

French Army Air Defense Missiles Nike & Hawk

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Short Recall on French Missiles R & D

Immediately after the Allied victory, France started rebuilding its aeronautical industry and resumed research. Starting in 1946 the country developed some very interesting missiles. Three of the most noteworthy missiles from the past were the CT series, the (SSM) SE-4200¹ and the anti-armor SS-11 developed in the 1950's.

The **CT-10**² and then later the CT-20 (1958) was a near supersonic training target. It replaced remote controlled airplanes used by the Air Force for training and provided AA units with realistic targets to practice on. The recoverable target was in use with the NATO Hawks after 1968 until 1980. In 1970, based on the CT-20³, the R-20 was an early and very successful reconnaissance drone.

By 1955, the **SE-4263**, (an upgraded version of the SE-4200) was operational with the 701st and 702nd GAG. This non-nuclear capable missile was a precursor to the US Honest John and was very sophisticated for its time; its range alone sets it aside in a class of its own:

4 missiles could be fired almost simultaneously remotely, controlled from a mobile van. The range was about 100 Klm; military payload 135Klg.; precision 30 meters; and apogee about 1600m. Its very short launcher (less than 4 feet long) was mounted on a medium size truck. The whole system was very nimble and mobile. About 600 were built.

The **SS-11** and its later development, the **Entac** were wire guided anti-armor missiles. Mounted on a variety of vehicles (and helicopters), the German inspired weapon had been sold worldwide and gave birth to a large family of similar systems.

Air Defense

It appears that the SAM missiles developed in France -- some with the participation of German old timers-- did not fully meet the expectations of the Army. French missiles very successfully used stato-reactors. These engines used liquid fuel that complicated maintenance and needed dangerous (liquid fueled) "accelerators". Yet, the substantial increase in range obtained with stato-reactors did not compensate for the tricky situation created by its fragile accelerators. In the US, the proponents of the US Air Force Bomarc vs. US Army Hercules had the same debate. The two stages Nike Ajax used liquid propellants but its engine was not a stato-reactor.

When science finally solved the problem of the powder-burning rate control, safe and reliable boosters became available (Ajax). Powder boosters --or accelerators-- needed no maintenance per se and drastically augmented the readiness of military missiles. The stato-reactor design then lost its attractiveness with the French military establishment.

On the guidance and electronic side, French Air Defense managers favored using existing radars and computing devices even if they had to be upgraded. Budgetary constraints were also a consideration. The net result was a mixed bag of "systems" of questionable reliability and military effectiveness such as the (SAM) SE-4400 (Parca).

¹ This program very much interested the US Army that funded about 40% of it.

²² The CT-10 was based on the famous V1 flying bomb. The upgrade was re-engineered by German personnel working in France.

³ The CT-22, its last descendant to be retired (2007) was replaced by Galileo Avionica's Mirach 100/5, of Italy. Ref: Colonel (Ret) C. Schaepelynck.

Then in 1957 the US **revealed** (quoting from French Army Inspector General Soisson⁴) the details of the Sidewinder and the Hawk⁵. It established the marked technological superiority of the US. Facing newer Soviet air threat, the Pentagon also wished to see NATO nations equipped with more advanced air defense.

The decision by the Europeans to acquire the Hawk was also probably due to the fact that the Nike missile had very good results on the DEW line with its data transmission & fire distribution system Missile Monitor. The same scheme, being used by the Hawk, was without a doubt a factor amongst many others such as ECM and mobility, etc...

French NIKE Units

1957 - 1958

When the unusual mix of Army-Air Force unit was assembled in France it was called --however unofficially -- *Premier Bataillon Nike*. In Fort Bliss it came to be known as 1st French Nike Battalion. It kept the Nike moniker until 1960 when it took its official name 721st Groupe d'Artillerie Guidée (GAG).

The Hawk units (401st, 402nd & 403rd AA Regiments) came in after the French Army completely abandoned the NIKE to the French Air Force. For historical purposes, note that certain 1961 documents called them "722" and/or "723 GAAG" (Groupe d'Artillerie Antiaérienne Guidée), respectively but the 403rd appears not to have been concerned.

There were no direct links between Nike and Hawk⁶, except at operational Army level through mission assignment (Missile Monitor AN/MSG-4) as both weapons systems were linked to the 4th ATAF though the French Air Force 1st CATAC. Most of the Army technical and non-technical NCOs as well as some of its junior officers that populated the Nike were later reassigned to the Hawk's three regiments.

1959 –

In Fort Bliss, Texas, after various individual⁷ training starting as early as Sept 1957, the Battalion met with its equipment at Tobin-Well where it completed unit integration. The ensuing successful Firing Practice at Mac Gregor Range certified the unit⁸.

In July 1959, returning from Fort Bliss, the Battalion was hosted by the 485th RAA in Karlsruhe, Germany where the equipment was delivered. Absorbing some of the 485's cadre, the 721st GAG then moved to Stetten a.k.m⁹, where HQ, 1st and 2nd batteries¹⁰ were also located. The 3rd battery was stationed at Münsingen and 4th squadron (Air Force) was at Mengen.

By then the 485th RAA was deactivated and the 721st Air arm took over its installation before moving to Lahr, Germany.

We can surmise that the Karlsruhe stop over was due to delays in relocating resident units and getting the base ready. In Stetten at least, one reinforced concrete launcher base had to be redone. Also, in Stetten, using material from the excavations protecting the FCC vans, the PAR areas had been raised by a few meters. Still very visible was the earthmover's recent scarring of the small hilltop. Also, the perimeter fencing was not complete. To some extent, the same was true for the Battalion Operation Center (BOC) located 3/4 mile away.

The 721st organizational structure was typical of the French Army Air Defense regiment except for the management of the Nike supply that simply duplicated the US system (spare parts). The mission assignments went through the BOC and its radars (AN/TPS-1D supplemented by French Air force MPS-

⁴ General Soisson may be in error regarding the date of the "revelation". At that very time a group of 20 Officers and NCO were already in Fort Bliss training on the Nike Ajax. We believe the "revelation" probably took place one or two years earlier, i.e., 1955.

⁵ If we recognize their longevity with the NATO armed forces alone, three missiles could enter a Missile Hall of Fame: The French SS11, the US Hawk and the 50 years old US Sidewinder still in use in 2006.

⁶ Actually there is one link between the two: Lt Colonel Raspaud, the first CO of the Nike was reassigned in 1961 to command the 403rd RAA. The old 403, not yet with Hawk!

⁷ About 250 trainees in Fort Bliss and 50 in Redstone Arsenal, AL.

⁸ The Belgium Battalion was to shoot in the presence of their King, but they had problems. The target was assigned to B2's Ajax. King Baudouin of Belgium did not seem to mind and humored his "new subjects" (so we were told!)

⁹ The site had previously seen a similar activity during WW II. It was the launch site of the *Bachem NATTER* manned anti-aircraft rocket that killed its pilot on the first flight (source Rick Anders)

¹⁰ Battery & Squadron are two callings of the same: Battery for the Army, Squadron for the Air Force. All through out this essay, we respect the names according to the branch.

11 and MPS-14) in turn subordinated to the Air Operation at Drachenbronn, France (1st CATAC) in the deep confines of the Maginot line and later through the NADGE radar defense network, etc. Communications, radio links in particular, were in the hand of the French Air Force. 3rd echelon logistics were in Stetten manned by the Army's DSDR (Depot repair) with a complement of Air Force personnel, all trained at Redstone Arsenal. All four units were equipped with Ajax and Hercules; none were nuclear capable at that time.

(I personally picked-up a beautiful German fire truck used as a water pump for the quarterly Ajax's refueling that had to be emptied first! -- What a dangerous mess that was!)

The 721st GAG, under NATO operational control was subjected to the dreaded **Operational Readiness Inspections (ORI)** conducted by "NATO integrated" but US lead teams. Quite a few "funny stories" emerged from those inspections where etiquette and ethics differed from one nation to the other. But, humor aside, technical considerations were strictly observed and check list reading prevailed as it concluded with the momentous statement:

Operational: Y / N (Check one).

However those surprise "**Operational Readiness Inspections**" had the advantage of breaking the monotonous routine of what would be the life of watchdogs! Each unit was in turn on "5 Minutes Alert Status" for 24 hours, then on "30mn Alert Status" and finally on "Maintenance" status for two days. The other advantage is that one would have 3 to 4 day passes every week or two weeks; then weekend "overtime" hours were subjected to appropriate compensations in the form of more R&R. French Army Regulations had to be revisited to accommodate the 721st GAG needs! (Quite a revolution there!)

Historical note: *In June 1961, 2nd Battery, 721st GAG was on "5mn Alert Status" and its PAR was attentively tracking President John F. Kennedy during his flight from Paris to Vienna to meet with Khrushchev. The sky was clear of air activity, and orders were to shoot at any aircraft approaching Air Force One. The IFF/SIF returns were painting the largest bananas I have ever seen on any scope since! All missiles were UP and the FCC van was full of brass observing the proceedings.*

On January 1961, the French Air Force 520^{ème} BE (**Brigade d'Engins**)¹¹ took over the whole operation and stepped into the Army's shoes. On July 1962, the 4th Battery became Squadron 4/520. A number of Army personnel remained with the 4th until the next firing practice in 1962 at McGregor Range, N Mex. to help with the transition. Also, in the Spring of 1962, the last Army technical personnel left the BOC¹². In March 1961, after training (since 1960), a new 521st BE received its equipment at Tobin Well. After firing practice at McGregor Range, the 521st rejoined the Friedrichafen Air Base where the 3/521 and 4/521 took provisory quarters.

In 1962 the 520^e BE won the Stiker trophy for NATO's best performance at the McGregor annual Firing Practice. However, this success was tempered by the death of a French officer and the major injuries of an NCO¹³. For reasons not entirely clear, a failsafe command destroyed a Hercules at the vertical of its launcher. The falling debris struck the French personnel observing the firing nearby.

In March 1964, the Münsingen (now the 1/520) site was the first to be "nuclearized" while French Army personnel were still operational there. All in all, the Münsingen Unit under various commands, traveled 6 times to New Mexico for its firing practice.

We have learned since, that the French Army higher ups had little faith in the "fixed" NIKE. Since the Nike was practically unmovable and should the Russians overrun NATO (as nuclear fire was, in the mind of French officials, questionable), the Army had over supplied the 721st GAG with the latest in infantry weaponry. Coincidentally, Stetten was also a training ground for Anti-armor defense where French and US trained on the French made SS-11 and Entac wire guided missiles.

¹¹ At one time named **60^{ème} BE** and **61^{ème} BE (Brigade d'Engins)**

¹² C/WO Delors and W/O Vitiello.

¹³ Lieutenant Kholer and Sergent Cordier.

NOUVELLES DE LA METROPOLE

ET DES FORCES FRANÇAISES EN ALLEMAGNE

MODERNISATION DE L'ARMEE

TROIS GROUPES D'ENGINS DANS LES FORCES FRANÇAISES EN ALLEMAGNE

Trois groupes d'engins viennent d'être constitués dans les forces françaises stationnées en Allemagne (1) :

— un groupe d'artillerie guidée, équipé d'engins NIKE.

(1) Ces forces viennent d'être réorganisées sur le type de la division 1959. Voir article page 49.

— deux groupes d'artillerie équipés d'engins Honest John.

Le groupe d'engins NIKE comporte trois batteries de tir de l'Armée de Terre et une batterie de tir de l'Armée de l'Air. Chaque batterie dispose de trois pelotons de lancement.

Les engins NIKE sont des engins Sol Air. Ils sont de deux types : AJAX d'une portée de 30 km et HERCULES d'une portée de 100 km.

Les groupes d'engins Honest John comportent chacun une batterie de tir à quatre rampes de lancement.

Les engins Honest John sont des engins Sol-Sol d'une portée de 30 km.

Il convient de retenir que les engins Nike-Hercules et Honest John peuvent être équipés d'ogives atomiques.

CREATION D'UNE SECTION D'ETUDES ET DE RECHERCHES APPLIQUEES

Une section « études et recherches appliquées » vient d'être constituée à l'Etat-Major de l'Armée.

Cette section a pour but :

From L'Armée (March 1960): Creation of Nike and Honest John units.

French Nuclear NIKE.

In France, some like to think that with its two "atomic" Missile Squadrons --1/520¹⁴ at Bottingen and 3/520 at Ineringen -- the French Air-Force Nike units were the first operational nuclear organizations in France. The facts are that the French 11th Air Fighting Squadron based in Bremgarten flew F100s armed with US nuclear bombs prior to 1964; also at this time, strategic Mirages IV were flying with their own French nuclear device¹⁵.

Were those Nike units truly¹⁶ nuclear?

The question and the answers may shed some light on the relationship between France and its main ally, French NATO politics of the time, and General De Gaulle's decision to remove France from NATO command followed by the departing of US forces from French soil and its long-term consequences.

Indeed, the units were nuclear, but they **were not under direct and independent** control from Paris.

The arrangement was as follows: A permanent US detachment of about 150 men specially trained in Fort Bliss in the manipulation of the nuclear warhead was stationed on each French launch site and assigned to the nuclear Hercules in all its aspects: armament, matting /de-matting, maintenance, training as well as custodial duties. Other non-nuclear missiles on the same site were in the hands of the French. The US personnel were quartered in separate facilities on site as well as on base. Each detachment --here the US Army 357th Arty Det.¹⁷ -- was

¹⁴ Capt. C Porchet's

¹⁵ Notes from AF Colonel A. Geoffroy.

¹⁶ As well as other French services using US nuclear hardware.

¹⁷ CO in 1962 was Col. Owsley.

identified from A to D following the battery calling of each battalion. The two US detachments to the French were A & B.

Nuclear Hercules could only be fired if both independent chains of command -- Allies Command and US Government -- were in agreement¹⁸. The arming plugs resting in the hand of the local US detachments were to be set-in only when the command release was activated through encrypted secured messages.

When examining other NATO Nike units such as the Belgium, it is entirely clear that the American Government, regarding its nuclear weaponry, applied to the French the same standing rules it used to all its allies.

In spite of this inordinate set of constraints and according to French Air Force Captain (ret.) Mark Revel and (then) French Army C/WO Louis Picard, the relationship between both nations was very professional if not overtly friendly at all levels. To confirm the good relations, then Specialist E4 Larry W. Fink¹⁹, assigned to the 357th Arty Det. in Stetten from 1962 to 1964, tells us that his amateur jazz band with a French Air Force sergeant, as pianist, entertained at the Stetten NCO and Officer Mess Halls!

However, for French President De Gaule, such an arrangement could not have been more unpleasant. It also gives credence to the theory that the decision to nuclearize the French Nike was made prior 1958, before De Gaulle became Prime Minister, for it is doubtful he would have supported such an arrangement.

The Nike Nuclear warheads²⁰

The details of the nuclear charges arming the Nike were secret. To this day, more than 40 years later, active military on the Nike sites still do not exactly know of it. Only when the US Army had deactivated its last NIKE batteries and the majority of allied batteries had been denuclearized was the IISS (International Institute for Strategic Studies, London) able to quote in "Military Balance 1984-85".²¹

Warhead W-31 mod. 2, 2/20/40 KT, throwweight 1120 lbs.

Warhead for B-XS was 2 KT.

Warhead for B-XL was originally 40 KT and converted in the seventies to 20 KT.
(The text also mentioned Conventional warheads.)

(B = Hercules, X = nuclear, S = Small, L=large)

Conventionally, the Nike Hercules could be armed with warheads called Type "A" (nuclear W31) and Type "C". (Non-nuclear T45). Nuclear sites received both type: 8 Type C, and 2 Type A warheads.

It is not without irony that the now public East German secret archives confirm some of the above data.

East German sources state that the basic load for Type A NIKE battery was ten warheads, with eight of 2 KT (M22) and two of 30 KT yield (M23). The source cannot confirm which warheads the French had. All French units were said to be of Type A (with nuclear warheads) and not Type C (without nuclear warheads).

Rules of engagement: "Blazing Skies"²²

In theory, the military chain of command for nuclear missions was:

¹⁸ Major J-M De Blende, Belgium Air Force.

¹⁹ Conversation with Larry W. Fink, Esq. in 2007. He stated that with barely one exercise a month he had ample time to practice his music and visit the countryside.

²⁰ We are deeply indebted to Rick Anders for this paragraph.

²¹ From a German book "Blazing Skies"

²² "Blazing skies" as the name implies, is the code name for a major air attack to be countered with nuclear fire.

No German zones or areas were safe from nuclear fire as no restriction was imposed to where the missiles could be exploded.

Nuclear procedures: Before firing the missile, the **Minimum Burst Altitude (MBA)** had to be set, which allowed a detonation in flight without (or minimized) nuclear fall-out. In case of an in-flight emergency – a fail-safe command-- both missile body and warhead could be destroyed by a conventional detonation.

Surface to surface: As the Nike's effective range was limited to the territory of the Federal Republic of Germany there were no pre-planned targets. In case of war, the commanding general of an Army Corps would have been authorized to request a Nike nuclear mission to hold an enemy's breakthrough after release from the ATAF responsible commander. To be successful, an execution order had to reach battalion headquarters at least 90 minutes before "Time Over Target" or TOT (i.e., time of detonation).

Converting *flying target* data into *ground target* data was a complicated and lengthy process of 49 steps taking place both at battalion and at battery HQ's. With the introduction of Texas Instrument hand-held calculators in 1972, the computing time was considerably shortened.

As a rule, a battery that received a ground mission was released by the SOC from its air defense responsibility 30 minutes prior to firing in order to fully concentrate on the mission at hand.

Return to the air defense mission took only five minutes.

Only after 1970 was the nuclear surface-to-surface operational procedure the subject of **Tac(tical) Eval(uation)s**.

Incidentally, only Turkey planned on using **conventional** surface-to-surface warheads for its NIKE Hercules.

French Nike sites

(Ref: Bureau Technique-Travaux Air # 7247/Ta/S/S Feb.1965)

Over the years and until 1966, the French Nike installations on German soil were the subject of many changes and /or proposals²³ not all implemented.

According to the above-mentioned document, in 1958²⁴ two brigades were programmed to setup in the – then -- South Western Germany where the French had responsibility. In 1958, USAREUR, (4th ATAF) and the French 1st CATAC agreed on the following arrangement:

- The French Nike Air Force HQ was to be in Freidrichshsafen on an existing French air base.
- The 520th Brigade HQ was to be quartered in the Stetten camp with squadrons in Inneringen, Bottingen, Haiterbach and Beffendorf
- The 521st Brigade was to be stationed at Altheim-Ehingen with one squadron, and the other three squadrons at Munsingen, Aufofen and Bad-Burzach.

However, the designated sites were not ready when the first Battalion completed its American training. The **Supreme Headquarters Allied Powers Europe (SHAPE)** and the French wanted at least one unit fully operational as soon as possible, even if temporary. The first brigade (mixed Army – Air Force) took position at Stetten with battalion HQ, BOC and two batteries; one battery went to Musingen and one Squadron to Menggen. This set up was carried out in 1958-1959. Work for permanent installation began in 1962 at Bottlingen and Inneringen. 1964 saw work at the Haiterbach site, 1965 at the Munsingen and Atheim-Ehingen sites and in 1966 at the Bad Wurzach site. The whole project was to be completed by 1968.

As of 1965 the situation was as follows:

French Nike HQ (*Escadre*) at Freidrichshsafen (500e GUE).

²³ As well as controversy: Item: the German AFGS (war ministry) was against the storage and installation of nuclear warheads at the Freidrichshsafen site as being too close to populated area. Ref: Bureau Technique-Travaux Air # 7247/Ta/S/S Feb.1965.

²⁴ The decision to « go Nike » dated before this date if we observe that the first contingent of trainees was sent to Fort Bliss in mid 1957. Considering the traditional administrative slowness, we suspect that the decision was more likely to have been around 1956. The original training was set up for a period of 14 months covering the AJAX **and not** the Hercules.

For the 520th Brigade

- HQ and COB in Stetten with one squadron
- One squadron each in Bottingen, Inneringen, Haiterbach.

For the 521st Brigade:

- HQ in Freidrichshsafen with one squadron.
- One squadron each in Musingen, Mengen and Ehingen with the brigade's COB.

It would be futile here to list the number of Squadron transfers to and fro from each Brigade to arrive at the above "arrangement". Suffice to say, that while the names changed, neither equipment nor personnel actually moved. However, it is worth mentioning that in 1964 both Brigades came under the command of the 500e Groupement d'Unités d'Engins (GUE) HQ at Freidrichshsafen. The 500e GUE was deactivated in 1966. In March 31st, 1967 the Stetten's BA 520 closed followed by Freidrichshsafen's BA 521 on April 30th, 1967²⁵

French Missiles in NATO Air Defense

The French effort to the European air defense can be measured with the number of missile units France assigned to NATO.

Country ²⁷	Nike ²⁶ Nb	Hawk Nb	tt	Units	% Defense	% Population
Germany	24	36	60	Batteries	46%	40%
Belgium	8	8	16	Squadrons	13%	6%
French²⁸	8	8	16	Squad /Bat.	13%	39%
Netherlan ds	8	12	20	Squadrons	16%	9%
Denmark	4	4	8	Squadrons	6%	6%
Norway	4	6	10	Batteries	8%	3%
Total:	56	74	130		100%	
US in Germany ³⁰	24	32 (+12)		Batteries		
Total Europe	80	106				

(Hawk
NASAM²⁹)

Conclusion: Compared to its European allies (population or GNP), France barely held her weight.

²⁵ Ref. « Les Missiles Nike Français » by Colonel G. Guizol (H)

²⁶ About 336 Nike batteries were deployed worldwide.

²⁷ Not in the "barrier" per se, Italy guarded its southern flank and deployed 12 Nike batteries. The last was deactivated in mid 2007.

²⁸ France owned 4 more Hawk batteries: one in reserve, one for training, two assigned to domestic air defense.

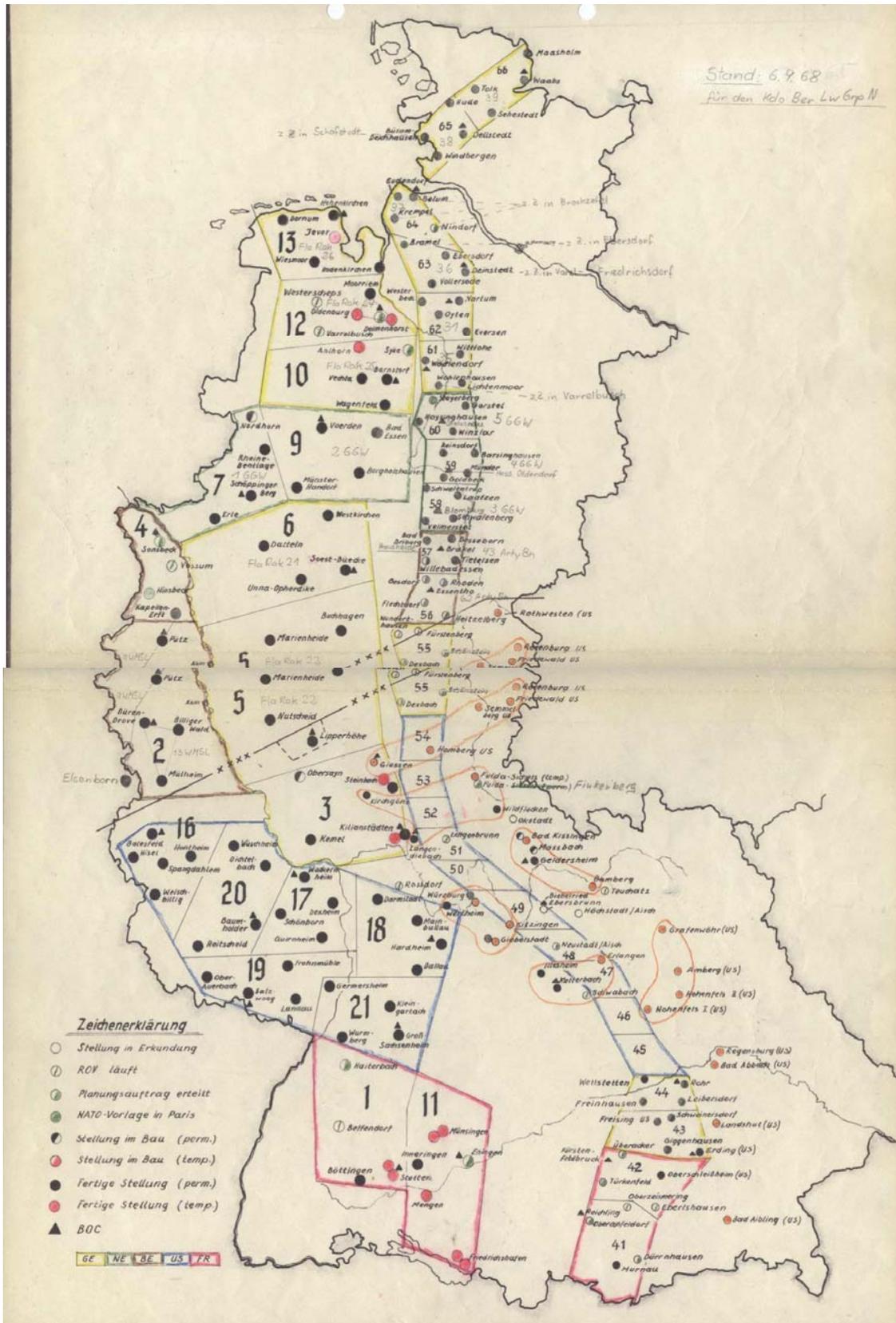
²⁹ Hawk modified by Norway and Raytheon.

³⁰ Not assigned to the " barrier", 12 more Hawk batteries covered the US Army in the Rhineland-Palatinate region.

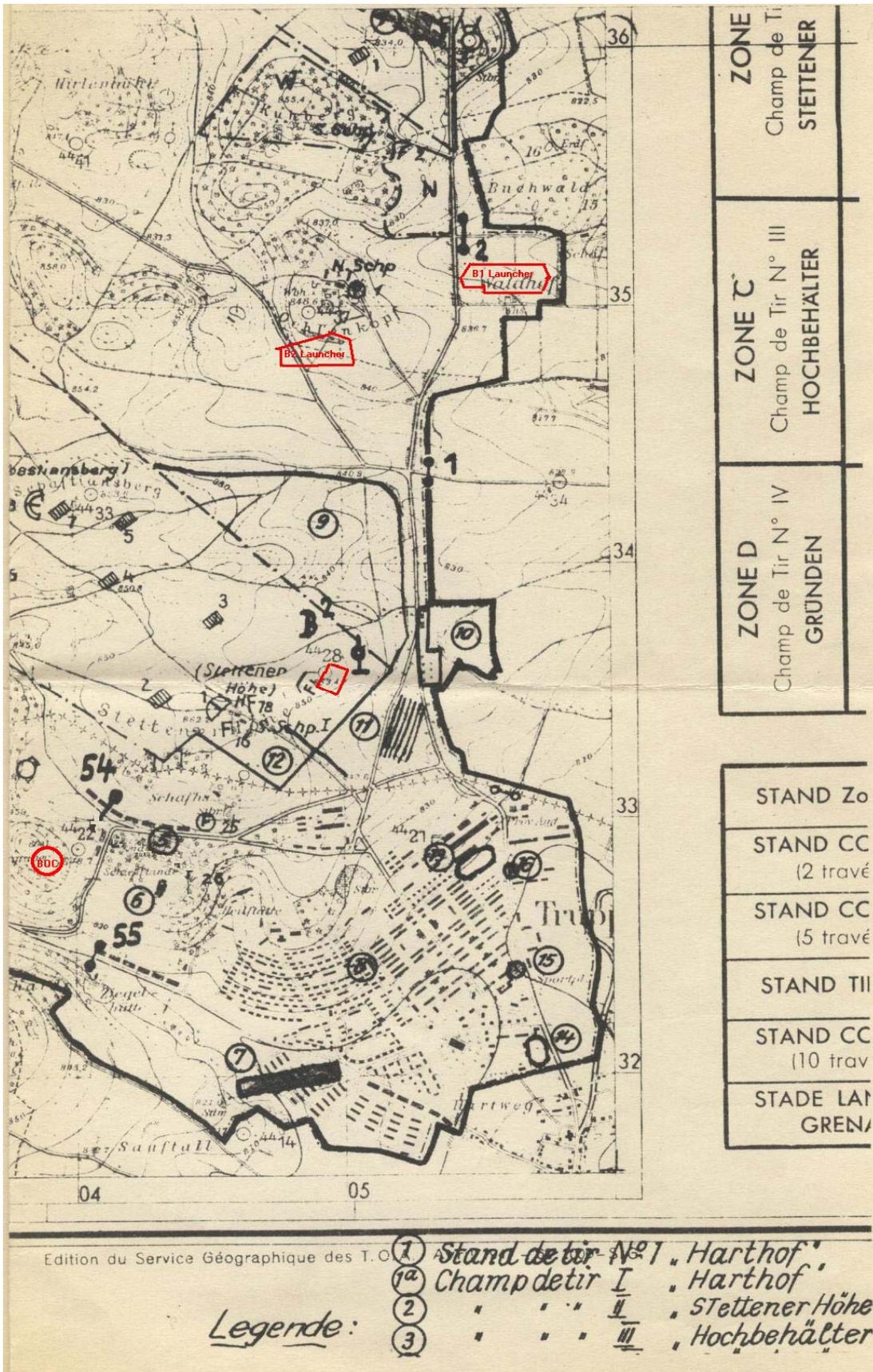
NATO Air Defense in Germany, Zones & Sectors

French responsibility in red

Zone 1 & 11 are Nike. Sector 41 & 42 are Hawk.



Map of Camp Stetten a.k.m.



ZONE Champ de Tir STETTENER
ZONE C Champ de Tir N° III HOCHBEHALTER
ZONE D Champ de Tir N° IV GRUNDEN

STAND Zo
STAND CC (2 travé)
STAND CC (5 travé)
STAND III
STAND CC (10 travé)
STADE LA GREN

Edition du Service Géographique des T.O.

- Legende:**
- ① Stand de tir N° I „Harthof“
 - ② Champ de tir I „Harthof“
 - ③ „ „ „ „ Stettener Höhe
 - ④ „ „ „ „ Hochbehälter

Nike Data Relay network

A SOC-4 (Sector Operations Center) from the 4th ATAF was located within the French Air Force CDC (Centre de Control et Détection) at Drachenbronn and it was in turn connected to the French STRIDA (Air Surveillance Data Transmission System). This system fed the BOCs that controlled the Nike Units. For practical reasons and until the beginning of 1965, the Stetten's BOC controlled the Mengen and Münsingen units in addition to its 4 regular squadrons.

The link between STRIDA and OC/MSQ18 in 1964 was marred by a number of problems due to line transmission difficulties with the French Air Force and /or with the Germans Bundespost. However by 1965 the link was fully operational. Later, the Bundespost ended up being the de facto transmission operator for all NATO needs. Redundant national radio networks (i.e., each NATO participant) were set up to supplement the ground lines.

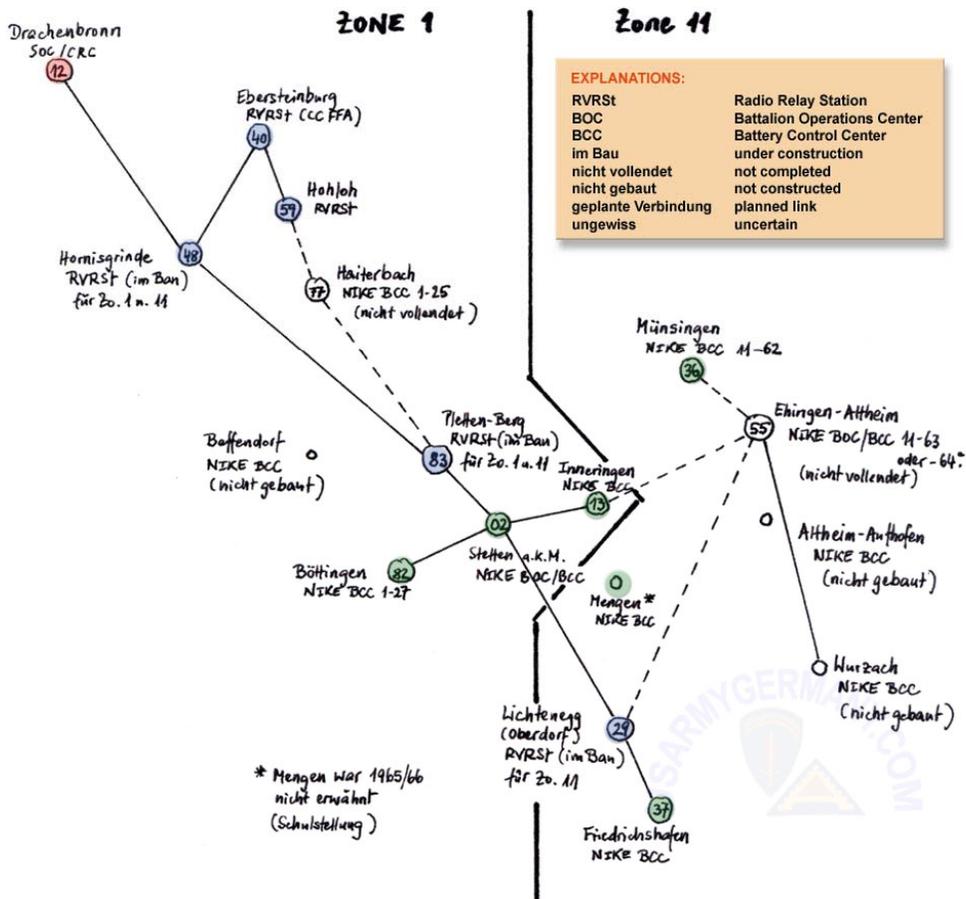
Attempts were then made to connect with the US 412L system to the German Air Force radar at Messtetten (15/20 km NW of Stetten). As the decision to leave NATO was made, no further work was done in this direction³¹.

FR - Richtfunknetz NIKE (Planung 1965/66)

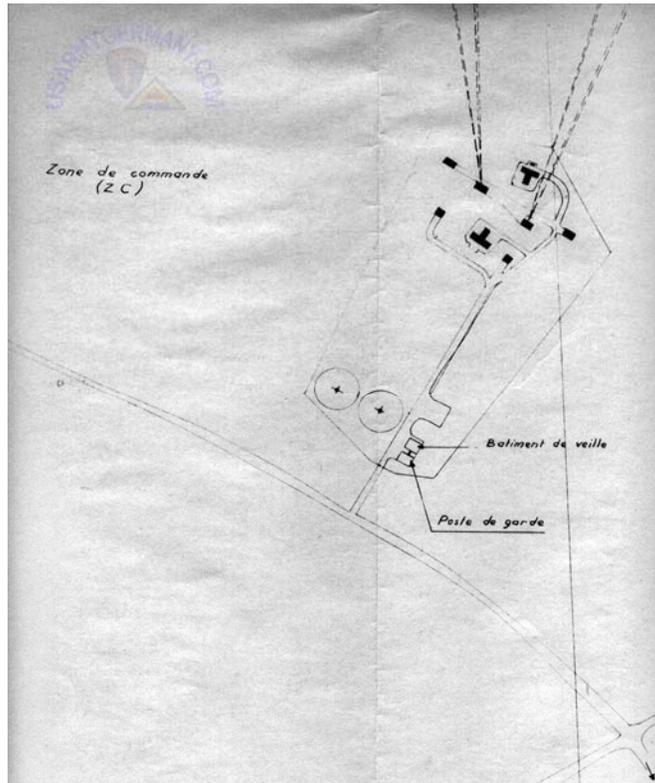
RVRSt Richtfunkverbindungs-Relaisstelle
 ————— geplante Verbindung
 - - - - - geplante Verbindung (ungewiss)

French Radio Relay network

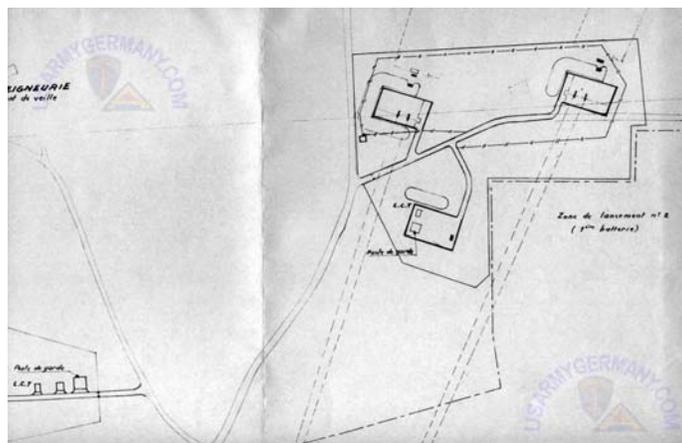
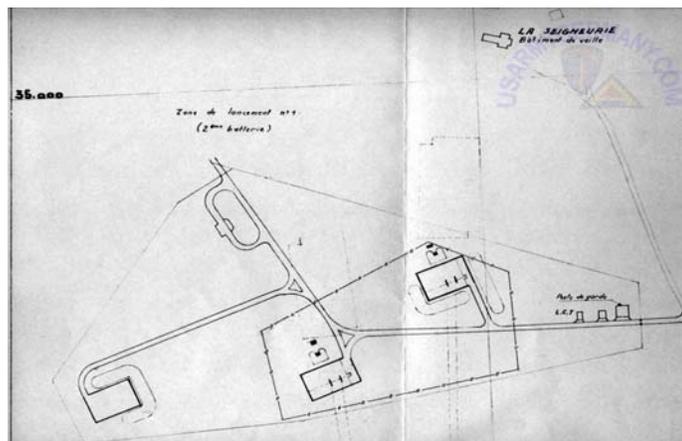
as planned (1965/66) in support of the two French NIKE battalions



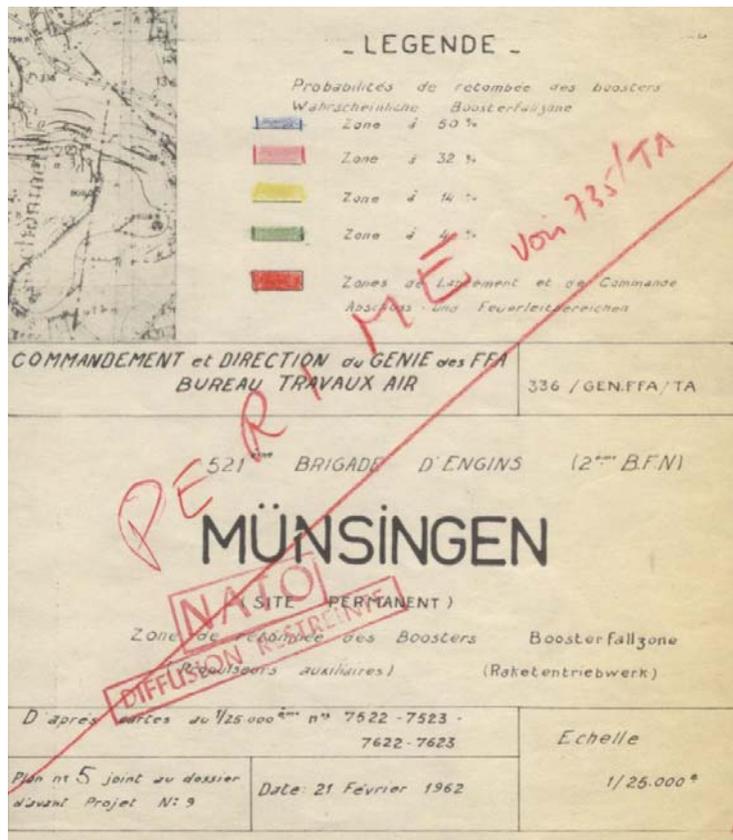
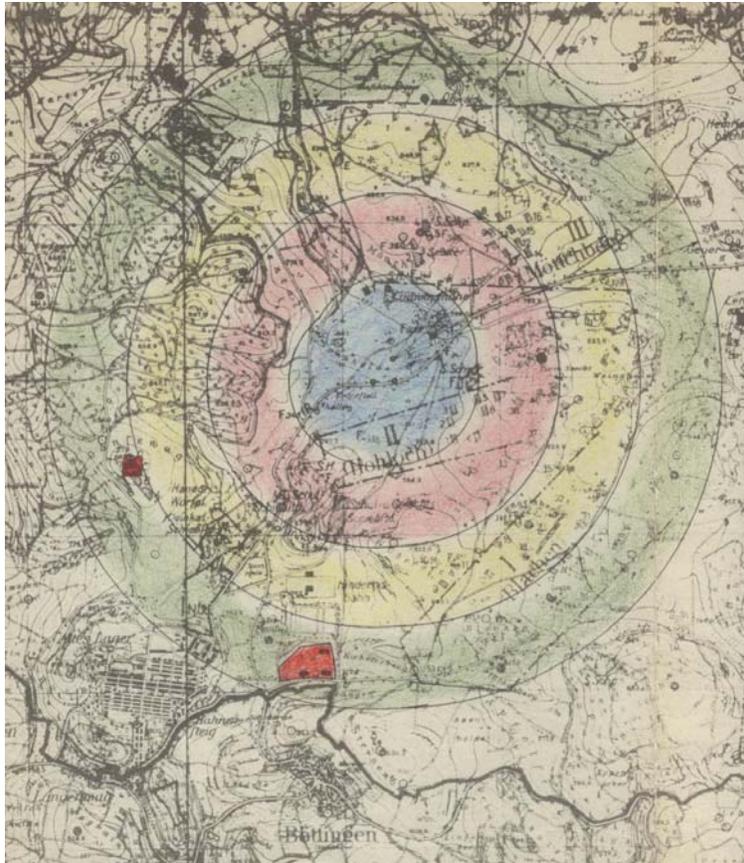
³¹ Col Geoffroy. 3-2007



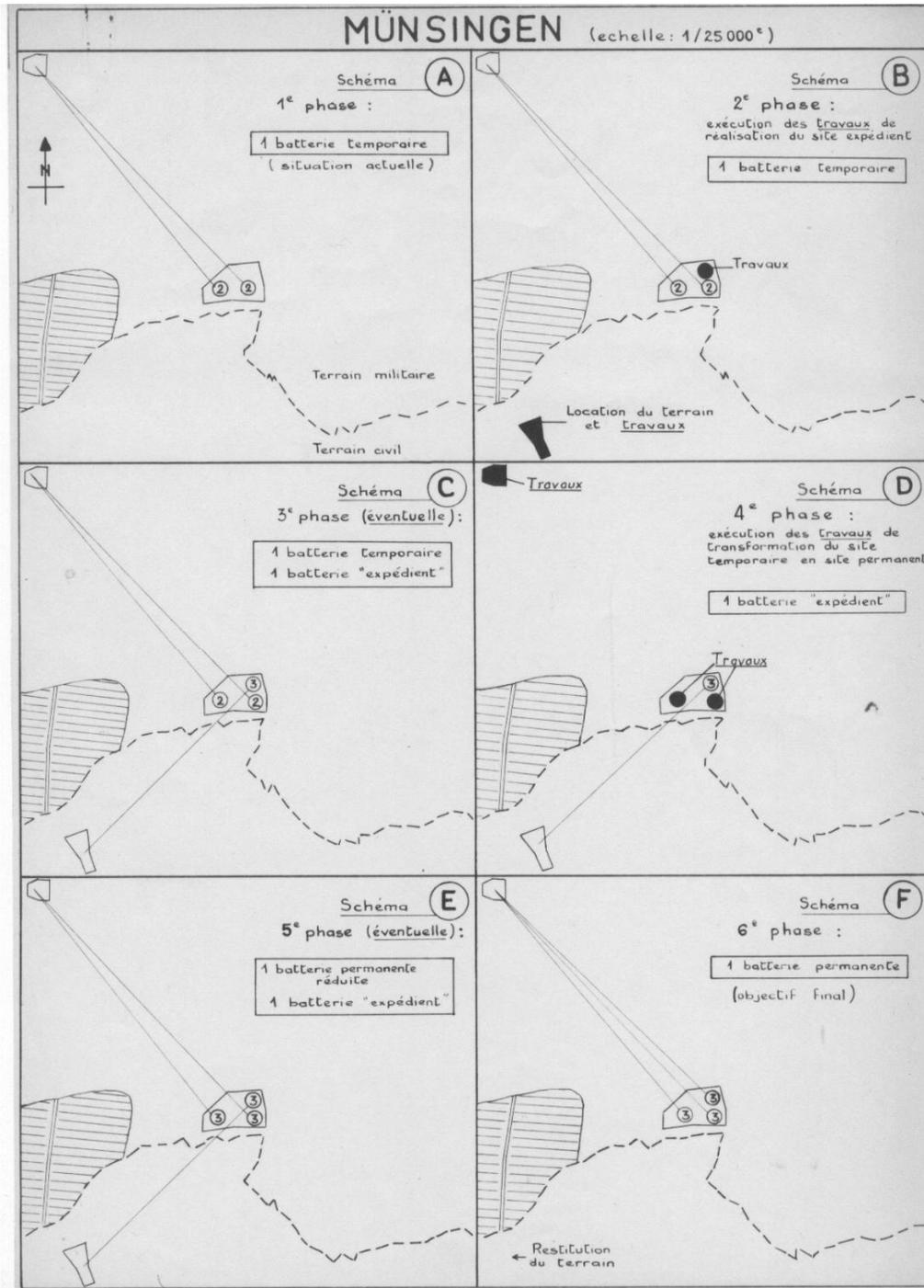
B1 & B2 FCC Sites in Stetten a.k.m.



B2 & B1 Launcher Sites in Stetten a.k.m.



Münsingen Nike site: Booster Fall Zones.



Munsingen Site

RÉPUBLIQUE FRANÇAISE

ARMÉE DE L'AIR

-  RDRE  GÉNÉRAL N° 3 -

Armés de missiles Sol-Air NIKE Hercules et déployés dans le Bade-Wurtemberg, les Escadrons 2/520 et 4/520 de Stetten, 1/520 de Bottingen, 3/520 d'Inneringen et les Escadrons 1/521 et 2/521 de Friedrichshafen, 3/521 de Mengen, 4/521 de Munsingen, ont participé brillamment, depuis 1961, à la chaîne de défense aérienne établie en Europe.

Assurant de façon permanente et continue une garde vigilante de l'espace aérien qui leur a été confié, ces escadrons ont su, dès leur création, se placer au premier rang des unités de missiles Sol-Air de l'Alliance.

Au moment où elles vont être dissoutes, j'exprime aux officiers, sous-officiers, caporaux et soldats de ces unités toute ma satisfaction.

Formés à la dure discipline de l'alerte immédiate et permanente, ils sauront, j'en suis certain, apporter la même foi et la même compétence à la mise sur pied des systèmes stratégiques les plus modernes de défense, qui seront bientôt l'une des responsabilités essentielles de l'Armée de l'Air.

A Metz, le 25 octobre 1966

Le Général de Corps aérien GAUTHIER,
Commandant la Force aérienne tactique
et la 1ère Région aérienne,



LAVAZELLE 54 1719 9

General Order Number 3.
Deactivation of the French Nike Units.
(Dated Oct 25, 1966)

French HAWK Units.

Following the return from the US Air Defense School in Fort Bliss³² and after successful firing practices:

The 401st RAA was assigned to the Air Defense School in Nîmes, France. One dismantled battery was solely dedicated to training. Originally created in 1924, the regiment was reactivated in February 1964 for the Hawk and deactivated in 1993.

The 402nd RAA, direct descendant of the 2nd RADCA in 1919 and until 1939, was reactivated in 1964 as it received its equipment in Kehl, Germany (the final manufacturing assembly was in Germany). It absorbed the 423rd RAA, its host at the Voisin Barracks (formerly Grossherzog-Friedrich-Kaserne). After qualifying the system in the summer of 1965, it moved to Bavaria (Munich area) with HQ in Dachau. Two batteries (1st & 4th) were "on the barrier". The 1st was deployed near Murnau, about 80 klm South of Munich. The 4th occupied a US site at Oberschleissheim, about 12 Klm East of Dachau and was "on alert status " within days (Btry CO Capt Fremont's quote). The 2nd and 3rd stationed at the infamous Dachau camp were at the ready to "move" and / or take over pre-selected positions as needed. Operationally the 402nd was subordinated to the nearby Freising NATO Air Defense concern.

The 403rd RAA was assigned to Landau, Germany. The Fort Bliss Air Defense School only trained its technical personnel and officers. After troop training in France, the Regiment fired its first missiles at the CEL Range in Biscarosse, France. The 403rd, while fully operational, was not set up on a "permanent site" as it was an Army Corp / Divisional reserve. It exercised and trained on its Ebenberg site nearby. The Regiment originally created in 1923 existed until 1940. It was activated from 1948 to 1961. It was reactivated in March 1964 with the Hawk and deactivated again in June 1999.

Documents recently uncovered through German archives (Thanks to M. R Anders from Münsingen) show that plans were in the works to have the 402nd deployed on "recognized" positions in case of war as follows:

- 1st Battery at Oberschleissheim airfield. (The 402nd took over from a German Hawk unit. After the French left, the site was returned a US Army unit in Nov 1966)
- 2nd Battery at Erding airfield.
- 3rd Battery at Bad Aibling airfield.
- 4th Battery at Murnau, Kemmel or Kinbrow barracks. (In 1966 the Murnau site was turned over to a German HAWK site)

Note: This "new assignment" is probably partially in error, as B1 would have switched positions with B4.

In the same plans, the 403rd was to deploy in the Munich-Regensburg area to set up a new sector south of Munich. Another document suggests that the 403rd would have loaned or subordinated a battery to the 402nd. In any event, by 1966, the regiment's abrupt return to France terminated the scheme.

Logistics and supply for the European Hawk was in Châteauroux, France until 1966 when it moved to Kappelen, Luxemburg.

³² Technical support personnel (Ordnance) received training at Redstone Arsenal and formed sub-units (DSDR) attached to each Regiment. Some Ordnance personnel for the Missile Monitor system were trained in Fort Bliss.

PHASE 2

- Le 402^e RAA occupe ses zone
operationnelles definitives

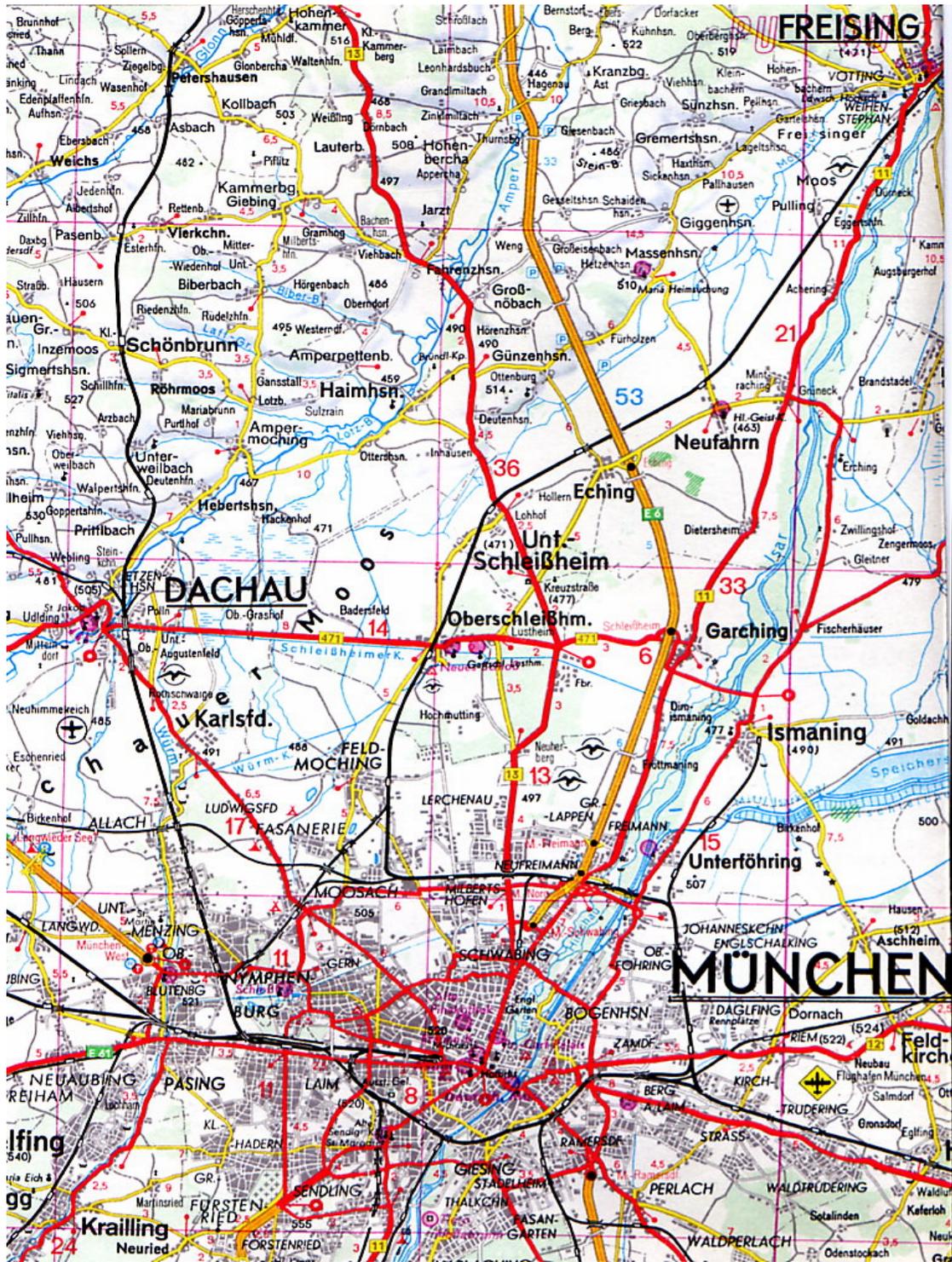
- Une batterie du 403^e RAA relève
la Batterie du 402^e RAA à MURNAU

SECRET

	Z. O. Mif A expediée le	Z. A. Mif B expediée le	Projet B Nato notifié au WBV	Avancement global des Travaux
4204	decembre 1962	/		
4201	decembre 1962	/		
Geretsried	/			
4203	octobre 1963	/		

Projected move

Dachau Area



Murnau Area



Transition from NATO Command and Then...

1966-

When the French Forces in Germany were removed from direct NATO command and the US forces left France, the French Air Force returned the "Nike electronics" ³³ (by now a Nuclear capable outfit) to the US, sold the acquired missiles to other allies and destroyed the non-nukes at the Avord Air base, France. The Air Force disposed of the BOC and BTE (AN/TSQ 28, etc.) while the Army could have used them for its Hawk. In fact, spare parts lots were "saved" from the dump after two old friends, one Air Force and one Army, happened to meet at a private party.

Most of the NIKE Air Force personnel ended up at the French nuclear missile silos (part of the French nuclear triad Submarines -Mirage IV – ICBM Missiles) in the Provence area.

The departure of the French left the Allied Air Defense barrier with an open gap. The French Nike had occupied Zones 1 and 2 behind the French Hawk Sectors 41 and 42. Zones and Sectors were also called Nike and Hawk belts respectively. The Luftwaffe and the US Army scrambled to fill the opening.

When they left, the French had just completed the construction of a large "special ammunition" storage near Empfingen. The building was later used by the Luftwaffe to store its HAWK missiles.

Note: A third French Nike unit was in the planning to be stationed between the Nike and the Hawk areas of responsibility and adjacent to the Austrian border.

From L'Armée, March, 1965:

« Following their return to France, the Hawk regiments will be assigned to National Air Defense. They are now under the technical authority of the Army Air Defense Command Head Quartered at Camp des Loges. This Command is in charge of Anti Aircraft Artillery when assigned to National Air Defense. The Army AA HQ at Taverny is deactivated »

In 1966 the 402nd RAA relocated to Laon, and made good use of a former US Air Force base at Couvron and then moved to Chalons sur Marne in August 1976. In 1967 the 403rd moved to Chaumont where it occupied a former US Air Base at Semoutier until deactivation.

Also in 1967, the SHAPE decided that a number of formerly occupied French sites were no longer needed after all and closed the following sites: Reichling, Wieling, Duernhausen, Fuerstenfeldbruck, Tuerkenfeld. However, Oberapfeldorf and Ueberacker sites were kept available for the planned Patriot system.

In 1983, after a base and unit realignment (BRAC) where the Air Defense School (Nîmes) was attached to the Field Artillery School in Draguignan³⁴ and with the Hawk aging, the 401st was deactivated (1993), and the 403rd and 402nd merged to form a new 402nd RA.

³³ A story of that time is that some high French authority did not know that the Nike were not French owned. Fact: only ammunition (missiles) and data transmission system had been fully acquired.

³⁴ Was it a model for the present plan to close Fort Bliss and move to Fort Sill?

All the while, the Hawk equipment was constantly improved and modified along with the US and NATO Hawk active units. Fort Bliss was still very active with French students. In 2006, its Hawk slowly dying of old age (yet still of value), the 402nd is waiting for its new ASTER system that is a cousin (or so it seems) of the US Patriot PAC 3.

Historical note: On Sept 7, 1987 the 3rd battery from the 403rd led by 1st Lt. Aznar shot down a Libyan Tupolev 22 bomber over N'djamena, the capital of Chad in Africa. Since 1986 France had deployed a Hawk battery to help defend this country from Libyan interferences. Four US Air Force C5 Galaxy transported --in part -- the equipment. Tour of duty was about 4 months; each regiment in turn provided personnel.



**Remains of a Libyan Tupolev Bomber TU-22
shot down over Chad, 1987.**

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Thousand Oaks, Ca.
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