CHAPTER 4

STARFIGHTER: THE SQUADRONS

RCAF (and later Canadian Armed Forces) CF-104 Starfighter tactical aircraft standing nuclear Quick Reaction Alert (QRA) operated under a chain of command flowing from:

- *NATO Headquarters (NATO HQ)*
- *Allied Command Europe (SHAPE)*
- *Allied Air Force Central Europe (AFCENT)*
- *4th Allied Tactical Air Force (4 ATAF)*
- *1 Air Division (1 Air Div)*
- *RCAF/CAF 1 Wing, 3 Wing, 4 Wing*
- *RCAF/CAF Strike/Attack Squadrons*

The release of nuclear weapons to the pilots standing alert in the QRA hangar came about through two channels. Firstly, once the US president had authorized the use of nuclear weapons, this was conveyed through the Worldwide Military Command and Control System (WWMCCS, pronounced Wih'mex) to the various appropriate Commander in Chiefs (CINC) and to the appropriate field commanders. For the purposes of the Canadian Air Division this information would be transmitted to the Supreme Allied Commander Europe (SACEUR), who was also dual-hatted as the US forces Commander in Chief Europe (CINCEUR). As CINCEUR he would then authorize the release of nuclear weapons by the USAFE custodial detachments holding them at Canadian bases. As SACEUR he would, through a completely different channel of communication, authorize their use by various NATO forces. Once both the US custodians and the Canadian QRA duty officer had received the release order, they would both open a two-combination safe kept in the QRA containing
the PAL codes. These codes would then be handed to the pilot already in the Starfighter cockpit. Once aloft and on the way to the target, the pilot would enter the four- or six-digit code into the PAL device located in the cockpit and connected directly to the weapon slung beneath the aircraft.

1 AIR DIVISION, RCAF
The Canadian 1 Air Division HQ had been based in France until the increasingly nationalistic moves by the government of Charles de Gaulle forced its removal on 31 March 1967. After a Cabinet decision of 14 July 1966, it was then based at Lahr, Federal Republic of Germany. The initial problem with Lahr was that with the French then occupying the site, there was not enough room for the Canadians.1 In early 1967 the French were withdrawing their forces to French territory, and Lahr was opened up to become the new headquarters of 1 Air Division and a strike base.

Under the command of 1 Air Division in early 1964, eight squadrons were reactivated as strike/attack or strike/reconnaissance units.2

Strike/Reconnaissance or Strike/Attack, Base, Date Activated
441 St/R Marville, France 20 Jan 64
439 St/R Marville, France 02 Mar 64
427 St/A Zweibrucken, West Germany 01 Feb 64
430 St/A Zweibrucken, West Germany 26 Feb 64
434 St/A Zweibrucken, West Germany 01 Feb 64
421 St/A Baden-Soellingen, West Germany 26 Feb 64
422 St/A Baden-Soellingen, West Germany 01 Feb 64
444 St/A Baden-Soellingen, West Germany 01 Feb 64

The reactivated squadrons had their first Tactical Evaluations for strike duties on 8–11 June 1964 at 3 and 4 Wings, and on 1 July 1964 all six strike/attack squadrons assumed an alert commitment.3 It is crucial to note that six of the eight squadrons were nuclear-armed, and therefore essentially immobilized. The United States had widely distributed nuclear weapons among the NATO allies, and the constant inspections, heavy security, and burdensome nuclear procedures prevented any of the forces assigned nuclear duties from being flexible and usable in any conventional sense. The RCAF did
not even train their Starfighter crews in conventional weapons use until at least 1970. By 1970, the Canadian military, prompted by the Trudeau Government, was pushing for a conventional role for the CAF in Europe. Of course, once Canada got back into the conventional area, all of the other air forces desired the same thing. This led to an increasing conventionalization of NATO air forces and their ability to take action, much to the dismay of the United States. For the US government, a grounded European air force was a safe air force which could not disturb the delicate balance of military relations with the Soviet Union.

Under SACEUR’s plans, 1 Air Division was tasked with providing three to four aircraft from each of the RCAF squadrons in Europe to be on Quick Reaction Alert at all times and this involved the aircraft actually being armed with nuclear weapons. Because of limited numbers of both aircraft and personnel, the military found it difficult to meet the minimum requirements, and SACEUR lowered the number of alert aircraft required to two per squadron.

DOCUMENT #1
11 September 1963, S0029-106-1 TD 32418(CAS), 3314-22, to Chairman, Chiefs of Staff, Ottawa, from Chief of the Air Staff, Air Marshal C.R. Dunlap, re, Special Weapon Storage Facilities.

The SACEUR Nuclear Strike Plan, in part, requires that strike squadrons with an aircraft establishment of 15 or less maintain two aircraft on Quick Reaction Alert, whereas strike squadrons with an aircraft establishment of 16 or more must maintain four aircraft on Quick Reaction Alert. SACEUR has indicated that he is prepared to accept only two aircraft on QRA until it is possible to increase this number in accordance with the Nuclear Strike Plan.

As time went by, and the squadrons became more proficient at doing more with less, 1 Air Division was able to field greater numbers on alert. By 1967 the Quick Reaction Alert (QRA) states of readiness for the Wings were as listed below:
QUICK REACTION ALERT TIMES

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peacetime QRA</td>
<td>4 aircraft/Wing in 15 minutes</td>
</tr>
<tr>
<td>Augmented QRA</td>
<td>12 aircraft/Wing in 6 hours</td>
</tr>
<tr>
<td>Sustained QRA</td>
<td>18 aircraft/Wing in 12 hours (30–45 days)</td>
</tr>
<tr>
<td>Full Generation</td>
<td>25 aircraft/Wing in 12 hours (70% of Unit Establishment aircraft)</td>
</tr>
</tbody>
</table>

Although the readiness was improving, the numbers of aircraft was shrinking. On 01 April 1967 Canadian aircraft in SACEUR’s operationally ready forces were reduced from 126 to 108 aircraft. This left 1 Air Division with four squadrons of 18 aircraft each for a total force of 72 aircraft committed to the strike role; a reduction of 24 aircraft. While the numbers might seem small, they actually represented a significant force of 20% of 4 ATAFs all-weather strike capability.

The draw-down of forces had been planned for years, and the Starfighter force in Europe was the first to experience the trimming of the Canadian nuclear commitment. Explaining his 1964 defence White Paper to Cabinet, Paul Hellyer said that it “was deliberately somewhat indefinite on this score because of the impossibility of foreseeing what the future might require. The Air Division would be run down through attrition and would also be given a dual role with a conventional capability. There was a clear indication that forces now employing nuclear weapons, with the possible exception of the Honest John, would be phased out over the years ahead.” Clearly everything was up for re-negotiation within NATO and NORAD, and 1 Air Division would be the first to be cut.

EXERCISES

Nothing could tell us more about the actual tasks of the strike/attack squadrons than the exercises they carried out on a weekly, monthly, semi-annual, or annual basis. The list below shows that all aspects of the Wing and squadron operation were subject to constant practice, drill, and exercise.

"Fast Strike" This exercise was designed as a command post drill to practice implementation of the Nuclear Strike Plan, and to provide training in staff procedures.

"Front Centre IV" This procedural exercise provided training for staff personnel in the operations of a War Headquarters, and in
3 WING NUCLEAR SQUADRONS
427 Strike/Attack Squadron 01 Feb 64–1969
430 Strike/Attack Squadron 26 Feb 64–1969
434 Strike/Attack Squadron 01 Feb 64–1967

427 STRIKE/ATTACK SQUADRON
The “Lion” squadron at 3 Wing Zweibrucken was re-formed on 16 December 1962. It was the first RCAF squadron to be equipped with the CF-104 in Europe, getting the aircraft on 10 January 1963. Despite the practice, the Tactical Evaluation gave them the lowest pass mark allowed (a rating of “three”) on 08 June 1964. Their second Tac Eval in November 1964 gave them an improved score of “two.” The squadron assumed nuclear duties with the Mk 28 in the QRA area on 15 June 1964. In May 1966 the Mk 57 weapon would be added to their capabilities and commitments.

Their duties were best described by a couple of unnamed pilots in the unofficial squadron diary:

The Squadron is broken down into two flights: A and B. We had at this time (March–April 1966) an establishment of 21 pilots and our own ground crew located at one end of our building. The Squadron also had its own aircraft, and our ground crew handled minor unservicabilities. Each flight provided a pilot daily to hold “Q”. QRA thus saw the same pilot appear approximately once a week. “Q” is served for a 24 hr period: the pilot relegated to a closed compound with nuclear weapon loaded aircraft.28

During June 1969 the squadron moved from 3 Wing to 4 Wing at Baden-Soellingen. The Lion was then closed out on 30 June 1970.

430 STRIKE/ATTACK SQUADRON
The information on 430 Squadron is in the 1 Wing Strike/Attack squadrons section previous to this.

434 STRIKE/ATTACK SQUADRON
The time in nuclear service for the Bluenose squadron at 3 Wing Zweibrucken was short, covering 15 June 1964 until the unit was
deactivated on 01 March 1967.\textsuperscript{29} 434 thereby became one of the first Canadian nuclear units to be decommissioned as Canada slowly started to shed its nuclear commitments within NATO. However short their operational life, the squadron did manage to become operational with two different nuclear weapons. Initially all units used the common Mk 28, but in May 1966 the squadron became certified to use the relatively new Mk 57.\textsuperscript{30}

**USAPE DETACHMENT 2100 or DETACHMENT 4**

The USAF unit serving 3 Wing was originally Detachment 2100 of the 7232 MMG, but changed its affiliation in late 1967. By November it was Detachment 4 of the 26th Tactical Reconnaissance Wing. Detachment 2100 was responsible for the custody and maintenance of the various nuclear gravity bombs used by the three strike/attack squadrons at 3 Wing.

This unit officially closed at 3 Wing on 01 July 1969, and moved to 1 Wing Lahr to support the new nuclear strike commitment at that base.

**4 WING RCAF/CAF**

Flying under the motto “On Guard,” 4 Wing was formed at Baden-Soellingen, Federal Republic of Germany, on 01 July 1953.

With the passing of the Tactical Evaluation carried out by 4 ATAF on 11 June 1964, the Wing took up its operational strike role on 12 June 1964, with each squadron placing two pilots on QRA at all times. Each 4 Wing pilot did QRA duty every 6–7 days.\textsuperscript{31} Within days of the Wing being cleared for operations with thermonuclear weapons, Paul Hellyer paid a visit and spoke to all service personnel on his new National Defence White Paper. There was no mention of the nuclear weapons.

At Baden-Soellingen, the south dispersal area was zoned off for the storage of nuclear weapons. The Wing decided that to facilitate fast weapons loading, the combat-ready CF-104 aircraft of the three squadrons would be parked nearby when preparing for QRA duties. This became the Quick Reaction Alert area, and both Canadian and US Air Force guards patrolled between the high double fences day and night.\textsuperscript{32}

The Wing was first stocked with the Mk 28 thermonuclear bomb, and later with the smaller Mk 57 bomb.\textsuperscript{33} What is notable is that 4
Wing was the only unit to operate the Mk 43 thermonuclear weapon, which had originally been planned for a deployment to 3 Wing. A Pre-Atomic Capability Inspection of the Mk 43 Mod 1 weapon, 4 Wing, and Detachment 3 of the 26th Tactical Reconnaissance Wing, was done 9-11 September 1968, and all involved were cleared for the reception of the new weapon. The inspectors noted, however, that there was no Mk 43 weapon on the base, and a Type III training weapon had to be used for the proficiency demonstrations. This was considered odd as the base and units had already been cleared for holding nuclear weapons.

The deployment of the Mk 43 was not a long one, and by early 1970 the weapon had already been removed from the SAS site at Baden-Soellingen. The Mk 28 types and the Mk 57 would remain in use until 01 January 1972.

4 Wing managed to become the longest serving nuclear unit in Canadian service in Europe despite some impressive obstacles. There was a great deal of pressure placed by the officials of the nearby town of Baden for the relocation of the air base. On 18 January 1968, the Baden Minister of Finance stated that he was requesting the German Ministry of Defence to give up Baden-Soellingen air base and thereby remove the Canadians. It was said that the townspeople would settle for having the runway shifted to cut down on noise, but were unwilling to part with even one square metre of land for such construction.

Periodic maintenance was always a problem, and by 1968 it was obvious that the runway at Baden had to be resurfaced. This meant that the strike/attack squadrons (422 and 421) would be moved to 3 Wing to serve their QRA. Beginning on 24 February 1969 and lasting for 100 days, the operational squadrons and all of their associated equipment were moved to Zweibrucken. This shuffling of squadrons also meant that the nuclear weapons were moved, and that there would be a problem with maintaining the stockpile. It seems that the USAFE would not be able to restock the Mk 28 at Baden until after another Capability Inspection once the squadrons had returned to their base, thus leaving the Wing essentially unarmed for a short period of time.

The last surviving nuclear Wing in the CAF in Europe was stood down from that nuclear commitment on 31 December 1971. As of 01 January 1972, 4 Wing and the entire Canadian Air Group were tasked with conventional weapons delivery.
4 WING NUCLEAR SQUADRONS

421 Strike/Attack 14 Feb 64–1972
422 Strike/Attack 01 Feb 64–1972
421 Strike/Attack 01 Jul 70–1972
444 Strike/Attack 01 Feb 64–1967

421 STRIKE/ATTACK SQUADRON

“Red Indian” Squadron was originally reformed at 2 Wing on 21 December 1963, and then switched over to the command of 4 Wing on 14 February 1964.

Tasked to perform day and night strikes with nuclear weapons against pre-selected targets and/or targets of opportunity of enemy forces positioned within SACEUR’s theatre of operations, 421 held its first QRA with the Mk 28 on 01 October 1964, making it the last strike squadron to come on-line at 4 Wing. This late start was due to a lack of establishment pilots and the fact that the staff was still in the training phase. In those first years of operation, the attack role, which meant the use of conventional weapons, “was all but ignored.” In May 1966 a new weapon was added to the arsenal of Mk 28s carried by the unit when they became certified to deliver the Mk 57.

Although always a 4 Wing squadron, 421 did serve some QRA time at 3 Wing. It moved there on 24 February 1969 for 100 days to allow the runway at Baden to be resurfaced.

After standing its last nuclear QRA on 31 December 1971, the squadron assumed a conventional role on 01 January 1972. Although it did not acquire nuclear weapons as early in 1964 as some other strike/attack squadrons, 421 was the last Starfighter unit in the RCAF/CAF to be equipped with nuclear gravity bombs. This made it the longest-lived nuclear weapons squadron in 1 Air Division, RCAF/CAF.

422 STRIKE/ATTACK SQUADRON

Tomahawk Squadron at 4 Wing Baden-Soellingen was activated 15 July 1963 with the first CF-104 delivered to 4 Wing, and the first squadron aircraft was flown on 19 July. 422 and 444 Squadrons would be the first operational nuclear units to begin QRA duties at 4 Wing on 15 June 1964. The unit would start its QRA carrying the Mk 28 bomb, and in May 1966 would add the new Mk 57 to the inventory of weapons certified for use on the CF-104.
Although always a 4 Wing squadron, 422 and its sister squadron 421, did serve some QRA time at 3 Wing. They moved there on 24 February 1969 for 100 days to allow the runway at Baden to be resurfaced, returning in June.

The squadron would be disbanded on Canada Day, 1970, after flying 33,800 hours and losing four aircraft and two pilots to crashes.

444 STRIKE/ATTACK SQUADRON
With its mascot Cecil the Snake and the motto “Strike Swift Strike Sure,” Cobra Squadron moved into 4 Wing Baden-Soellingen on 21 May 1963. On 31 January 1964, 444 Reconnaissance Squadron became 444 Strike/Attack Squadron. It was fully operational with the Mk 28 bomb after the Tactical Evaluation on 11 June 1964, during which they flew over 100 missions. Then in May 1966 it became operational with the new Mk 57 nuclear weapon. This would last for less than one year. In 1966 the squadron was commanded by Gerard Theriault, who would later become the Chief of Defence Staff at the time the last nuclear weapons were removed from bases in Canada.

With the news from Ottawa that “effective 1 April 1967, 444 Strike/Attack Squadron, Baden-Soellingen, Germany will be reduced to nil strength and made dormant” the unit prepared for the end. Cecil flew his last flight on 31 March 1967, and the squadron was disbanded 01 April 1967.

USAF DETACHMENT 1900 or DETACHMENT 3
This USAFE unit serving RCAF 4 Wing was originally Detachment 1900 of the 7232 MMG, but changed its affiliation in late 1967 to become Detachment 3 of the 26th Tactical Reconnaissance Wing. Their task was to provide the custodial oversight and the maintenance of the three types of nuclear weapons assigned and deployed to 4 Wing for the three (later two) strike/attack squadrons.

At its inception, Detachment 1900 under the command of Major RP Cady and his team, served RCAF 421, 422, and 444 Squadrons. In 1972 the detachment, by this time called #3, would be disbanded as the nuclear commitment at 4 Wing was ended.

THE FINAL WEAPONS
The last nuclear weapons used by the RCAF in Europe were stored at the 4 Wing Baden SAS. The strike/attack squadrons stood their final
QRA on New Year's Eve, 1971. After their final use in the QRA on 31 December 1971, the next 12 days were used for the removal of the weapons. By 12 January 1972 the SAS at Baden was empty, and 4 Wing became the last Starfighter unit to stand alert with nuclear weapons. The previous year, 1971, had seen the last remaining nuclear weapons removed from 1 Wing, which had only acquired them in 1969.

DOCUMENT # 6
18 November 1971, V3313-22 DNW, Restricted Memorandum, re:
DNW Field Activities — 1 CAG Final Visit.

It is felt that the experience gained from the previous phase out of the strike role from 3 and 1 Wings would serve to accomplish nuclear weapons removal and phase out at Baden in a safe and efficient manner.

DOCUMENT # 7
17 January 1972, 1910Z, from VCDS/CANFORCEHED to Commander 1 CAG/CANAIRGRP Lahr.

Final phase-out of special weapons on 12 January (1972 at 4 Wing Baden) marked the end of an era which started in 1964. Thank you for the great credit which you have brought to the Canadian Armed Forces in Europe.