***Sitting Ducks and Strategic Change. The Air Division in Europe, 1959 to 1967***

**Isabel Campbell** Senior Historian, Directorate

of History and Heritage, National Defence Headquarters.[[1]](#footnote-1)

Human beings have created new technological tools since the beginning of recorded time. Since then, scientific, and technological innovations have profoundly altered human society and warfare in ways often not foreseen at the time they were developed. Air power, defined here to include the employment of all air and space forces to control and exploit the air and space environments to achieve security objectives, intensified the pace of these transformations.[[2]](#footnote-2) Key innovations such as the airplane, the jet engine, and nuclear weapons, led to the rise of air power; these developments fueled Cold War anxiety, driving further innovations in missiles, satellites, submarines, space, and other technological breakthroughs in a snow-balling fashion. Leaders ignore the broader implications of these innovations at their peril. While it is impossible to predict how decisions made at one moment will play out over the course of future years, leaders must stay abreast of changes in the strategic, diplomatic, and technological environments and adjust operational plans as the environments transform while innovations are being implemented.

This essay is a case study demonstrating Canadian short-sightedness regarding the nuclear strike and reconnaissance role in Europe approved in 1959. Drawing upon the rich historiography about this topic, two book chapters about PMs John Diefenbaker and Lester B Pearson, and otherinternational, foreign policy, inter-service, and service historiography and new research, will reveal how Royal Canadian Air Force (RCAF) leaders became overly focused upon the nuclear aspect of the Air Division’s role during the late 1950s and early 1960s and failed to adapt to rapidly changing circumstances.[[3]](#footnote-3) Air leaders were ill-prepared for the strategic and technological transformations which rendered that role nearly superfluous. Committed to the notion of massive retaliation – the use of mass nuclear weapons at the outset of the war - they eliminated conventional armaments from approved RCAF F 104 G Starfighter aircraft requirements just as the strategic community was moving towards flexible response – that is, consideration of a period of conventional warfare at the outset of war with the possibility of graduated responses to different levels of aggression. RCAF leaders convinced that their pilots needed to have nuclear arms, viewing them as the most effective weapons possible, rejected conventional options. They therefore refused to consider the new flexible response strategic initiatives and failed to understand how their insistence upon a nuclear-only role for the Starfighter (picture below) created difficulties for the air division and for the alliance.



The image above is of the RCAF CF 104 G Starfighter, 1964. From USAF, archives.gov[[4]](#footnote-4)

Aside from examining the shifting strategic and operational context, this paper briefly considers intelligence, diplomacy, deterrence, technology, the domestic and international aircraft industries, and the interplay among these factors and targets. To quote John Ferris on a central problem for air power, “Air personnel focus on precise strikes against vulnerable targets because they have a dart and long for a worthy foe. To strike an Achilles heel, however, you must know what that is. Achieving that task is a complex matter of strategic intelligence.”[[5]](#footnote-5) Ironically, the F 104 G Starfighter, which came into service in the Royal Canadian Air Force (RCAF) Air Division in Europe in the 1960s, was nicknamed the “lawn dart” because of its relatively high accident rate in low level flying in Europe. It became controversial for that and for other reasons, explored more fully in the international literature about this weapon system.[[6]](#footnote-6) NATO (North Atlantic Treaty Organization) plans for the air division targeted Eastern Europe, including Czechoslovakia, using tactical nuclear weapons to take out military targets, such as airfields, military bases, radar installations, and targets of opportunity.[[7]](#footnote-7) These targets were located within 600 miles of the RCAF bases in Europe, and thus within the range of the Starfighter aircraft.[[8]](#footnote-8) Based on the intelligence available about Eastern European dissidence after 1956, we may question the suitability of those targets.[[9]](#footnote-9) This study examines how the weapon system (the range and suitability of the nuclear-armed F 104 G) acted as both a driver and a limitation on Canadian air power during this period of strategic transition. Further, the F 104 G role did not support Canadian foreign policy goals in the manner that was originally envisioned for it. In that regard, Norman Robertson, the Under-Secretary of State for External Affairs, bears responsibility for naïve thinking about how the adoption of a nuclear strike and reconnaissance role might increase Canada’s influence within NATO. Canadian diplomats were aware of French and other European resistance to American nuclear weapons located on their soil and that many Europeans feared placing these weapons in the FRG (Federal Republic of Germany) because the Germans were not yet trusted allies. This American-driven plan exacerbated underlying European alliance tensions.[[10]](#footnote-10) Although Robertson and others were aware of plans to target Eastern Europe with nuclear weapons, few Canadian officials questioned the effectiveness of nuclear targets in Eastern Europe for deterring future Soviet actions and put forth alternative ideas.[[11]](#footnote-11) As we will see, this new operational role had other weaknesses. It did not increase Canada’s influence in the alliance, nor did it improve alliance cohesion.

**Massive retaliation and the decision to arm the air division with the nuclear-armed starfighter.**

In June 1959 when the Diefenbaker government made the decision to re-equip the Air Division in Europe with the F 104 G armed with nuclear weapons in a strike and reconnaissance role, the prevailing massive retaliation strategy justified the new role. The NATO-approved strategy known as MC 14/2 stated that phase one of the future was “not likely to exceed thirty days, the first few days of which would be characterized by the greatest intensity of nuclear exchange.”[[12]](#footnote-12) The strategic concept excluded the possibility of “limited war,” providing little justification for conventional weapons. It called for the first use of strategic and tactical nuclear weapons in the event of Soviet aggression with or without nuclear weapons. The strategy also assumed that American, British, and Canadian forces would be stationed in Europe under SACEUR (the Supreme Allied Commander Europe).[[13]](#footnote-13)

**Nuclear weapons and NATO solidarity**

General Lauris Norstad, a well-known American Air Power proponent, held the SACEUR post from 20 November 1956 to 1 January 1963. He insisted upon placing American nuclear weapons in European territories, a move that met with stout resistance from French President Charles De Gaulle, raising the troubling possibility of concentrating such weapons in West Germany (the FRG).[[14]](#footnote-14) NATO solidarity had already been badly damaged by the 1956 Suez crisis.[[15]](#footnote-15) Norstad’s determination to locate tactical nuclear weapons in Europe and especially in West Germany exacerbated European fears, partly because the Second World War Nazi occupation and allied strategic bombing were recent memories. In 1959, French President Charles De Gaulle asked Norstad for the target list for US nuclear weapons planned to be deployed in France. Norstad refused. After all the staff left, De Gaulle informed Norstad that no responsible French leader would accept this reply. However, the historiographical focus on French refusals tends to distort this debate. Iceland and Portugal rejected nuclear weapons on their soil, and Denmark refused nuclear weapons for its forces. Norway acquired Starfighter aircraft but ruled out a nuclear role in 1963.[[16]](#footnote-16)

Only a few people, like Escott Reid, Canada’s Ambassador to the FRG suggested a nuclear-free zone in Central Europe, comprising the two Germanies, Poland, Czechoslovakia, and Hungary along with other concessions regarding the German border with Poland. Yet Reid wryly observed that the Germans and other Europeans were not interested in Canadian views on their security.[[17]](#footnote-17) Canada’s defence contributions and its relatively modest trade in Europe did not result in much influence in the foreign and defence policies of its allies, especially when Canadian views often seemed to be either naïve or merely supporting Anglo-American interests.[[18]](#footnote-18)

Despite European (and Soviet) fears, the United States moved ahead, announcing its plans to move American air squadrons from France to the FRG to facilitate arming them with nuclear weapons. This move increased the influence of the FRG, made it more difficult for the Western allies to progress disarmament with the Soviet Union, and isolated the French.[[19]](#footnote-19) The FRG had already adopted the Starfighter aircraft in October 1958 as a low-level fighter bomber. They and other European partners used the aircraft in either a dual role (nuclear/conventional) or a conventional-only bombing role.[[20]](#footnote-20)

**Norstad’s visit and the offer**

In May 1959, Norstad visited Ottawa to ask Canada to approve a new strike role for the Canadian Air Division. His offer was attractive: the strike role would replace the existing conventional air defence role, reducing the number of aircraft per squadron, while airframes and engines could be produced under license in Canada, softening the blow of the Avro Arrow cancellation earlier that year and opening the door for Canada to market aircraft parts to other NATO nations.[[21]](#footnote-21) The Air Division consisted of 8 squadrons of Canadair CF 86 Sabre Aircraft and 4 squadrons of Avro Canada CF 100 Canuck Aircraft in an air defence role as part of the Fourth Allied Tactical Air Force in Europe.[[22]](#footnote-22) Canada had gifted seventy-five Sabre V aircraft to the FRG as mutual aid in 1954. Later the FRG bought two hundred and twenty-five Sabre VI aircraft from Canadair, utilizing the Canadian-made Orenda engine, the biggest FRG defence purchase in 1956.**[[23]](#footnote-23)** The possibility of marketing more Orenda engines for the F 104 G as well as aircraft parts to the FRG and other Europeans proved attractive. Norstad asked the Canadian Cabinet to replace just the Sabres which would be worn out by 1961 or 1962, reducing the number of aircraft per squadron from 25 to 18, and suggesting that Canada consider replacing the CF 100s at a later unspecified date. [[24]](#footnote-24)

**Potential vulnerabilities are not explored at a high level.**

A few defence insiders pointed out that airfields in Europe were vulnerable to Soviet missiles, while others argued that RCAF resources might be used in defending Canada itself, but the chiefs of staff committee did not explore these topics in any depth.[[25]](#footnote-25) The Diefenbaker cabinet (including Defence Minister George Pearkes and Howard Green the new Secretary of State for External Affairs) focused upon the foreign policy arguments and domestic aircraft industry arguments in the three meetings held to consider the new role.

**Norman Robertson and the foreign policy case for a nuclear role.**

Howard Green, the new Secretary of State for External Affairs who later became well known for his strong disarmament stand in 1960 *was* present at all three cabinet meetings and did not oppose the new role. Just before the Canadian Cabinet approved the new air division role on 19 June 1959, Norman Robertson (the Under Secretary) endorsed the F 104 G nuclear decision in a lengthy memorandum to Green**.** [[26]](#footnote-26)

Robertson told Green (and Diefenbaker) that this new role would increase Canada’s influence in NATO and with Britain and the United States.[[27]](#footnote-27) The Air Division’s role would change from “the essentially defensive task of intercepting enemy bombers to the task of attacking with tactical nuclear bombs special targets in Eastern Europe.”[[28]](#footnote-28) Robertson called President de Gaulle’s refusal to allow the Americans to store atomic weapons for its air force squadrons on French soil, “a challenge to United States policy regarding the control of atomic weapons” with serious repercussions to come. In Canada’s view, the French insistence upon an independent nuclear deterrent created proliferation. Robertson hoped that Canada would not add to alliance difficulties by refusing to re-equip the air division. Thus, at this key moment, the influential Robertson strongly advised Green to support Defence Minister George Pearkes and decide *in favour* of this new nuclear role for the RCAF.[[29]](#footnote-29)

In another memo to Green on 12 June, Robertson observed that while the Canadians planned to equip their forces with *modern weapons* (a euphemism for nuclear arms), he considered it expedient to leave the ownership and custody of these weapons with the US. Norstad had not been informing the NATO Council of these plans because of French opposition at this moment when Canada was on the threshold of deciding to acquire tactical nuclear weapons.[[30]](#footnote-30) Thus, the Canadian decision was made without consulting the NATO Council or the alliance members, such as France, which had hosted the air division since its inception.

On 19 June 1959, Defence Minister Pearkes acknowledged that Canada had a *minute* voice in the alliance but argued that the new offensive role would increase its influence. Pearkes dramatized his case by stating that “if Canada withdrew, others would [withdraw](file:///C:\Users\Campbell.MI2\documents\rcafairconference2015\e) too”. The Cabinet unanimously agreed to leave the choice of the new aircraft to Defence Production.[[31]](#footnote-31)

D**omestic defence production benefits.**

The cancellation of the Avro Arrow earlierin 1959 placed great pressure on the RCAF to accept an aircraft which could be produced partially in Canada and marketed to Europe. German and other European Starfighter purchases helped to offset Canadian military expenditures in Europe and improve Canada’s foreign exchange issues. On 30 June, the Cabinet heard that if Canada approved the Lockheed offer, the FRG would place 14 million dollars of work in Canada for the 66 Starfighter aircraft it had purchased, making this deal very attractive in view of the unemployment in this sector. Earlier Canadian ambitions to use its European military presence to gain access to European markets had largely failed by 1959 as the Europeans adopted high tariffs and other discriminatory measures.[[32]](#footnote-32) European defence purchases thus represented an important export in a difficult market, especially as the Americans typically offered better deals due to economies of scale. On 2 July, Cabinet approved the Lockheed Starfighter deal which allowed Canadian companies to bid on producing the airframe, while Orenda produced the engine, opening the door to further European and German purchases of this part. The domestic industry justification of this deal was key to Cabinet approval. Although Canadian manufacturers were slow to fulfil German orders, the deal was largely an economic success.[[33]](#footnote-33)

**The aircraft choice**

The Lockheed Starfighter had been developed as a powerful single-engine high-altitude interceptor. By 1957, Lockheed redesigned it for fighter, fighter-bomber, and reconnaissance missions in Europe with highly demanding low-level flying over difficult terrain. It had a high accident rate in the poor weather of the hilly German terrain and later became mired in controversy when unproven allegations arose that German Defence Minister Franz Josef Strauss and his party received ten million in bribes to approve the aircraft.[[34]](#footnote-34) The RCAF had initially hoped to acquire an expensive American Republic F-105 Thunderbird and considered several other American-manufactured jets. When the service chiefs met on 30 June as Cabinet was considering the choices, they preferred the McDonnell F4H but quickly approved the F 104 G Starfighter when they realized the domestic benefits of the Lockheed deal.[[35]](#footnote-35) As it turns out, while there were tragic losses of life, the aircraft performed relatively well in Canadian hands.[[36]](#footnote-36)

**Strategic transitions and shifts in Canadian foreign policy tactics.**

The foreign policy aspect of this decision proved less successful. Within the Canadian government, over the course of 1960, differences over the nuclear role of Canadian forces grew when Howard Green, Norman Robertson, retired General E.L.M Burns who advised on disarmament matters, and others argued that Canada could not negotiate nuclear weapons agreements while at the same time pushing for disarmament. This reversal in tactics partly reflected developments in the international strategic debate.

Strategic thinkers, like retired American Army General Maxwell Taylor, were vocal in their criticisms of the massive retaliation strategy. In 1960, Taylor’s book *Uncertain Trumpet* condemned the Eisenhower government`s excessive reliance upon nuclear weapons and its neglect of conventional options. After John F. Kennedy won the 1960 election, he learned about the shocking amount of “over-kill” in the American nuclear arsenal and began to implement a flexible response, pushing hard for a conventional pause and then the graduated use of nuclear weapons.[[37]](#footnote-37) With the advent of Intercontinental Ballistic Missiles (ICBMS - and especially with the Polaris missile which targeted Moscow and key Russian centres), Kennedy and his Defense Secretary Robert McNamara believed that the Americans required more options to deal with different levels of threat.[[38]](#footnote-38) Canadian observers, like Robertson, also believed that the Polaris missile changed the strategic picture.[[39]](#footnote-39) In this case, they were right. The Polaris provided the potential for a conventional pause because it allowed submarines to hide and launch deadly strikes from almost anywhere, rendering a first-strike surprise attack less likely by providing a reliable second strike aimed the core of Soviet power.

**Canada’s Air Power proponents insist upon the nuclear-only option.**

Air Power proponents, like Norstad, and Canada’s chief of the Air Staff, Air Marshall Hugh Campbell (no relation) were unhappy with these strategic changes.[[40]](#footnote-40) On 1 February 1960, Campbell ordered air staff to delete the conventional requirement from the F 104 G. Later air council minutes incorrectly stated that the aircraft was *not compatible with conventional weapons. [[41]](#footnote-41)* As a direct result of this decision,Canada became the *only* NATO nation with the F 104 G without a conventional weapons capability. The RCAF squadrons located in France (and later moved to the FRG) were equipped for and practiced reconnaissance. The other squadrons in the FRG were configured and armed with nuclear-only weapons until the mid-1960s. [[42]](#footnote-42)

**A Conventional Pause. Operations and the Germans**

In April 1960, West German Defence Minister Franz Josef Strauss and German General Adolph Heusinger told Canadians that NATO forces must be able *to offer effective resistance for at least a few days using conventional weapons only* if the enemy was not using atomic weapons and they insisted on a dual conventional-nuclear capability in the Starfighters they acquired. [[43]](#footnote-43) Operational plans for the conventional pause progressed. By 1963, just after the first Starfighters arrived in Europe, the incoming Supreme Allied Commander, Lemnitzer introduced the notion of a conventional pause into the European battlefield.[[44]](#footnote-44) While NATO Council did not formally approve the new Flexible Response Strategy until 1968, operational plans began to shift in response to European pressures. The changes in operational plansmeant the RCAF air division plan for nuclear-only weapons became increasingly problematic.

**Strategic and operational debates in Canada:**

Within Canada, during late 1960, defence planners, like Brigadier D.A.G. Waldack,[[45]](#footnote-45) warned that NATO nuclear posture was untenable and that the RCAF needed to develop a capability for limited conventional warfare. Unfortunately, the new chairman chief of staff, another air power advocate, Frank Miller,[[46]](#footnote-46) refused to allow this information to be passed to the new Defence Minister, Douglas Harkness. Instead, Harkness was misleadingly informed that a conventional-armed F 104 “would be an impotent” weapon and not told of the ongoing debates over nuclear-only plans.[[47]](#footnote-47)

It would have been nearly impossible for the Canadians to refuse the strike role after the aircraft deal had been made. However, the RCAF 1960 decision to delete the conventional option (which had been approved by Cabinet in 1959) and to misinform the Minister on viable options and coming changes in NATO strategy and plans was short-sighted and dishonest. High-ranking air power proponents, like Miller and Campbell, shut down the debate within their own service and within the Department of National Defence.[[48]](#footnote-48) They wanted their pilots to have nuclear bombs and refused to consider conventional options. And so, only the Starfighters with reconnaissance capabilities (rather than nuclear arms) could be usefully employed if war did break out and the alliance decided upon a conventional pause, which it was in the process of considering.

In the meantime, Green, Robertson, and Burns pushed for disarmament and the Canadian government refused to accept various American proposals to acquire nuclear weapons for Canadian forces. [[49]](#footnote-49) By the time of the October 1962 Cuban Crisis, the Diefenbaker government was under intense pressure to accept nuclear weapons and criticism of the government’s failure to negotiate for access to nuclear weapons for Canadian forces mounted. On 3 January 1963, Norstad visited Ottawa on a farewell tour, stating publicly that in procrastinating on deals to provide access to nuclear weapons, Canada was failing to fulfil its NATO commitments. [[50]](#footnote-50) Aware of rising public criticism of Diefenbaker’s delays in nuclear negotiations, Opposition leader, Lester B. Pearson shocked members of his own party, by reversing his previous stance, and declaring a willingness to “equip our forces with nuclear weapons under joint control with the US and afterwards discuss with our allies” a more realistic defence role without these weapons.[[51]](#footnote-51) During the acrimonious debates over this issue, Defence Minister Harkness and others resigned and Diefenbaker lost a vote of confidence, forcing an election in which access to nuclear weapons for the Canadian forces was a key contentious subject. [[52]](#footnote-52)

**The Pearson years**

After Pearson won the 1963 election, George Drew, Canada’s high commissioner in London,[[53]](#footnote-53) alarmed Pearson with reports about Lemnitzer’s concept for a period of several days to a month of conventional fighting if war came, and so Drew asked: Would Canadian fighters be “sitting ducks” while American and West German aircraft were conducting conventional operations? [[54]](#footnote-54) While the Air Staff Policy Committee continued to reject this critique, in October 1963, the American Secretary for Defence, Robert McNamara informed Canadian Liberal Defence Minister, Paul Hellyer, that the RCAF targets in Eastern Europe were covered as many as three, four, and five times.”[[55]](#footnote-55) Although the RCAF provided about twenty percent of the strike role, this duplication meant that the role gave Canada very little influence in the alliance. Even as a deterrent, the role was almost superfluous. Further, only a few people, such as Escott Reid, who had been Canada’s Ambassador to the FRG in 1959, raised questions about the wisdom of targeting Eastern Europe with nuclear weapons.

**Conclusion:**

In retrospect, looking back at the 1968 Czechoslovakia Crisis, we might wonder if the alliance and Canada's decision to target Eastern Europe had been unwise.[[56]](#footnote-56) Surely, given intelligence reports on Eastern European resistance to Soviet domination, a focus on strategic targets in Russia and other deterrence measures (including economic sanctions and other non-military actions) might have more effectively deterred or countered various Soviet Cold War actions.[[57]](#footnote-57) After the advent of the ICBMS and the Polaris missiles and improvements in their accuracy to target Moscow, the tactical targets seemed especially unfortunate considering the 1958 Hungarian Crisis, the ongoing tension over Berlin and intelligence about Polish and Czechoslovakian political unrest. [[58]](#footnote-58)

As concluded by Stephen Harris and Robin Higman, “Service doctrine that is not in harmony with government policy is likely to produce circumstances in which air forces will fail; government policy made in isolation of service capabilities tends to do the same.” [[59]](#footnote-59) Canadians and others were lucky that the operational plans for the F 104 G were never tested. The new role added slightly to deterrence, but the air power proponents did not sufficiently consider shifting foreign policy goals, and strategic and operational transitions, and seek operational flexibility. Both the External Affairs and Defence policymakers bore responsibility for this failure. Further, the alliance itself seemed short-sighted in its operational plans to target Eastern Europe, rather than focus on the source of aggression and not those resisting it.

1. The opinions expressed in this paper do not represent those of the Department of National Defence. Nonetheless the research has been undertaken while working on the official history of the Royal Canadian Air Force. The author thanks John Ferris, Steve Harris, William Johnson, and Adam Coombs for comments and encouragement. [↑](#footnote-ref-1)
2. Air power exploits the properties of its operating medium to realize unique operational characteristics and thus employ unique capabilities to provide the nation a broad range of military options. This definition is taken from a Maxwell Air University paper (by Lt Col Johnny R. Jones). <https://www.airuniversity.af.edu/Portals/10/ASPJ/journals/Chronicles/jjones.pdf> (accessed 11 September 2023) [↑](#footnote-ref-2)
3. David Bashow, *'Starfighter: A Loving Retrospective of the CF-104 Era in Canadian Fighter Aviation, 1961-1986*, (Stoney Creek, Ontario: Fortress Publications,1990); Tim Benbow, “The Royal Navy and Sea Power in British Strategy, 1945-55,” *Historical Research, pp.* 375-398; Isabel Campbell, *The Defence Dilemma. Reconsidering the strategic, technical, and operational contexts,* in *Reassessing the Rogue Tory and His Times: New Perspectives on the Diefenbaker Era in Canadian Foreign Relations* edited by Janice Cavell and Ryan Touhey, (Vancouver, UBCP, 2018); **“**Pearson’s Promises and the NATO nuclear dilemma,” in *Mike’s World: Lester Pearson and Canadian External Relations, 1963-1968,* edited by Asa McKercher and Galen Perras, (Vancouver, UBCP, 2017);Brereton Greenhous and Hugh A. Halliday, *'Canada's Air Forces, 1914–1999*, (Montreal: Art Global, 1999)’; Robert McIntyre, *'CF-104 Starfighter,* (Ottawa: Sabre Model Supplies, 1985); Larry Milberry, *Canadair: The First 50 Years*, (Toronto: CANAV Books, 1995); Richard Moore, *Nuclear Weapons and the Royal Navy,* (Routledge: Oxford, 2001); Anthony Stachiw, *CF-104 Starfighter (Aircraft in Canadian Service.* (St. Catharine's: Vanwell, 2007); Ray Stouffer, *Swords, Clunks, & Widowmakers. The Tumultuous Life of the RCAF’s original 1 Canadian Air Division*, (Canadian Forces Aerospace Warfare Centre, 2015. [↑](#footnote-ref-3)
4. [File:CF-104 RCAF.jpg - Wikimedia Commons](https://commons.wikimedia.org/wiki/File:CF-104_RCAF.jpg). Public domain image. [↑](#footnote-ref-4)
5. John Ferris” Targeting, Air Intelligence and Strike Warfare: Theory and Practice, Part I” *RCAF Journal*, 7. No. 4 (Fall, 2018) p. 30. [↑](#footnote-ref-5)
6. David W. Bowman, *Lockheed F104 Starfighter; A History,* (Barnsley, South Yorkshire: Pen & Sword Aviation,, 2017) 18-20. [↑](#footnote-ref-6)
7. Ray Stouffer, *Swords, Clunks, & Widowmakers.* The Tumultuous Life of the RCAF’s original 1 Canadian Air Division, (Canadian Forces Aerospace Warfare Centre, 2015) pp. 124-125 House of Commons, *Special Committee on Defence, Vol. 1* 1963, <https://parl.canadiana.ca/view/oop.com_HOC_2601_4_1> (accessed 7 September 2023) see p. 15 which notes military targets including dockyards, airfields, radar installations, and military bases and rather oddly described in the text as tactical targets. 27 June 1963. [↑](#footnote-ref-7)
8. If we could get permission, possibly we could insert that map which includes the bases and target area from Stouffer, p. 124. Figure 6.1. [↑](#footnote-ref-8)
9. Eastern Europeans escaped from their countries under increasing oppression. Some speculated that the Warsaw Pact militaries would not be loyal to the Soviets in war. While the United States was caught off guard by the 1956 Hungarian crisis, British 1956 intelligence reported on the Hungarian uprising, including political protest in Poland. CIA Single Officer in Hungary 1956 (gwu.edu) (accessed 15 September 2023); https://nsarchive2.gwu.edu/NSAEBB/NSAEBB206/index.htm (accessed 15 September 2023). The CIA lessons learned suggested that Moscow was caught off guard by the Hungarian uprising too. It examined the factors, nationalism, economics, and the failure of the Hungarian communist party to mange unrest. It also speculated on a possible collaboration with Tito-style communists in Eastern Europe to offset Soviet influence and encourage collaboration with dissidents in Eastern Europe. SOME LESSONS OF THE HUNGARIAN REVOLUTION (cia.gov) (accessed 15 September 2023). [↑](#footnote-ref-9)
10. Robert Jordon, *Norstad,* p. 122. Although Belgium negotiated with the US for a bilateral agreement on nuclear weapons in 1959 and was strongly supported by US, UK, and Turkish representatives, other European nations opposed these plans. Canada firmly opposed French intentions to develop an independent nuclear capacity which they regarded as proliferation. Jules Leger, Permanent Representative to the North Atlantic Council to Secretary of State for External Affairs, 6 May 1959, *Documents on Canadian External Relations,* (DCER)pp. , 59-92. [↑](#footnote-ref-10)
11. Escott Reid, Radical Mandarin. The Memoirs of Escott Reid. (Toronto: UTP, 1969) pp. 308-309. [↑](#footnote-ref-11)
12. MC 14/2 recognized the possibility of “infiltrations, incursions, or local hostile actions in the NATO area” and NATO had to be ready to react to these without recourse to nuclear weapons. Because general war would be so destructive, the first purpose of the defensive system was to avert war. MC 14/2, Revised final, 23 May 1957. [a570523a.pdf (nato.int)](https://www.nato.int/docu/stratdoc/eng/a570523a.pdf) (accessed 11 December 2023). [↑](#footnote-ref-12)
13. MC 14/2. Revised final, 23 May 1957. P. pp. 288-290. The NATO conventional forces were insufficient to provide an effective defence against a conventional Soviet attack. [↑](#footnote-ref-13)
14. Jules Leger, Permanent Representative to the North Atlantic Council to Howard Green, Sec of State for EA, 12 April 1960. In *DCER,* 1960,pp. 27-187. [↑](#footnote-ref-14)
15. Tim Sayle, *Enduring Alliance. A History of NATO and the Post War Global Order.* (Ithica: Cornell University Press, 2019), pp.31-35 [↑](#footnote-ref-15)
16. Robert Jordon, *Norstad,* p. 122.Vojtech Mastny, Sven G. Holtsmark, and Andreas Wenger, eds., War Plans and Alliances in the Cold War: Threat Perceptions in the East and West (London: Routledge, 2006). American driven nuclear weapons plans created more tensions. Canadian adoption of those plans did not improve the tensions and likely made them worse. Belgium, Germany, Italy, The Netherlands, and Turkey and later Belarus allowed American nuclear weapons on their territory. France tested its first thermonuclear weapon in 1960. Greece accepted these weapons from 1963 to 1984. Canada had its last nuclear weapon removed from the air division in the early 70s. Kristensen, Hans M.; Korda, Matt. "United States nuclear forces, 2019". Bulletin of the Atomic Scientists. 75 (3) (4 May 2019): pp. 122–134. [United States nuclear forces, 2019 - Bulletin of the Atomic Scientists (thebulletin.org)](https://thebulletin.org/2019/04/united-states-nuclear-forces-2019/) (accessed 12 Sep 2023). Yet members of the alliance that accepted the weapons were not satisfied. Belgium objected to a 1967 non-proliferation treaty on the grounds that it the American nuclear monopoly. Report, 9th meeting of Atlantic Policy Advisory Group, 19–22 April 1967, 6 July 1967, DHH, 73/1223, file 2526A. [↑](#footnote-ref-16)
17. Reid was the ambassador from 1958 to 1962. In March 1958, he wrote a 9-point memo on a possible Modus Vivendi with the Soviets. Following up on the 1955 “Open Skies” proposals which allowed for inspection of Central European countries, he suggested creating a nuclear-free zone. His memo included FRG renunciation of the lands beyond the Oder-Neisse line, and de facto recognition of the DDR by FRG, and establishment of diplomatic relations between the FRG and Poland and Czechoslovakia. While the “Open Skies” proposals did not progress, Reid notes that the other points were implemented in the 1970s. Escott Reid, *Radical Mandarin. The Memoirs of Escott Reid.* (Toronto: UTP, 1969) pp. 306-315. See also: Escott Reid, Ambassador to Federal Republic of Germany to Charge d’Affaires in Federal Republic of Germany, 6 June 1958, *Documents on External Relations, DCER,* (Ottawa; External Affairs, 2003), *DCER 24-528.*  [↑](#footnote-ref-17)
18. *Ibid.* Until the NATO nuclear planning group developed in the mid-960s, mechanisms for the use of American nuclear weapons did not satisfy many of the smaller NATO powers, including Belgium. Further, those powers worried about how a concentration of tactical nuclear weapons in the FRG might further concentrate power in German hands, something they remained fearful of in the aftermath of the Second World War. t. Tim Sayle, *Enduring Alliance. A History of NATO and the Postwar Global Order,* pp. 114-118. [↑](#footnote-ref-18)
19. ## Norman Robertson, Under Secretary to Howard Green, Sec of State, 12 June 1959, DCER, pp. 59-95.

    [↑](#footnote-ref-19)
20. Germany lost 116 pilots, 1 ground crew and 8 USAF instructor were lost during the early years as the Germans coped with setting up a new air force, training in the US, and then engaging in low flying in their own territory. Klaus Kropf, *German Starfighters*.Hinckley, Leicestershire, UK: Midland Counties Publications, 2002. When the Germans visited Montreal in 1960, they insisted upon a dual role and spoke to the Canadians about the need for a conventional role due to nuclear escalation. [↑](#footnote-ref-20)
21. Memorandum to Cabinet Defence Committee, 5 June 1959, DHH, 2002/17, file 91.9.f. Norstad had first asked Canada to accept this role in 1957. RCAF leaders hoped to simplify the number of different roles and aircraft in Europe and refused to have their squadrons divided up piecemeal which might impede RCAF command and control over them (as had happened with the RAF and Bomber Command to a degree (despite 6 bomber group). See Stouffer, *Swards, Clunks, Widowmakers,* for an excellent analysis of RCAF concerns which had initially favoured air defence over bombing. Chapter 5, especially p. 104. [↑](#footnote-ref-21)
22. The respective squadrons allocated to No. 1 Wing Marville were No. 410 (Cougar), 439 (Sabre Tooth Tiger), 441 (Silver Fox); to No. 2 Wing Grostenquin: No. 416 (Black Lynx), 421 (Red Indian), 430 (Silver Falcon); to No. 3 Wing Zweibrucken No. 413 (Tusker), 427 (Lion), 434 (Bluenose); and No. 4 Wing Baden-Sollingen: 414 (Black Knight), 422 (Tomahawk), 444 (Cobra). For the detailed stationing location and time as well as the time of F-86 in service, Milberry, *Canadair Sabre,* (Toronto: CANAV books, 1986) p. 368. S. Kostenuk and J. Griffen, *RCAF: Squadron Histories and Aircraft 1924-1968,* (Toronto: Hakkert, 1977) pp. 145. [↑](#footnote-ref-22)
23. Canadian Ambassador to SSEA, 30.1.1957, LAC, RG 25 Vol. 7330 file 10935-B-40 pt. 3.1. 15 Press release issued by the Department of Trade and Commerce, 19.12.1956, NAC, RG 25 Vol. 4529 file 50030-U-40 pt. 5. See also: Urst Obrist, *An Essential Endeavour. Canada and West Germany, 1945-1957,* Doctoral Thesis, University of Toronto, 2006.p. 339. In 1956, Canada and the United States also signed the Defence Production Sharing Agreement in which they agreed to maintain a trade balance in defence goods. <https://www.ccc.ca/wp-content/uploads/2019/05/defence-production-sharing-agreement-en.pdf> (accessed 11 December 2023). [↑](#footnote-ref-23)
24. Memorandum to Cabinet Defence Committee, 5 June 1959, DHH, 2002/17, file 91.9.f. [↑](#footnote-ref-24)
25. Chiefs of Staff Committee, minutes, 12, 23 March 1959, DHH, 73/1223, file 1314. For objections to the strike role, see various documents, January to June 1959, DHH, 2002/17, file 91.9. For RCAF discussions, see Stouffer, *Swords, Clunks and Widowmakers*, chapters 5 and 6. Stouffer notes Belgian dispersion fields, but these were also vulnerable and expensive and had other issue. [↑](#footnote-ref-25)
26. Most of the historiography misses this point. Historians have focused on Robertson’s misgivings which became more pronounced by 1960. In June 1959, he was strongly in favour of the role. For alternative perspectives see: Sean A. Maloney, *Learning to Love the Bomb. Canada’s nuclear weapons during the Cold War.* (Washington: Potomac, 2007). [↑](#footnote-ref-26)
27. Robertson to Green, nd [June 1959], in DHH, 2004/79, File 38. Diefenbaker papers. Robertson claimed the new role would increase American and British willingness to discuss East-West matters within the broader NATO forum when hitherto the leaders of both these nations had been inclined to operate independently. He feared that “a decision not to re-equip or to further prolong delay in this matter would undoubtedly result in some considerable weakening of our influence in the alliance.” [↑](#footnote-ref-27)
28. Robertson to Green, nd [June 1959], in DHH, 2004/79, File 38. Diefenbaker papers. [↑](#footnote-ref-28)
29. *Ibid.,* Roberston noted that Lt- General Charles Foulkes had advised that the French refusal would not affect the Air Division until it was re-equipped which would not be until between June 1961 and June 1963, even if Canada made its decision immediately. Foulkes had also advised that if the French did not agree to storing nuclear weapons on their soil for Canadian use, the new strike squadrons could be based in Germany, placing the reconnaissance squadrons in France. So, he considered that Canada should make its decision independently of the French stand. His lengthy 10-page memorandum to Green contained only one small paragraph in which he confessed being “somewhat disturbed at the basic implications of the change in role.” [↑](#footnote-ref-29)
30. Norman Robertson, Under Secretary to Howard Green, Sec of State, 12 June 1959, DCER, pp. 59-95. [↑](#footnote-ref-30)
31. Cabinet Conclusions, 19 June 1959. DCER pp. 59-109. The discussion incorrectly suggested the move to nuclear weapons would be counterattack. Given the vulnerability of the airfields in the early days of a war, its role was more deterrence as operationally it would be more useful as a first-strike weapon. It was acknowledged that the RCAF was moving from air defence to an offensive role. If the alliance disintegrated, Cabinet was informed the program could be halted. (Which was true, but not likely given the Avro disaster). Cabinet turned over the matter to Defence production for the aircraft choice in negotiation with the manufacturers. [↑](#footnote-ref-31)
32. *Unlikely Diplomats,* chapter two. [↑](#footnote-ref-32)
33. By 1963, the FRG was 4th in rankings after the US and the UK in exports and imports to and from Canada. *Unlikely Diplomats,* pp. 86-7. However, Canadian industry was slow to respond to German requests. In 1963, the Germans set up a military logistic office in Montreal to try to improve the delivery issues. [↑](#footnote-ref-33)
34. David W. Bowman, *Lockheed F104 Starfighter; A History*, p. 18; David T. Zabecki, *Germany at War. 4 Volumes. 400 years of military history* (Santa Barbara, CA: ABC-Clio, 2014) p. 1235. Without sufficient evidence, these charges were dropped, but in other European states people faced similar accusations and Lockheed had paid bribes in some countries. [↑](#footnote-ref-34)
35. Chiefs of Staff Committee Minutes, 30 June 1959, DHH, 72/1223, file 1310 [↑](#footnote-ref-35)
36. David Bashaw notes that the F-86 Sabre aircraft suffered more accidents in its 12 years of service, with 112 Canadian fatalities, *Starfighter. A loving Retrospective*, p. 96. [↑](#footnote-ref-36)
37. David Alan Rosenberg, “The Origins of Overkill: Nuclear Weapons and American Strategy, 1945–1960,” International Security, 7, 4 (1983): pp. 16–39. After a June 1961 meeting when Soviet Premier Khrushchev threatened to sign a separate peace treaty with the DDR, ending 4 power (American, British, French, and Soviet) access to Berlin, US Congress approved allowing Kennedy to call up reserve units for active duties. The National Air Guardsmen, some of whom had only trained for nuclear roles, retrained for conventional weapons. Sixty F 104 aircraft (in various configurations) were airlifted to Europe. In Exercise Stair step, F 104 aircraft were airlifted to provide air superiority and offensive air support activities (in a conventional-only configuration). They provided *deterrence* and were not required in any action. Hubert Peitzmeier, F-104 Starfighter-USA-Berlin crisis, compiled 4 March 2019. <http://www.916-starfighter.de/F-104_USA_Berlin_crisis.pdf> (accessed 18 September 2023).

    Canada had no legal right to be in Berlin. Later the Americans provided the starfighters configured as F 104 G. Prior to this, in September 1961, Diefenbaker increased the Canadian brigade in Europe by 1106 members, the air division by 250, and the RCN by 1,749; he also augmented army reinforcements in Canada, providing greater conventional deterrence. Arguably, conventional forces were especially relevant during nuclear crises as they could operate without the dramatic escalations associated with nuclear weapons, but in the contentious Canadian nuclear debates, this important aspect of defence was almost completely ignored as the new defence Minister Douglas Harkness chose this moment to push for nuclear weapons. Isabel Campbell, *The Defence Dilemma. Reconsidering the strategic, technical, and operational contexts,* in *Reassessing the Rogue Tory and His Times: New Perspectives on the Diefenbaker Era in Canadian Foreign Relations* edited by Janice Cavell and Ryan Touhey, (Vancouver, UBCP, 2018) p. 134*.* [↑](#footnote-ref-37)
38. Walter S. Poole, *Adapting to Flexible Response., 1960-1968.* (Washington: Historical Office. Office of the Secretary of Defense, 2013), pp. 5-7. [↑](#footnote-ref-38)
39. Isabel Campbell, The Defence Dilemma. Reconsidering the strategic, technical, and operational contexts,” 130. [↑](#footnote-ref-39)
40. Norstad supported the build-up of conventional forces with tensions rising over Berlin, but he refused to back down on implementation of tactical nuclear forces in Europe, despite the obvious tensions that created among the European allies and evidence of overkill. Lawrence S. Kaplan, Ronald D Landa, Edward J. Drea, *The McNamara Ascendancy, 1961-1965,* (Washington: Historical office. Office of the Secretary of Defence, 2006) pp. 146-147. [↑](#footnote-ref-40)
41. Isabel Campbell, *The Defence Dilemma. Reconsidering the strategic, technical, and operational contexts,* p. 128. [↑](#footnote-ref-41)
42. After the squadrons moved to the FRG, 1 Wing Lahr, 439 and 441, remained as the two reconnaissance squadrons, while 430 was strike and attack with 4 Wing at Baden Solingen in the other strike attack roles. See David Bashow, *Starfighter. A Loving retrospective of the CF 104 era in Canadian fighter aviation, 1961-1986,* (Toronto: Fortress, 1990) p. 58. Hellyer approved the reconfiguration of the aircraft for conventional weapons on 6 July 1964. The actual conventional weapons arrived during 1965 and 1966. [↑](#footnote-ref-42)
43. Escott Reid, 20 April 1960, DHH, 73/1223, file 491. Campbell, aware of these views, opposed them in public speeches. Training Command Conference, 24 November 1960, DHH, 181.009 (D2638). [↑](#footnote-ref-43)
44. Isabel Campbell, “Pearson’s Promises and the NATO nuclear dilemma,” in *Mike’s World: Lester Pearson and Canadian External Relations, 1963-1968, edited by Asa McKercher and Galen Perras,* (Vancouver: UBCP, 2017)pp. 282-283. [↑](#footnote-ref-44)
45. An Army brigadier and chief of the Joint Ballistic Missile Defence Staff. [↑](#footnote-ref-45)
46. Frank Miller had worked closely with Norstad as his chief of staff before returning to Canada to become Deputy Minister of National Defence and then replaced Charles Foulkes as Chair in the autumn of 1960. Ray Stouffer, “Air Chief Marshall Frank Miller. A Civilian and a Leader,” *Canadian Military Journal,* Volume 10, 2, 2010, pp. 47-50; Miler refused to consult with External Affairs members and failed to invite them to the chiefs of staff committee meeting which they had previously attended on a frequent basis when matters of policy arose. He also shut down critics of the nuclear-only policy within defence, some of whom offered frank and relevant criticisms. Chiefs of Staff Committee minutes, 1960-1963. [↑](#footnote-ref-46)
47. Isabel Campbell, *The Defence Dilemma. Reconsidering the strategic, technical, and operational contexts*. p*.* 129 [↑](#footnote-ref-47)
48. John Gellner, an RCAF officer, retired during this period to speak out against the RCAF nuclear policies. He had written criticisms of this thinking while in the service. He went on to advise the Liberal Party on its policies. Jack Cunningham, “The Road to Scarborough. Lester Pearson and nuclear weapons, 1954-63,” in Susan Colbourn and Tim Sayles (eds), *The Nuclear North. Histories of Canada in the Atomic Age,* (Vancouver: UBCP, 2020) pp. 122-124. Further, in July 1961, the Special Studies Group, headed by Air Commodore Fred Carpenter also emphasized conventional means and alternative RCAF roles, but Campbell shut them down and refused to consider these alternatives. Sean A. Maloney, *Learning to Love the Bomb.,* pp. 268-269. [↑](#footnote-ref-48)
49. Michael Stevenson, “Howard Green, Disarmament, and Canadian American Defence Relations, 1959-62:   
    A Queer, Confused World,” in Susan Colbourn and Tim Sayles (eds), The Nuclear North. Histories of Canada in the Atomic Age, (Vancouver: UBCP, 2020), pp. 67-87. [↑](#footnote-ref-49)
50. Norstad had been fired by McNamara and had publicly criticized Kennedy during the Cuban Crisis. It is unlikely that the Kennedy Administration had any influence over these statements. Campbell, “The Defence Dilemma, 1957-63,” p. 135. [↑](#footnote-ref-50)
51. Campbell, “Pearson’s Promises” 279. Cunningham, “The Road to Scarborough,” p. 123. [↑](#footnote-ref-51)
52. *Ibid.*  [↑](#footnote-ref-52)
53. A former Conservative Leader of the Opposition during the St. Laurent years and an Ontario Premier with close friends in the Canadian forces. Drew annoyed External Affairs officials by corresponding directly with Diefenbaker. John Hilliker and Donald Barry, *Canada`s Department of External Affairs, volume 2, Coming of Age, 1946-1968,* (Ottawa: Institute of Public Administration, 1995) pp. 228-9. Despite having been Pearson’s political enemy, Drew and Pearson corresponded directly on key issues of interest. Drew was a strong supporter of the RCAF, having written Canada’s Fighting Airmen, a history focusing upon First World War fighter pilots in 1930 and having maintained close relationships with air officers and members of the Canadian aviation industry during his long political career as the Tory Premier of Ontario and then Leader of the Opposition in federal politics. [↑](#footnote-ref-53)
54. Drew to Pearson, 11 July 1963, LAC, MG 26, N6, Volume 7 (Open), File 23, Defence Correspondence, 1963 The Pearson government already had a draft agreement with the Americans in hand by 11 July. The final secret agreement was signed on 16 August 1963. By 31 January 1964, a service-to-service technical arrangement between the United States Air Force Europe and the RCAF for the Canadian CF 104 weapon system to implement the government-to-government agreement was also signed. Copies of these declassified documents are found in John Clearwater, *Canadian Nuclear Weapons, The Untold Story of Canada’s Cold War Arsenal* (Toronto: Dundurn, 1998) Appendix. For some discussion of Lemnitzer’s views see: Walter S. Poole, *The Joint Chiefs of Staff and National Policy,* vol. 8, 1961-1964. Especially chapters 10, 12, and 13. See also Lemnitzer’s testimony Executive Session, Joint Committee on Atomic Energy, Meeting No. 87-2-40, 18 September 1962, Secret, excised copy, with Lemnitzer’s handwritten corrections, with attached memo on “Points of Interest to Discuss with General Lemnitzer,” 18 September 1962. National Security Archive. <https://nsarchive.gwu.edu/sites/default/files/documents/rdua0b-ofzaz/30.pdf> (accessed 14 September 2023) [↑](#footnote-ref-54)
55. Paul Hellyer, *Damn the Torpedoes,* p. 117. See Stouffer, *Swords, Clunks, and Widowmakers, p*p. 134-136 for RCAF opposition to the conventional weapons. [↑](#footnote-ref-55)
56. As NATO pondered how to react to the Czechoslovakian crisis, the Americans asked NATO to reinforce their forces. Canada did not agree. Given the tactical targets in Eastern Europe, Canada’s ability to respond in a military way was clearly limited. For a foreign policy analysis of this subject without discussion of military targets, see: Angus McCabe, “Canada’s Response to the 1968 Soviet Invasion of Czechoslovakia: An Assessment of the Trudeau Government’s First International Crisis,” *master’s thesis,* Carleton University, 2019. [↑](#footnote-ref-56)
57. CIA reports about Czechoslovakia in 1968 indicate a far greater degree of awareness of the uprising and of fears among the Polish and East Germans about possible implications for their nations. <https://www.cia.gov/readingroom/docs/1968-03-01-B.pdf> (accessed 15 September 2023). [↑](#footnote-ref-57)
58. Richard Dean Burns and Joseph Siracusa, *A Global History of the Nuclear Arms Race,* (Santa Barbara, CA ABC-Clio, 2013) pp. 170-174; Helen Gavagan, *Something New under the Sun. Satellites and the Beginnings of the Space Age,* (Göttingen, Germany: Copernicus, 1997) pp. 53-54. [↑](#footnote-ref-58)
59. Stephen J. Harris and Robin Higman, *Why Air Forces Fail. The Anatomy of Defeat,* 2nd ed., (Lexington: University of Kentucky Press, 2016)p. 410. [↑](#footnote-ref-59)