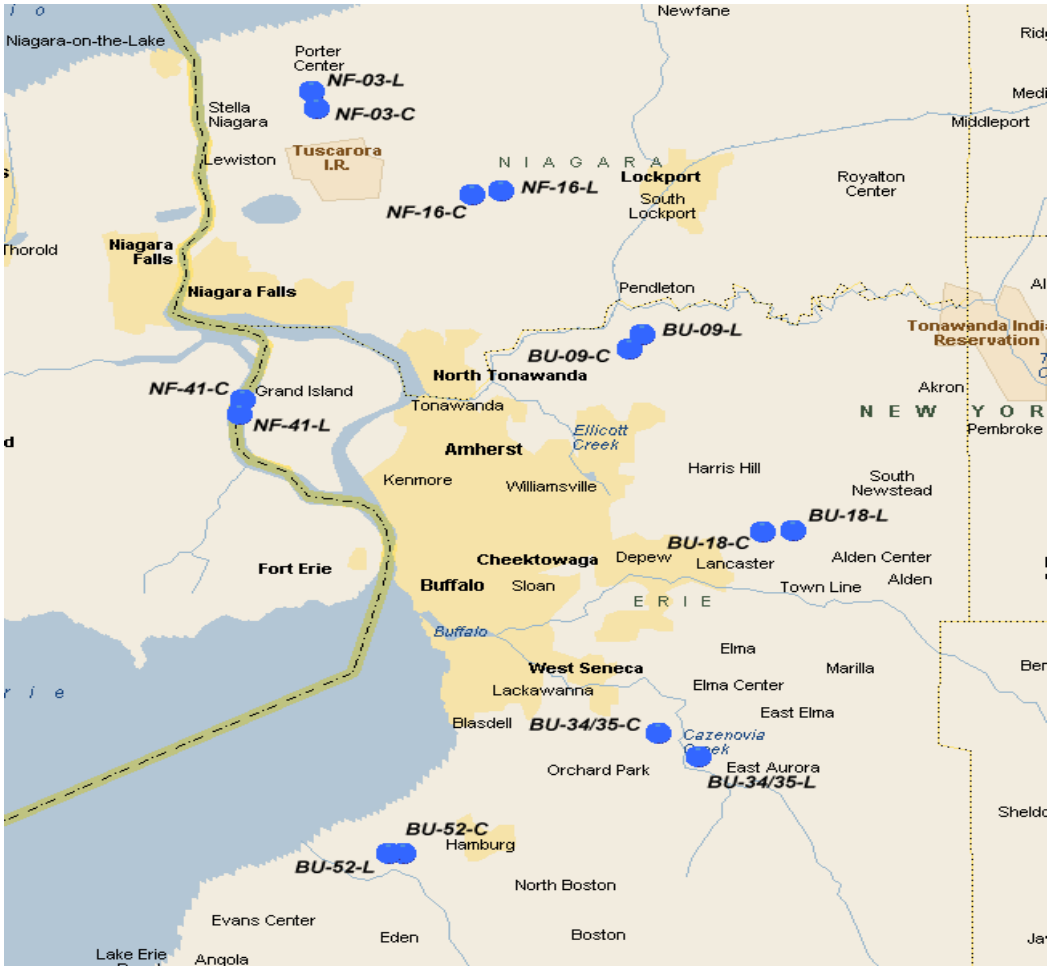

Figure 1. Locations of Niagara-Buffalo Nike Missile Sites

Table I. Niagara –Buffalo AAA Gun & Nike Missile Sites

Site	Location	AAA Gun Units Assigned	Years at Site
	Fort Niagara	44th AAA (Gun) Battalion, Battery B	1952 to 1955
	North 5th Street Lewiston	44th AAA (Gun) Battalion, Battery A	1953 to 1955
		606th AAA (Gun) Battalion, Batteries A & C	1955 to 1957
	64th Street Niagara Falls	44th AAA (Gun) Battalion, Battery C Temporary Site	1953 to 1954
	Tuscarora Indian Reservation	44th AAA (Gun) Battalion, Battery D	1953 to 1955
		606th AAA (Gun) Battalion, Battery A	1955 to 1957
	Wheatfield	606th AAA (Gun) Battalion, Battery C	1953 to -1955
		106th AAA (Gun) Battalion, NYARNG	1956 to 1957
	Grand Island Staley Road	606th AAA (Gun) Battalion; Headquarters, B and C Batteries	1953 to 1955
		106th AAA (Gun) Battalion NYARNG	9/1956-?
	Location	**AAA Nike Units Assigned**	
Fort Niagara	Youngstown	HQ 2nd AAA Group & Manual AADCP	3/53 - 3/58
		HQ 2nd Artillery Group (Air Defense) & AADCP	3/58 - 8/61
NF-03/05	Model City (Dual Site)	44th AAA Missile Battalion, A Battery	3/55 - 9/58
		redesignated to: 1st Missile Battalion, 4th Artillery, A Battery	9/58 - 8/60
		2nd Missile Battalion, 106th Artillery, Btys B&C, NYARNG	8/60 - 3/63
NF-16	Cambria (Dual Site)	44th AAA Missile Battalion, B Battery	6/55 – 9/58
		redesignated to 1st Missile Battalion, 4th Artillery	9/58 - 3/70
NF-41 (Formerly NF-74/75)	Grand Island (Dual Site)	44th AAA Missile Battalion, Batteries C&D	3/55 - 9/58
		redesignated to: 1st Missile Battalion, 4th Artillery	9/58 - 4/63
		2nd Missile Battalion, (Nike) 209th Artillery, NYARNG	4/63 - 3/70
NF-17	Lockport AFS Shawnee	AADCP (Initially Missile Master, became BIRDIE 9/63	8/61 - 3/70
		HQ 2nd AAA Group (Air Defense)	8/61 – 10/61
		Redesignated 31st Artillery Brigade (Air Defense)	10/61-3/66
		Redesignated to HQ 101st Artillery Group (Air Defense)	3/66-11/68
		Redesignated to 18th Artillery Group (Air Defense)	11/68-3/70
BU-09	Millersport	465th Missile Battalion (Nike), Battery A	6/56 - 9/58
		redesignated to 2nd Missile Battalion, 62nd Artillery	9/58 -12/61
BU-18	Lancaster	465th Missile Battalion (Nike), Battery B	6/56 - 9/58
		Redesignated to 2nd Missile Battalion, 62nd Artillery	9/58 - 12/61
		1st Missile Battalion, 4th Artillery	12/61 - 4/63
		2nd Missile Battalion, 209th Artillery, NYARNG	4/63 - 3/70
BU-34/35	Orchard Park (Dual Site)	465th Missile Battalion (Nike), Battery C	11/56 - 9/58
		redesignated to Bty C, 2nd Missile Battalion, 62nd Artillery	9/58 - 8/60
		2nd Missile Battalion, 106th Artillery, Btys A&D, NYARNG	8/60 - 3/63
BU-52	Hamburg (Dual Site)	465th Missile Battalion (Nike), Battery D	1/56 - 9/58
		redesignated to 2nd Missile Battalion, 62nd Artillery	9/58 – 12/61

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 as follows: US Army AAA Gun Site Program; 1951-1959; 2nd AAA Group History, prepared by the 2nd Artillery Group; (date and authors 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. 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 articles cite "Fort Niagara" as the source of the information in the article and the articles were written at the time the event occurred. The Nike sites were, by comparison, permanent, and left some artifact structures behind. Also, the units that manned these sites were more accurately recorded. By comparison, the AAA Gun sites were temporary, the units moved around several times, and records providing an accounting of which unit was present for what period of time have been lost to history.

Acronyms:

AAA	Antiaircraft Artillery, (applicable to both guns and missiles)
AAOC	Antiaircraft Operations Center
AADCP	Army Air Defense Command Post
ARADCOM	Army Air Defense Command
BIRDIE	Battery Integration and Radar Display Equipment (Smaller capacity Missile Master like system)
CA	Coast Artillery
CAC	Coast Artillery Corps
CARS	Combat Arms Regimental System
CO	Commanding Officer
DI	Distinctive Insignia, (sometimes referred to as Distinctive Unit Insignia, DUI).
HIPAR	High Power Acquisition Radar
LOPAR	Low Power Acquisition Radar
NORAD	North American Air Defense Command
NYARNG	New York Army National Guard
RA	Regular Army (not Army Reserve or National Guard)
SNAP	Short Notice Annual Practice (A specific demonstration of readiness for ARADCOM Nike units)

Major References:

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.

James Sawicki – "Antiaircraft Artillery Battalions of the U.S. Army", Volumes 1 & 2, Wyvern Publications, 1991.

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..
Various articles and photographs obtained from the archives of Niagara-Buffalo region newspapers which are cited in each use.

Correspondence with John Carlin, Ezio Nurisio, Ron Parshall, and David Taber, all 1st Missile Battalion (Nike), 4th Artillery, RA veterans and Allen Steinfeld, who served in the 44th Antiaircraft Battalion and its successor the 1st Missile Battalion, 4th Artillery.

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.

Army Lineage Series, Air Defense Artillery, Center for Military History, U.S. Army, Washington, D.C. 1 December 1983.

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.

2nd Antiaircraft Artillery Group, RA:

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, 2nd Battalion, 2nd Coast Artillery, reconstituted in the Regular Army and redesignated as Headquarters and Headquarters Battery, 12th Antiaircraft Artillery Battalion; concurrently Batteries "B", "C", "D" and "E", Harbor Defenses of Chesapeake Bay (formerly Batteries "E", "F", "G" and "H", 2nd Coast Artillery), redesignated as Batteries "A", "B", "C", and "D" 12th Antiaircraft Artillery Battalion, respectively; battalion concurrently consolidated with the 136th Antiaircraft Artillery Gun Battalion, and consolidated unit designated as the 12th Antiaircraft Artillery Battalion.

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 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 resdesignated 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, (NORADs), 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].

Motto: There is no known motto.

Distinctive Insignia: There is no known distinctive insignia.

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

10 June 1951 -	Colonel Charles G. Patterson	(NF Gazette, 27 February 1953, page 28).
8 August 1952 -	Colonel Adam S. Buynoski	(NF Gazette, Sept 30, 1952, page 1).
4 August 1953 -	Colonel Maurice P. Shaver	(AA Journal, Nov/Dec 1953).
8 July 1954 -	Colonel Thomas H. Harvey	(Niagara Falls Gazette, 8 July 1954, page 28).
26 Nov 1954 -	Colonel Roy K. Kauffman	(Buffalo News, 26 November 1954).
30 July 1955 -	Colonel William H. Bach	(Niagara Falls Gazette, 19 July 1955, page 9 & 20 August 1956).
29 August 1956 -	Colonel Francis K. Newcomer, Jr.	(Niagara Falls Gazette, 23 March 1957, page 15).
August 1957 -	Colonel G. V. Underwood Jr.	(Niagara Falls Gazette, 16 July 1968, page 11).
December 1958 -	Colonel Michael J. Krisman	(Tonawanda News, 8 July 1960, page 5).
11 July 1960 -	Colonel Lincoln A. Simon	(The Niagara Falls Gazette, 20 June 1962, page 23).

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).

(Authors 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 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 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 Missile 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 resignated 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 is designed to prepare 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

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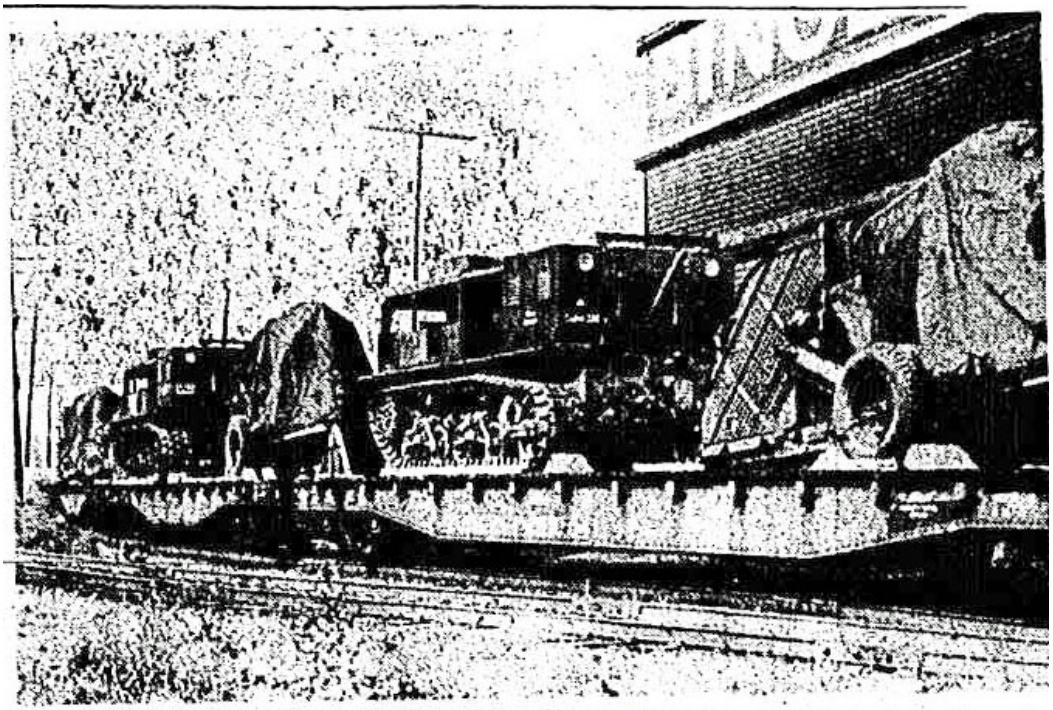
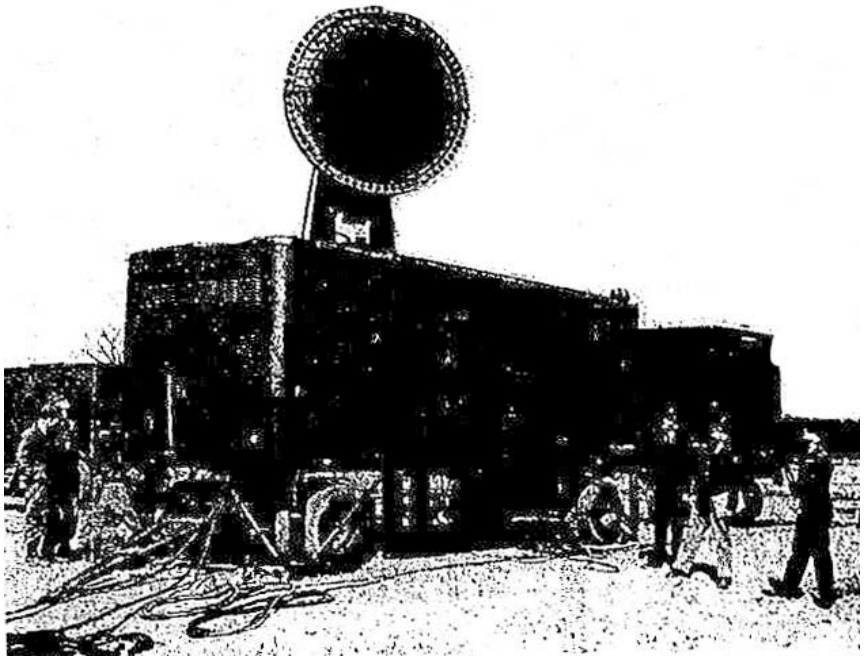


ANTI-AIRCRAFT EQUIPMENT ARRIVES HERE—Huge tractors and gun carriages to be used by anti-aircraft artillery personnel in defense of the Niagara Frontier arrived by train yesterday. The equipment will be used by units of the 2nd AAA group, stationed around the city. Advance parties have been setting up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

Gazette Photo—Crogan

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

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

U.S. Army Decommissioning of 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:

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 24hours 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, with 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 with no firing action.

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].

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, Pennsylvania.

Authors note: Missile Master, designated as (AN/FSG-1), was an electronic fire distribution system. They 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.

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 "A" 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.

In September 1963 the more compact 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:

Image was obtained on the internet at:.
http://en.wikipedia.org/wiki/31st_Air_Defense_Artillery_Brigade_(United_States)

31st Artillery Brigade (Air Defense) Commanding Officers:

15 December 1961 - Colonel Lincoln A. Simon (Niagara Falls Gazette, 11 July 1960).
9 July 1962 - Colonel Thomas A. Rodgers (The Niagara Falls Gazette, 20 June 1962, page 25).
June 1963 Colonel Paul A. Harmon (The Niagara Falls Gazette, 16 September 1963).
September 1963 - Colonel Donald K. Stevens (Buffalo Courier-Express, 24 January 1965, page 6A).
29 January 1965 - Colonel William F. Roton (Niagara Falls Gazette, 30 January 1965, page 9).

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. Klespis. (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).

Colonel Donald K. Stevens came to the 31st Artillery Brigade (Air Defense) in September 1963 and departed 31 January 1965. (Buffalo Courier Express, 14 January 1965, page 13).

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:

101st Artillery Group (Air Defense), RA:

In March 1966 the Niagara-Buffalo Defense 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; Battery B retained its former designation, (1st Battalion, (Hercules) 4th Artillery, RA,) and manned the Cambria Nike Hercules Site, and was attached to the Group. Also included in the Group were 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:
30 March 1966 - Colonel William F. Roton (Niagara Falls Gazette, 30 March 1966, page 40).
30 October 1967- Colonel David R. Lyon, (Niagara Falls Gazette, 30 October 1967, page 5).
Acting C.O. Lieutenant Colonel Ulysses X. White (Lawton Constitution, 17 April 1967, page 16).
19 July 1968 - Colonel Oliver B. Street III (Lockport Union Sun & Journal, 20 July, page 13).

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 outside of Lockport Air Force Station, Circa 1967

HQ Building 101st Artillery Group (Air Defense)

Lockport Air Force Station Search Radars

Photo Credits: Lockport Air Force Station Webpage

18th Artillery Group, (Air Defense), RA:

Authors note: On 15 November 1968, the Niagara – Buffalo Army Air Defense was once again redsignated, this time as the 18th Artillery Group (Air Defense). To date the author has not found any newspaper articles or official announcements that provide specific details about this change of command.

Commanding Officers:

19 July 1969 - Colonel I. J. Irvin Jr. assumes command of 18th Artillery Group, (Air Defense). (Niagara Falls Gazette, 18 December 1969, page 26).

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 were scheduled for 31 March 1970. (Union Sun Journal, 19 December 1969, page 1).

The Pentagon Confirms 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:

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 13 February 1901 as 44th Company; Coast Artillery, Artillery Corps; redesignated 2 February 1907 as 44th Company, Coast Artillery Corps; redesignated 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

Photograph from the author's collection

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:
5 November 1953 – Lieutenant Colonel Thomas C. Murray (AA Journal Nov/Dec 1953, page 36).
11 September 1954 – Lieutenant Colonel John J. Mial (Niagara Falls Gazette 11 September 1954, page 10).
4 January 1956 – Lieutenant Colonel Robert L. Brooks (Niagara Falls Gazette 4 January 1956).
18 November, 1957 – Lieutenant Colonel Tom D. Collison (Niagara Falls Gazette 18 November 1957, page 3).

Gun Battery Commanders:
Battery "A" – 1955 – 2nd Lieutenant Kenneth J. Sharp (Niagara Falls Gazette, 5 April 1955).
Battery "B" – 1955 - Captain Thomas J. McLaughlin (Allen Stein 44th AAA Btn Veteran).
Battery "C" – 1954 - Captain Gerald P. Wolfe (Niagara Falls Gazette, 11 September 1954, page 10).
Battery "D" –1953 - Captain Loren O. Bishop (Niagara Falls Gazette, 16 February 1953, page 13).
Battery "D" – 1955 – 1st Lieutenant Jack C. Eckels (Niagara Falls Gazette, 5 April 1955).

Missile Battery Commanders
Battery "A" – 1957 – Captain Raymond R. Allen (Niagara Falls Gazette, 18 November 1957, page 3).
Battery "B" – 1957 – Lieutenant Rodney L. Waterstrat (Niagara Falls Gazette, 18 November 1957, page 3).
Battery "C"
Battery "D"

Niagara-Buffalo Nike Batteries served by the 44th Antiaircraft Artillery 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-74	Battery "C" - Grand Island, a dual Nike Ajax site	(3/55 – 9/58)
NF-75	Battery "D" - 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 5 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 slate dot 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, 11 November 1955).

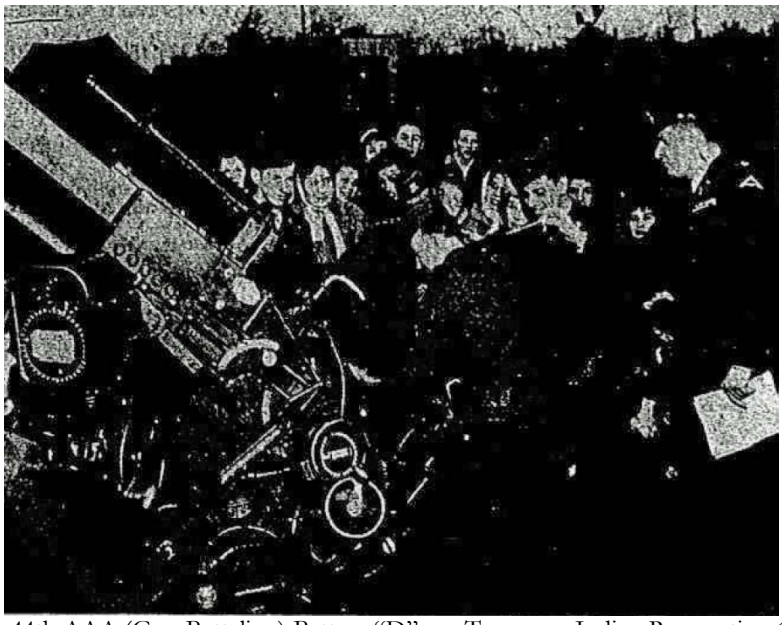
On 14 June 1955, the first and last massing of the newly-formed Antiaircraft-Artillery Missile Battalion took place at Fort Niagara. The Battalion passed in review before Colonel John P. Mial, Commanding Officer of the 2nd AAA Group and his staff prior to departing Fort Niagara to man their recently 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. (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, 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 Antoinne Amaral Jr. comprised the Battery "B" team. Major Donald L. Grant, Headquarters And 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", on 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

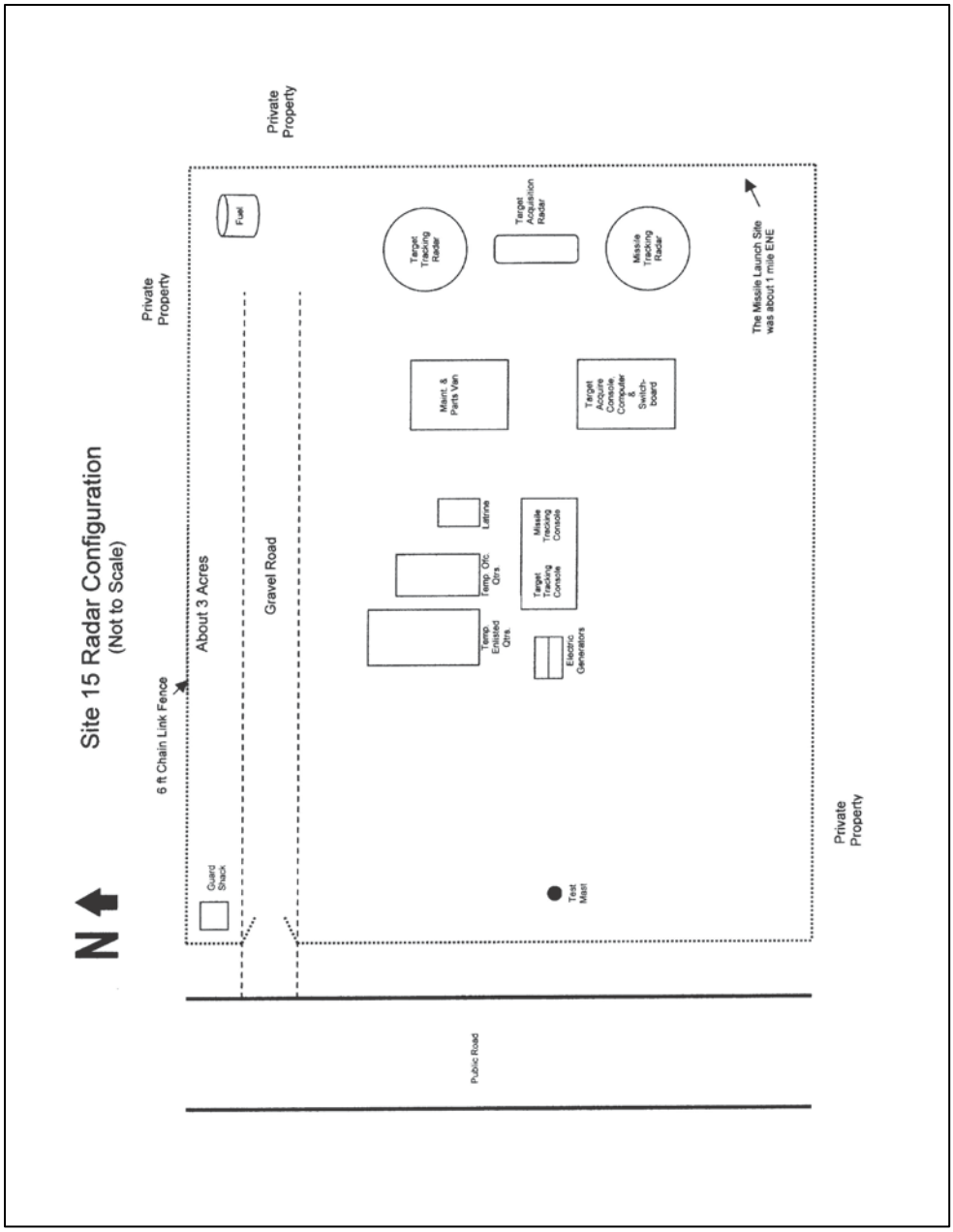
:

Unofficial Patch for Battery "B" (Model City)
Photo credit: Harry DeBan

Nike Ajax Missile at Battery "D" (Grand Island)
Photo credit: Nike Historical Society

Unidentified Officer at Battery "C" (Cambria Site)

Unit photographs



Cambria Nike Site IFC Area Layout
Image courtesy of Allen Steinfeld, 44th Antiaircraft Artillery Missile Battalion Veteran

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 Sub legion, 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.

Reconstituted 12 October 1944 in the Regular Army; concurrently consolidated with Battery "D", 4th Coast Artillery Battalion (Constituted 3 October 1944 in the Army of the United States)., and consolidated unit designated as Battery "D", 4th Coast Artillery, Battalion. Activated 1 November 1944 at Fort Amador, Canal Zone. Redesignated 1 February 1946 as Battery "D", Harbor Defenses of Balboa. Inactivated 15 May 1950 at Fort Amador, Canal Zone. Consolidated 28 June 1950 with Battery "D", 4th Antiaircraft Artillery Automatic Weapons Battalion (active) and consolidated unit designated as Battery "D", 4th Antiaircraft Artillery Automatic Weapons Battalion. Redesignated 31 July 1950 as Battery "D", 4th Antiaircraft Artillery Battalion. Disbanded 15 November, 1954 in England.

Reconstituted 12 August 1958 in the Regular Army; concurrently consolidated with Battery "D", 4th Field Artillery (organized in 1901) and consolidated unit redesignated as Headquarters and Headquarters Battery, 1st Missile Battalion (Nike Hercules), 4th Artillery, under the Combat Arms Regimental System. Battalion activated 1 September 1958 at Niagara Falls, New York. Redesignated 20 December 1965 as the 1st Battalion, 4th Artillery. Inactivated 31 March 1970 at Niagara Falls, New York.

[1st Battalion, 4th Air Defense Artillery Lineages and Heraldic Data. pages 81-83, Army Lineage Series, Air Defense Artillery, Center for Military History, U.S. Army, Washington, D.C. 1 December 1983].

Decorations: Philippine Presidential Unit Citation, 1950.

Unit Motto: *Audacia* (Boldness or Audacity)

Photograph from the author's collection

Distinctive 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:
Dates uncertain - Lieutenant Colonel James R. Woods (Michigan Alumnus, Vol 65, page 167).
March - April 1962 - Lieutenant Colonel Jack H. Post (Niagara Falls Gazette, 24 April 1962, page 17).
23 January 1965 **-** Lieutenant Colonel John M. Kane (Union Sun & Journal, 23 January 1965, page 3).

Battery Commanders:
Battery "B" - Cambria – Captain John L Peoples Jr.

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

NF-03	Battery "A" - Model City, a dual Nike Ajax site	(9/58 – 8/60).
NF-16/16R	Battery "B" - Cambria, a dual Nike Ajax & later	(3/58 – 3/70).
NF-16/16R (Cont.)	the site became a single Hercules battery in May 1959.	
NF-41	Battery "C" - Grand Island, a dual Nike Ajax Site	(9/59 – 4/63).
NF-75	Battery "D"- Grand Island, a dual Nike Ajax Site	(9/58 – 4/59).

Unit photographs

Cambria Battery (NF-16) members at McGregor Range, NM, for SNAP in November 1964
Photo Credit: Dave Taber (on extreme right)

John Carlin & Henry Meyer, Battery Commanders Van
Photo Credit: John Carlin (on left)
Photo circa 1965-1966

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

Nike Hercules at Grand Island
Photo Credit: Nike Historical Society

Unit Photographs

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

New Years Eve 1960 at Grand Island
Photo Credit: Nike Historical Society

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

John Carlin & Mei (NF-16R)
Photo Credit: John Carlin (on left)
Photo circa 1965-1966

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: *Aeterna Vigilia* (Constant Vigilance)

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

The insignia depicted was unofficially worn by this organization during 1957. [Sawicki, Volume 1, page 236, 237]

Photograph is from the author's collection.

Commanding Officers:

Lieutenant Colonel Robert W. Hook	(Kenmore & Town News, 27 January 1956).
Lieutenant Colonel Charles J. McClure	(Niagara Falls Gazette, 22 February 1959).

Battery Commanders:

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 Pfol Place in Williamsville. (Kenmore & Town News, 27 January 1956, page 1).

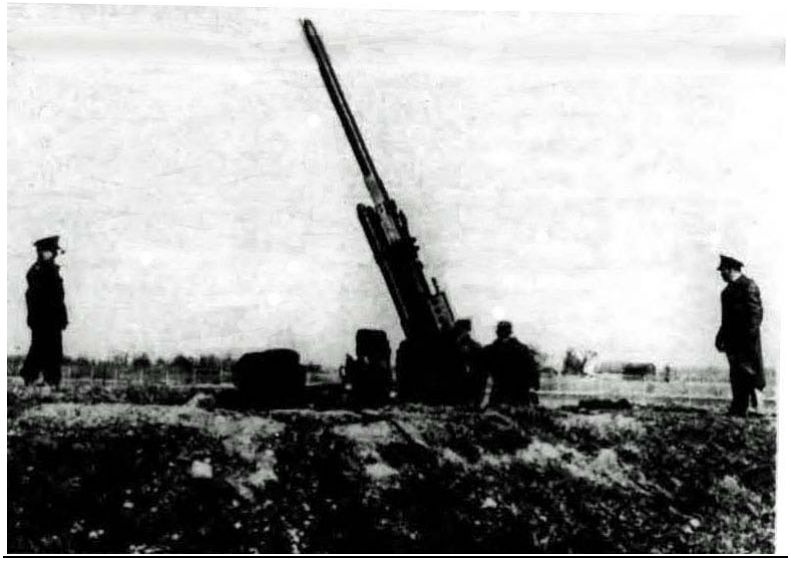
"Defense is a Community Project" – The two AAA Gun Battalions assigned to the 209th AAA Group, NYARNG which is under the command of Colonel Eugene J. Welte, that already have "on-site" units deployed are the 106th AAA Battalion (Wheatfield) and the 336th Battalion (Grand Island). The 102nd AAA (Gun) 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).

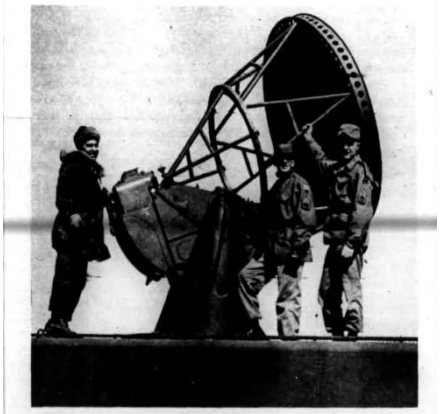
Unit Photographs



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.

AT A RADAR SCOPE an enlisted man indicates radar is on target. Training in this work prepares young men for good jobs in industry.



THREE MEN of Battery B, 106th AAA Battalion, orient the radar parabola atop the installation at Wheatfield.

Photo Credit: Above images are from a 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: *Im Promptu* – (In Readiness)

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

Photograph from the author's collection

Commanding Officers:

Lieutenant Colonel Charles J. McClure	(2nd Missile Btn 209th Artillery History).
Major Floyd M. White	(Bty B, 2nd Msl Btn "News letter" 7 Mar 1964).

Battery Commanders:

Captain Robert H. Dupont	Battery NF-41, Grand Island, N.Y.	(Niagara Falls Gazette, 19 April 1963).
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).
BU-18 Battery "B" - Lancaster, Nike Hercules Site (4/63 – 3/70).

Mentioned in the newspapers:

2nd Missile Battalion, 209th Artillery, NYARNG, assumed command of the Model City and Orchard Park Nike Ajax Sites. Colonel Edwin G. Hogan commands the 209th Artillery. (Tonawanda News, 22 July 1960, page 11).

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

336th Antiaircraft Artillery Battalion (90mm Gun), NYARNG:

Constituted 23 July 1940 in the New York National Guard as the 2nd Battalion, 209th Coast Artillery (Antiaircraft). Organized in northwestern New York State and federally recognized 16 October 1940 with Headquarters at Rochester. Inducted into Federal service 10 February 1941 at home stations. (Departed New York Port of Embarkation 11 May 1941 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 to Italy on 28 October 1943). Reorganized at Montesarcchio, Italy and redesignated 18 March 1944 as the 898th Antiaircraft Artillery Automatic Weapons Battalion (Mobile). Following service on Corsica and in France returned from overseas service and arrived at the Boston Port of Embarkation on 2 November 1945. Inactivated on 3 November 1945 at Camp Myles Standish, Massachusetts. Redesignated on 16 March 1953 as the 336th Antiaircraft Artillery Gun Battalion. Reorganized in northwestern New York State and federally recognized on 23 March 1953 with Headquarters at Niagara Falls. Redesignated on 1 October 1957 as the 106th Antiaircraft Artillery Battalion. [Sawicki, Volume 2, pages 501-502].

Decorations: None

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

Photograph from author's collection.

Distinctive Insignia: The insignia is the shield of the coast of arms. The colors of red and gold and the shell symbolize the artillery character of the battalion. The griffin, emblematic of the first ship to sail the Great Lakes above Niagara Falls, refers to the home area of the unit

The insignia was approved for wear on 16 January 1955.
[Sawicki, Volume 2, pages 501-502].

Commanding Officers:

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).

"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).

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).

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 a 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 Antiaircraft 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 Antiaircraft 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 Antiaircraft Artillery Battalion. Redesignated 465th Antiaircraft 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 Antiaircraft 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.

Decorations: French Croix de Guerre with Gold Star, World War II, Streamer embroidered *Normandy Beachhead* (465th AAA Automatic Weapons Battalion cited for the period 1-31 August 1944; Department of the Army General Order 43, 1950). [Sawicki, Volume 2, page 612].

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

[Sawicki, Volume 2, page 612]

Photograph from the author's collection.

Distinctive Insignia: The 465th Antiaircraft 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:
Lieutenant Colonel William F. LaHatte (Evans Journal 1 November 1956 & Niagara Falls Gazette 23 November 1956).
Lieutenant Colonel Vallard C. Smith (Wellsville Daily Reporter, 27 August 1959, page 9).

Battery Commanders:

Captain Louis Bush	BU-09	1957 Until?
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-18 - Battery "B", Lancaster / Millgrove – Nike Ajax Site (11/57 – 9/58).
BU-34/35 – Battery "C", Orchard Park – A dual Nike Ajax Site (9/56 – 9/58).
BU-52 - Battery "D", Hamburg – A 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).

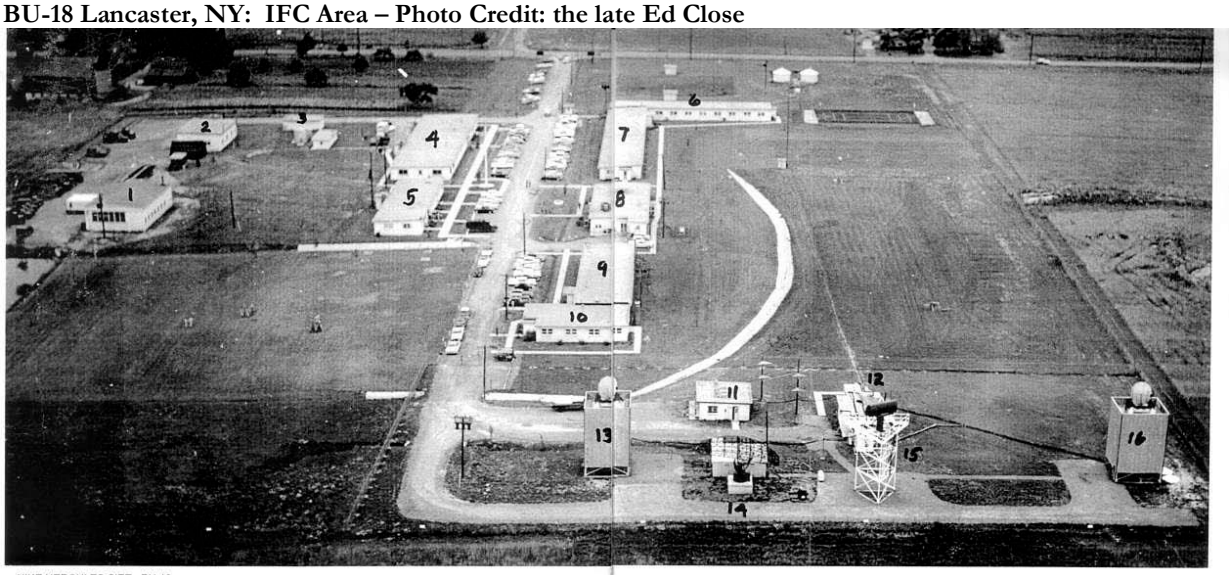
AAA Unit to Take Over New Amherst Nike Site – Antiaircraft troops of Battery "A", 465th AAA Missile Battalion (Nike) will take over the nearly completed 2 million dollar Nike Guided Missile Site in the Town of Amherst, between Millersport and Swormville, on Wednesday according to Colonel Francis K. Newcomer Jr, Commanding Officer of the Niagara-Buffalo Antiaircraft 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, page8).

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 reversed 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

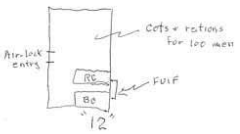


NIKE HERCULES SITE - BU-18
LANCASTER, NEW YORK
The IFC Area was located on Pavement Road in the Town of Lancaster on the east side of Buffalo.
It was one of three Hercules sites in the Niagara-Buffalo Defense - the other two being on Grand Island and Cambria.
This site was built about 1958 and housed a Battalion HQ and Hq Btry and a line Hercules Btry.

THE INTEGRATED FIRE CONTROL (IFC) AREA consisted of: ----

1. Line Btry Motor Pool building.
2. Hq Btry Motor Pool building.
3. Storage building.
4. Hq Btry Orderly Room and Battalion HQ offices.
5. Line Btry Hq building, supply room, offices.
6. Bn HQ BOQ.
7. Bn Hq barracks.
8. Mess hall
9. Line Btry IFC platoon barracks
10. Line Btry BOQ
11. IFC Generator Building
12. IFC Battery Control (BC) and Radar Control (RC) Vans with Fire Unit Integrated Facility (FUIF) room and interconnecting corridor.
13. Missile Track Radar (MTR) tower
14. Hi Power long range search radar - not to be confused with later HIPAR radar -
15. Lopar (low power short range search radar)
16. Target tracking radar (TTR) tower.

Fallout shelter - built starting at "12" + extended ↑

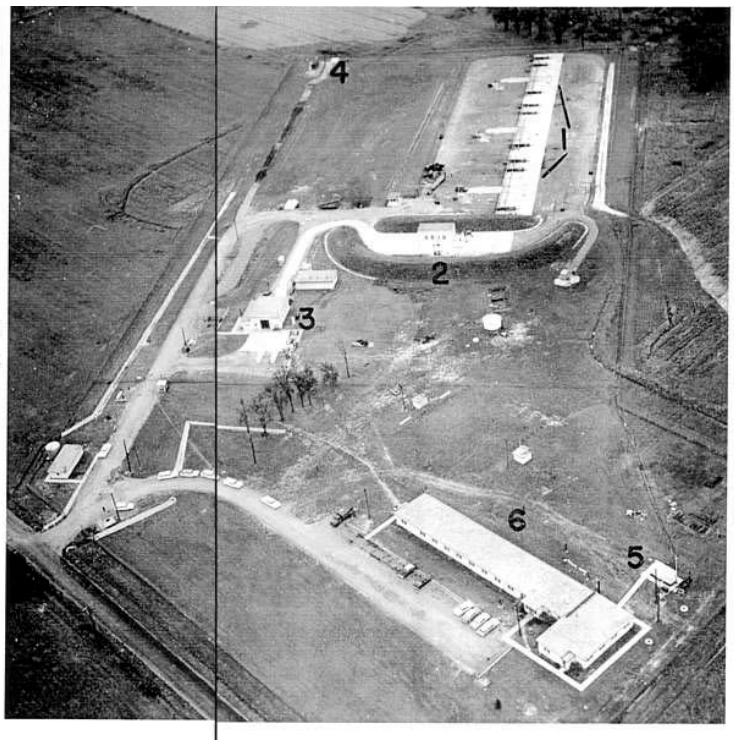


BU-18 Lancaster, NY: Launcher Area – Photo Credit: the late Ed Close

NIKE HERCULES SITE - BU-18
LANCASTER, NEW YORK

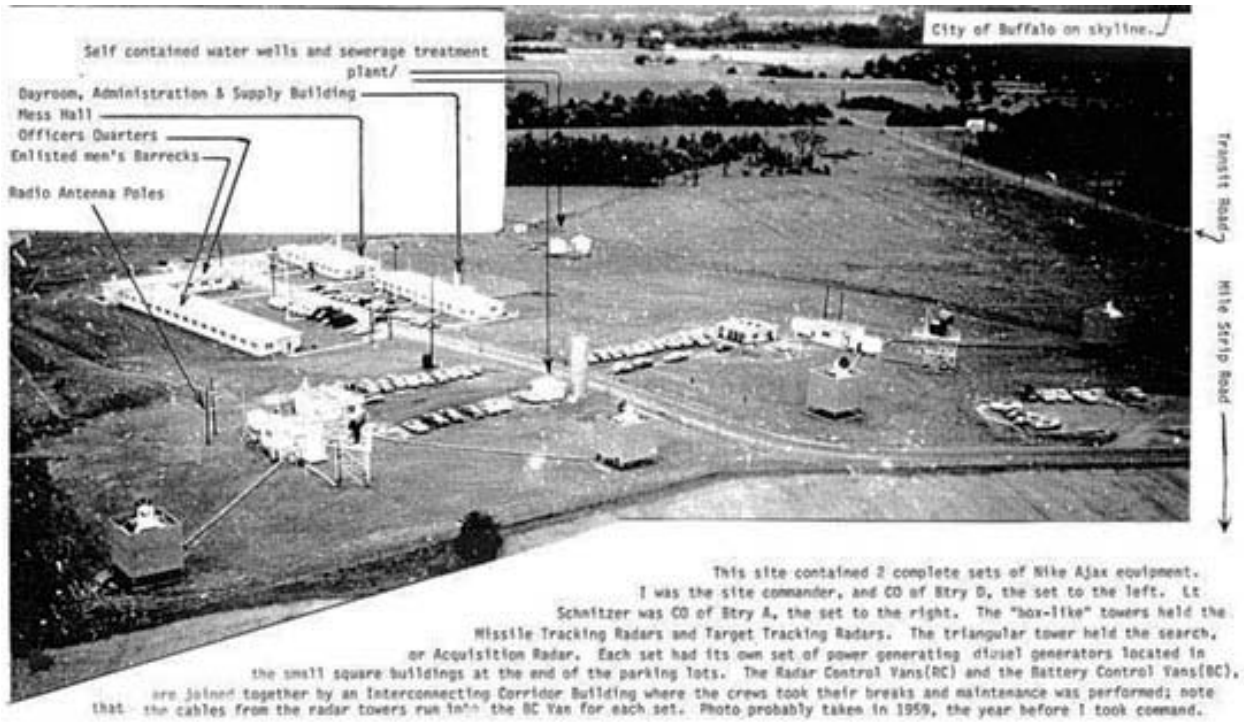
THE LAUNCHER AREA consisted of: -----

1. 3 underground casemates, each housing 7 Nike Hercules Missiles. Each casemate had 3 aboveground launchers and 1 launcher on the missile elevator which lifted the missiles up from underground.
2. Warhead Building in reveted area where the nucular or high explosive warhead was installed.
3. Missile Assembly Building with adjacent generator building.
4. Guard dog kennels.
5. Launcher Control Trailer (LCT).
6. Launcher Security Office, Barrecks, and BOQ.



Unit Photographs

BU-34 Orchard Park, NY: IFC - 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:

Constituted 12 April 1808 in the Regular Army as a company in the Regiment of Light Artillery. Organized in 1808 as Captain George Peters' Company of Light Artillery, Regiment of Artillery. Redesignated in 1809 as Captain Joseph G. Telfair's Company of Light Artillery, Regiment of Light Artillery. Redesignated in 1811 as Captain William Campbell's Company of Light Artillery, Regiment of Light Artillery. Redesignated in 1812 as Captain James Gibson's Company of Light Artillery, Regiment of Light Artillery. Redesignated 22 May 1813 as Captain Arthur W. Thornton's Company of Light Artillery, Regiment o f Light Artillery. Redesignated 22 May 1816 as Company F, Regiment of Light Artillery. Redesignated 1 June 1821 as Company H, 3rd Regiment of Artillery.

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.

Reorganized and redesignated 24 March 1944 as Battery "A", 893rd Antiaircraft Artillery Automatic Weapons Battalion. Inactivated 14 December 1945 in Germany. Redesignated 13 October 1948 as Battery "A", 50th Antiaircraft Artillery Automatic Weapons Battalion. Activated 8 June 1949 at Fort Bliss, Texas. Redesignated 20 March 1953 as Battery "A", 50th Antiaircraft Artillery Battalion. Inactivated 25 June 1958 in Korea.

Redesignated 12 August 1958 as Headquarters and Headquarters Battalion, 2nd Missile Battalion, 62nd Artillery (organic elements concurrently constituted). Battalion activated 1 September 1958 at Lancaster, New York. Inactivated 15 December 1961 at Lancaster, New York.

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.

[62nd Air Defense Artillery Heraldic Items. pages 317-324, Army Lineage Series, Air Defense Artillery, Center for Military History, U.S. Army, Washington, D.C. 1 December 1983].

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

Photograph from the author's collection.

[62nd Air Defense Artillery Heraldic Items. pages 317-324, Army Lineage Series, Air Defense Artillery, Center for Military History, U.S. Army, Washington, D.C. 1 December 1983].

Distinctive 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:
18 June 1959 - Lieutenant Colonel James E. Hawley (Frontier Herald, page 7).
4 January 1961 - Lieutenant Vallard C. Smith (Buffalo Courier Express, page 4).

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 – Nike Ajax Site (9/58 – 12/61) site closed 1961.
BU-18 - Lancaster / Milgrove – Nike Ajax Site (9/58 -12/60), site converted in 1959 to Nike Hercules.
BU-34/35 - Orchard Park – This was a dual Nike Ajax Site (9/58 – 12/60), site was transferred to the 209th on 8/60.
BU-52 - Hamburg – This was a dual Nike Ajax Site (9/58 – 12/61) site closed 1961.

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

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 Antiaircraft 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 Unite4d 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 Antiaircraft 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 Antiaircraft 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 Antiaircraft 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.

Made the Antiaircraft Artillery Unit Honor Roll, October 1954 (Antiaircraft Journal Nov/Dec 1954).

Decorations: French Croix de Guerre with Gold Star, World War II, streamer embroidered *NORMANDY* (120th AAA Gun Battalion cited for period 1-31 July 1944; Department of the Army General Order 43, 1950.

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

Distinctive Insignia: The unit distinctive insignia is the shield and motto of the coat of arms. The colors red and yellow are for Artillery. The antiaircraft 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.

The insignia was approved for wear 25 March 1954. (Antiaircraft Artillery Battalions of the US Army, by James W. Sawicki, Volume 2, page 729).

Photograph from the author's collection.

Commanding Officers:

September 1953 -	Lieutenant Colonel John C. Bolton (AA Journal Nov/Dec 1953).
October 1954 -	Lieutenant Colonel Joseph Butler (Niagara Falls Gazette 4 January 1956) page 11).
October 1954 -	Major Theodore L. Vitullo (Antiaircraft Journal Nov-Dec 1954).
22 May 1956 -	Lieutenant Colonel Herbert R. Odom (Niagara Falls Gazette, 24 November 1957, Page 2-C).

Battery Commanders:

February 1954	Battery "A" 1st Lieutenant Lee W. Sarty (Niagara Falls Gazette, 2 February 1954).
May 1955 -	Battery "A" 1st Lieutenant Edward Pugh (Niagara Falls Gazette, 22 March, 1955).
May 1955 -	Battery "B" 1st Lieutenant James M. Lowerre (Niagara Falls Gazette, 22 March 1955).
February 1954	Battery "C" 1st Lieutenant Michael J. McCarthy (Niagara Falls Gazette, 2 February 1954)

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 Mc Renyolds 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).

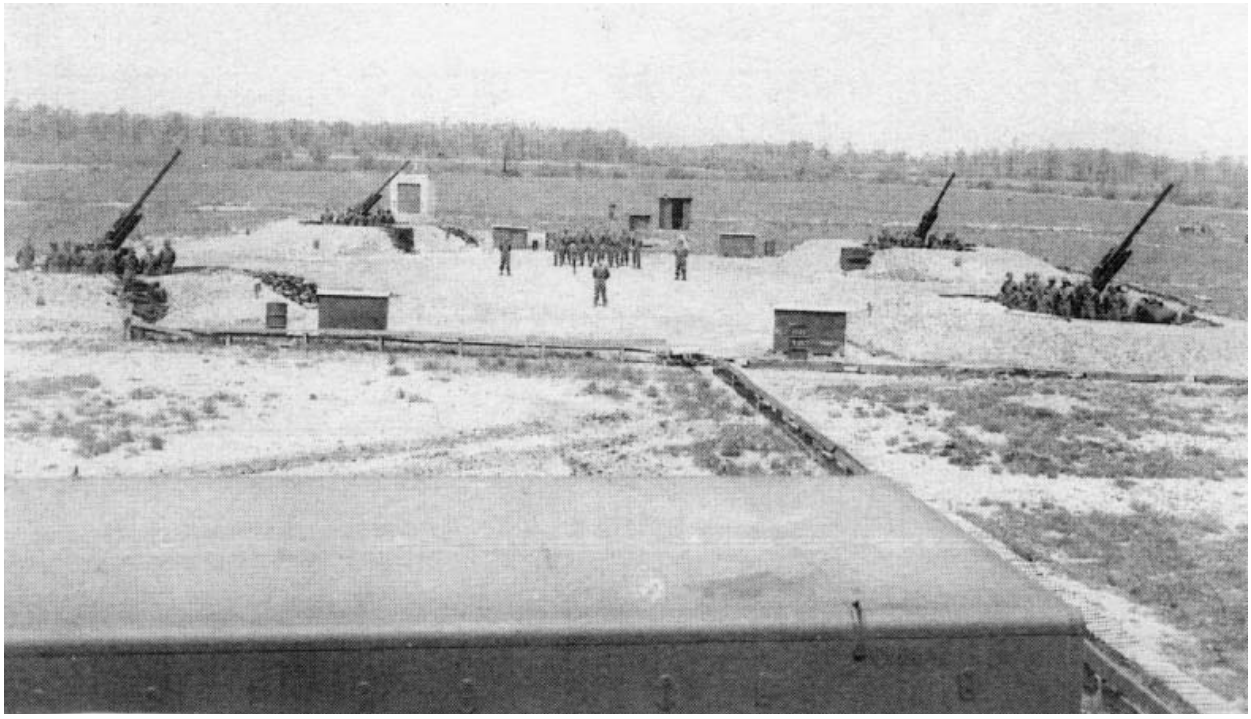
The 606th AAA (Gun) Battalion, deployed on the Niagara Frontier since February 1953, has been scheduled for deactivation. Fort Niagara announced that the officers and men of the 606th will be reassigned to Nike Missile battalions on the Niagara Frontier. (Niagara Falls Gazette, 6 October 1957).

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).

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 manuevered 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.

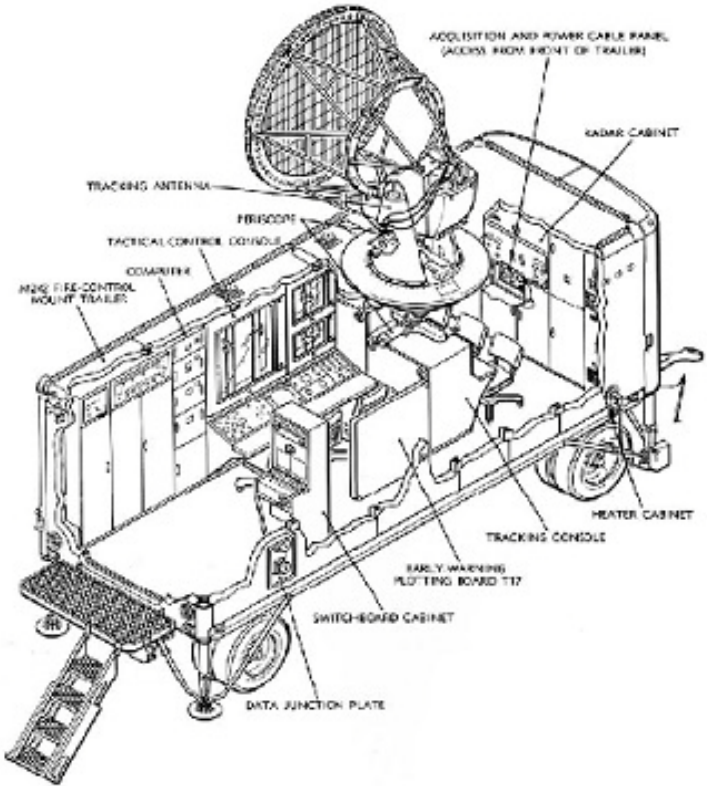
Photo Credit: Niagara Falls Gazette, 2 July 1956, page 9

Unit Photographs

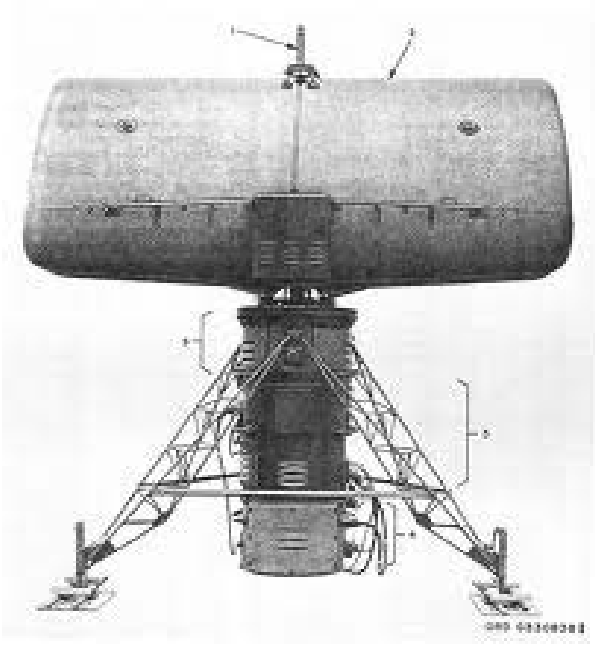


"C" Battery (Wheatfield), 90mm M1A1 Gun Pits & Crews
Photo Credit: U.S. Army

"C" Battery – (Wheatfield) M33 Fire Control Van
Photo Credit: U.S. Army



Cut Away View of M33 Fire Control Van
Art Credit: M33 Technical Manual



M33 Acquisition Radar
Note: This radar was later used in the Nike Missile System where it was called the "LOPAR"
Illustration credit: U.S. Army Technical Manual

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

Author, age 7, wearing a genuine U.S. Army1951 vintage fatigue cap, at Camp Oswego with his Dad during the 1957 Niagara-Buffalo AAA gun shoot. Note 90mm gun and Lake Ontario in background.
Photo credit: Author's personal collection