

# **VOLUME ONE THE OVERVIEW**

## **CHAPTER V: AVIATION SECURITY**

### **5.0 Introduction**

More than 24 years after the bombing of Air India Flight 182 and 8 years after the 9/11 attacks, terrorism against civil aviation remains a pressing global concern. Experts attribute this to the horrific and attention-getting results achieved through air terrorism: the sheer number of victims who can die as a result of a single attack and the fact that flag carriers can be seen as surrogates for countries. An attack on an airline whose planes display our flag, for example, may be seen as an attack on Canada itself. For these reasons, successful attacks on civil aviation yield high propaganda value, and vigilance in civil aviation security must continue so long as the terrorist threat remains.

The circumstances which permitted an unaccompanied, interlined bag to be placed on board Air India Flight 182, and to eventually destroy it, provide the context for the Commission's review of passenger and baggage screening and civil aviation security in general. One of the key lessons that emerges from the bombing is that security measures must be applied in mutually reinforcing layers in order to address all susceptibilities in the system. There is no one-size-fits-all solution. We must resign ourselves to the fact that terrorists will continuously probe the system's vulnerabilities. Similarly, we must close the remaining gaps in civil aviation security – some of which have been known for decades – before another tragedy occurs.

The evidence at the Commission's hearings bore out the experts' assertions that security must begin on the ground. There are limited options once an aircraft is airborne. This is demonstrated by the events leading up to the bombing of Air India Flight 182.

### **5.1 The Bombing of Air India Flight 182: A Multifaceted Failure of Aviation Security**

The bomb that destroyed Air India Flight 182 on June 23, 1985, killing all 329 passengers and crew, was placed on the aircraft in Toronto in an unaccompanied, interlined bag. The bag containing the bomb began its journey in Vancouver on a Canadian Pacific Airlines (CP Air) flight to Toronto and was transferred ("interlined") to the Air India Boeing 747, in Toronto. Throughout its entire transport, the suitcase containing the bomb was not accompanied by any corresponding passenger. Less than an hour before the Air India bombing,

another unaccompanied suitcase containing a bomb exploded at Narita Airport in Japan, killing two baggage handlers and injuring four others. That suitcase had travelled from Vancouver to Narita on another CP Air flight and had also been interlined, destined for loading on an Air India flight to Bangkok. Although Air India was operating under an elevated threat level, CP Air was not informed of this fact and was operating under normal security protocols.

With today's knowledge of the threat of sabotage, a number of the circumstances that allowed for unaccompanied bags to be placed on both CP Air flights for interlining to Air India are alarming. In retrospect, the behaviour of those who booked and paid for the tickets and checked in the bags should have raised red flags, but a customer service mentality governed at the time, and airline staff were not instructed to watch for indicia of harmful intentions. The names on the reserved airline tickets were changed just prior to their purchase; a return ticket was switched to a one-way booking; the tickets were purchased within a few days of the flights; international tickets were paid for entirely in cash; demands to interline the bag destined for Air India Flight 182 were made in the absence of a reservation on that flight; and when the request to interline that bag met with resistance, the "passenger" identified as "M. Singh" became belligerent with the CP Air check-in counter staff at the Vancouver International Airport. Were it to occur now, some of this behaviour would be identified as presenting a possible threat as a result of airline ticketing surveillance measures that take place prior to the passenger's arrival at the airport. In fact, relenting to the demands of "M. Singh" to interline the bag without a reservation was contrary to industry practice and to CP Air's own security protocols, even as they existed in 1985.

The bombing of Air India Flight 182 was preventable but was made possible because of an unintentionally coordinated series of aviation security failures on the part of a number of stakeholders:

- CP Air failed to follow its own baggage security procedures;
- Both Air India and Transport Canada failed to appreciate the threat posed by unaccompanied, interlined bags;
- Air India was inexcusably careless in deploying checked baggage screening devices and procedures which it ought to have known were inadequate for the purpose, and failed to prevent unauthorized bags from being placed on its flights;
- Transport Canada, on behalf of the Government of Canada, failed in its role as regulator by neglecting to adapt the existing aviation security regime to confront the known terrorist threat of sabotage;
- Transport Canada also failed in its regulatory role by denying Air India the security support it required and by permitting Air India to rely on security procedures and plans that were inadequate to respond to the known threat of sabotage;

- Due to a climate of excessive secrecy nurtured by uncritical adherence to the “need-to-know” principle, crucially important intelligence was not shared, nor was it collected and analyzed in a coordinated manner; and
- Each of Air India, Transport Canada and the Royal Canadian Mounted Police (RCMP) failed to appropriately assess threat and intelligence information and to adequately communicate such information to relevant stakeholders.

The civil aviation security failures that permitted the bomb to be placed in the hold of the Air India Boeing 747 include a failure of screening technology and an over-reliance on it. The evidence at the inquiry demonstrated that Air India placed undue reliance on such technology, which consisted of Linescan X-ray devices and the Graseby PD4-C (PD4) hand-held explosives vapour and trace detector. At the time of the bombing, Air India’s security plan for its Canadian operations included X-raying checked baggage as a standard security measure – an extraordinary requirement at the time. But by today’s standards, X-ray technology of that era was both primitive and ineffective in screening for explosive devices. Metal items would appear as opaque, dark objects but, because of the quality of the images’ resolution, careful attention and some interpretation were required on the part of the X-ray operators. These factors – which were known to authorities at the time – led the Commission’s primary expert on civil aviation security, Rodney Wallis, to describe the use of X-ray equipment to screen for explosive devices in 1985 as a “...largely a cosmetic approach to baggage security” that “...lulled the public and some airline managements into a false sense of security.” The PD4 was a flawed device that was unfit for use in detecting explosives, its singular purpose. In theory, the PD4 detected nitrated organic molecules, which would include nitro-glycerine and trinitrotoluene (commonly known as TNT). Testing at Lester B. Pearson International Airport on January 18, 1985 in the presence of officials from Transport Canada, the RCMP, the Peel Regional Police and Air India showed that it was ineffective in detecting gunpowder unless its probe was placed within one inch of the gunpowder sample.

The Air India flight that landed at and departed from Toronto on June 22, 1985 was known as Air India Flight 181, but after stopping at Mirabel International Airport, it became Air India Flight 182. In Toronto, all checked-in bags, as well as all interline bags from connecting flights were sent to the international baggage area for X-ray examination. After approximately two hours and fifteen minutes of operation, the X-ray machine broke down. The Air India security officer then directed the Burns International Security guards to use the PD4 to screen the remainder of the checked baggage for explosives. Apart from a cursory demonstration, the Burns guards had not been trained on the use of the PD4 and were unfamiliar with its operation. The evidence suggests that the PD4 sounded when brought close to some bags, but that this fact was not reported to the Burns supervisor and those bags were loaded onto the aircraft anyway. Whether the bag checked by “M. Singh” and interlined to Air India Flight 182 was

examined by X-ray before the machine malfunctioned or if it was examined by the PD4 afterwards cannot be determined.

In 1985, Canada was poorly prepared to defend against aviation terrorism, despite knowledge of the threat of sabotage and protective security measures. This country's aviation security regime was inadequate due to complacency, poor training and poor supervision of the private security guards hired to screen passengers and baggage. There was no such thing as a "security culture." The few security controls that applied to baggage were insufficient to meet the known threat of sabotage. In fact, security measures that could have prevented the suitcase containing the bomb from being placed on the flight were available, but were simply not implemented. The security regime of the day suffered from poor regulatory oversight, a lack of vigilance, a culture of complacency, an over-concern for customer convenience and a reactive approach to security threats. Despite a growing awareness that sabotage would be the terrorist's preferred means, aviation security measures were still focused on preventing hijacking. Except in certain cases of heightened threat, little emphasis was placed on the screening of checked baggage to be loaded in the hold of passenger aircraft.

## 5.2 From Hijacking to Sabotage: Evolution of the Terrorist Threat

Hijackings were the predominant threat to civil aviation in the 1960s and 1970s. The specialized United Nations agency with law-making authority in international civil aviation, was, and continues to be, the International Civil Aviation Organization (ICAO). It responded to the threat by adopting Annex 17 to the *Convention on International Civil Aviation ("Chicago Convention")*, the security annex entitled *Safeguarding International Civil Aviation Against Acts of Unlawful Interference*. The Annex sets out standards (adherence to which is required of states that are signatories to the Convention, known as "Contracting States") and recommended practices (which are in the nature of "best practices" or "desirable measures"). The standards were – and are – understood to be "minimum standards" that prosperous nations should exceed. Canada's domestic response included security measures that were designed to minimize the risk of hijackings. A 1973 amendment to the *Aeronautics Act* permitted regulations to be made for searching passengers, baggage and cargo. (The Act was amended again in 1976 to extend requirements to foreign aircraft.) The "no search, no fly" rule – fundamental to passenger and baggage screening – was included in the Act. This rule prohibited the boarding of commercial airliners unless authorized searches of persons and their belongings had been conducted.

The anti-hijacking measures appeared to have been effective. As of 1980, there had not been a successful hijacking in Canada since 1971, and none had been attempted since 1974. Hijackings around the world were declining by the late 1970s/early 1980s. By 1979, RCMP Security Service intelligence revealed that sabotage and bomb threats were of greater concern than hijackings. A 1980 Transport Canada report concluded that acts of sabotage posed the greatest threat to civil aviation in Canada. In that year, the Joint Study Committee on

Civil Aviation Security (whose membership included senior representatives of Transport Canada, the Air Transport Association of Canada and the RCMP) concluded:

“...acts of sabotage rather than hijacking were perceived as the main threat.... As passenger screening procedures have proven to be an effective deterrent to prevent the carriage of unauthorized weapons and explosives in the aircraft cabin there is concern that persons are now attempting to place explosives in checked baggage, express parcel shipments, cargo and mail.”

In recognition of the changing nature of the threat, Annex 17 was updated in 1981. Recommendation 4.1.14 provided that “...Contracting States should establish the necessary procedures required to prevent the unauthorized introduction of explosives or incendiary devices in baggage, cargo, mail and stores to be carried on board aircraft.”

In 1982, Transport Canada conducted a study on air cargo and baggage security measures. A draft report was circulated in 1983. It recommended additional measures in high-level threat situations. The report also stated that all checked baggage should be manually searched or X-rayed and that all interlined baggage should be searched or scanned by X-ray. Unaccompanied baggage should be refused unless searched, sealed and held for 24 hours minimum. The Commission notes that some form of passenger-baggage reconciliation would have been required in order to identify unaccompanied baggage. Significantly, the report noted the temptation to relax security measures in light of tight funding and lack of terrorism incidents.

### **5.3 Domestic and International Responses to the Bombing**

The Government of Canada responded quickly to the bombing of Air India Flight 182 by imposing passenger-baggage reconciliation and investing in new technology designed to assist in screening passengers and their baggage. In the weeks and months that followed the bombing, Transport Canada and the Government of Canada took further action to improve national aviation security. A rigid new Ministerial Directive was issued for all flights to Europe or Asia, requiring that all checked baggage be physically inspected or X-rayed, all cargo be held for 24 hours unless it was a perishable item from a known shipper, and all passengers and carry-on baggage be fully screened. The amended *Aeronautics Act* came into force on June 28, 1985, with updated aviation security regulations in December 1985.

Similarly, the international civil aviation community quickly responded to the bombing of Air India Flight 182 and the bombing at Narita Airport. The trade association for the world's international scheduled airlines, the International Air Transport Association (IATA) convened an extraordinary meeting of its

Security Advisory Committee (SAC) within days of the bombings. Led by Rodney Wallis, IATA's Director of Security at the time, the meeting resulted in a number of recommendations that brought about what Wallis described as "massive changes" in civil aviation security requirements around the world. The most significant of these was passenger-baggage reconciliation, the process by which passengers are matched with their baggage in order to prevent unauthorized baggage from being placed on board aircraft. A passenger and his or her baggage would be treated as a single entity. However, because IATA is an industry association, its recommendations reflect best practices and lack the force of law.

Properly implemented passenger-baggage reconciliation might well have prevented the bombing of Air India Flight 182. Had passenger-baggage reconciliation been conducted in relation to either the CP Air flight or Air India Flight 182, the bag containing the bomb should have been offloaded. In fact, a year earlier, in 1984, this process had been successfully employed in Canada by KLM Royal Dutch Airlines and CP Air in the context of a bomb threat, and had caused only minor delays.

ICAO also acted in the immediate aftermath of the bombings. As a result of a special meeting of ICAO's Ad Hoc Committee of Experts, Annex 17 to the *Chicago Convention* was amended to require that a form of passenger-baggage reconciliation be conducted by international air operators. However, what was eventually published as a standard in Annex 17 was flawed in that while it prohibited transportation of all baggage (including interlined baggage) belonging to passengers who registered but did not present themselves for boarding on international flights, it did not cover bags that were associated with passengers without a reservation. The unaccompanied bag that was transferred from the CP Air flight to the Air India flight in Toronto was not associated with a booked passenger. Given that the standard was adopted in response to the bombing of Air India Flight 182, it is ironic that compliance with this standard would not have prevented a recurrence of the same mistake that caused that disaster.

Canada was the first ICAO member country to require passenger-baggage reconciliation on international flights, in advance of the standard's publication. This measure was later extended to domestic flights.

But it was not until the bombing of Pan American World Airways (Pan Am) Flight 103 on December 21, 1988 over Lockerbie, Scotland – a copycat of the Air India Flight 182 bombing – that the international civil aviation community committed more fully to addressing the threat posed by the unaccompanied, interlined bag.

#### **5.4 The Commission's Aviation Security Mandate**

The Commission's aviation security mandate was to conduct an inquiry for the purpose of making findings and recommendations "...with respect to ... whether



further changes in practice or legislation are required to address the specific aviation security breaches associated with the Air India Flight 182 bombing, particularly those relating to the screening of passengers and their baggage.” However, early in the Commission’s work, it became apparent that a narrow focus on passenger and baggage screening would not provide assurance that all of the deficiencies that led to the bombing had been addressed. In addition, longstanding gaps in civil aviation security were identified. Terrorists probe the system for weaknesses that they can use to their own advantage. Anything and anyone that has access to the aircraft must be secured to the extent that is possible, given predetermined levels of acceptable risk for all areas of vulnerability. A holistic approach to security is required, and the same approach was required of the Commission.

The next act of sabotage against civil aviation in Canada could well have air cargo as its target. Carried primarily on passenger aircraft, an attractive target for terrorists, air cargo in this country is neither routinely searched prior to loading, nor subjected to adequate screening measures. In many respects, air cargo security today is strikingly similar to the checked baggage security regime as it existed prior to the loss of Air India Flight 182. In contrast to the multi-layered approach to screening passengers and their baggage, air cargo is generally placed alongside baggage in the aircraft hold so long as the shipper meets the minimal criteria of having had a regular business relationship with the air carrier. This brings to mind the image of fully screened passengers seated on aircraft with largely unscreened air cargo perhaps one metre beneath them. Improvements to passenger and baggage screening measures that are aimed at preventing a concealed bomb from being placed aboard passenger aircraft are pointless if that bomb can still be directed on board the same plane hidden in cargo that has not been X-rayed. The inadequate approach to air cargo was the single most disturbing revelation about the remaining deficiencies in Canada’s civil aviation security regime. In addition, evidence at the Commission’s hearings disclosed serious weaknesses in airport security that could undermine the defence provided by passenger and baggage screening.

As a result, and with the approval of the government, the Commission interpreted the aviation security aspect of its mandate broadly, and considered a wide range of issues including air cargo security, non-passenger screening (NPS), and the particular challenges presented by Fixed Base Operations (FBOs) and General Aviation (GA).

## **5.5 Passenger and Baggage Screening Today**

Passenger and baggage screening is now much more comprehensive than it was in 1985. Creation of the Canadian Air Transport Security Authority (CATSA) on April 1, 2002 represented a significant improvement in screening passengers and baggage. In November 2002, CATSA, a Crown corporation, became responsible for effective, efficient and consistent screening nationwide of all persons accessing aircraft or airport restricted areas through screening points, as well as their belongings and baggage. This is referred to as pre-board screening,

or PBS. As of January 1, 2006, 100 per cent of checked bags for flights departing Canadian airports were screened with explosives-detection equipment. CATSA now screens 37 million passengers and 60 million pieces of luggage at Canadian airports each year. Hold bag screening, or HBS, is accomplished through multiple layers of screening that involve both automated detection, using state-of-the-art detection equipment, and human skill and judgment. X-ray machines, computed tomography (CT or CAT) devices and explosives trace detection technology are all used for PBS and HBS. At the heart of both PBS and HBS is the “no search, no fly” principle.

Unlike the low-powered, low-resolution X-ray machines used in 1985, the devices now used to scan baggage employ two X-ray beams at different energy levels, allowing differentiation between organic and inorganic materials within an object being scanned. The images are displayed on high-resolution monitors and colour-enhanced in a manner that makes them stand out from surrounding materials. Alertness in screeners involved in PBS is maintained through a training and motivational tool that randomly projects the image of a weapon, or of an explosive device or substance.

CATSA contracts screening operations to independent service providers. The contracted service delivery model fulfills CATSA’s objectives at a reasonable cost. However, contracted service providers – and by extension, CATSA – have encountered significant difficulties in recruiting and retaining screening personnel. This is an ongoing problem that has resulted in staffing shortfalls and complicates training programs.

In some foreign jurisdictions, screeners search passengers and baggage for large amounts of currency and illicit items such as narcotics, in addition to weapons and substances that are potentially dangerous to civil aviation. The sole focus of CATSA screeners, however, must remain that of civil aviation security. The task of identifying weapons and improvised explosive devices before they are placed on aircraft is simply too important to be shared with other functions.

Screening points must be tested to assist in identifying weaknesses in the system, whether these occur in the form of technical deficiencies or as a result of human failure. Effective follow-up is essential. This testing includes infiltration tests conducted by Transport Canada security inspectors, who attempt to bring concealed weapons or explosive devices through PBS check points. Infiltration test failures result in CATSA receiving an “enforcement letter,” advising of the failure and requiring a written response explaining how that failure is being addressed. CATSA’s responses to an enforcement letter can include decertification of the screening officer(s) involved, which necessitates retraining or “de-designation” of such officer(s). The Standing Senate Committee on National Security and Defence (Senate Committee) has recommended that a summary of intrusion test results be released to the public after some reasonable period during which the deficiencies could be addressed. Ultimately, the evidence at the



inquiry did not clearly demonstrate the need to disclose infiltration test results but, nonetheless, there must be continual pressure on all parties to ensure that deficiencies are quickly addressed – in order to justify the public’s investment in CATSA and its confidence in our aviation security regime.

Currently, there is a trend in passenger screening that marks a move toward identifying individuals with hostile intent. This trend is exemplified by ongoing interest in behavioural analysis, which is already being practised to a limited extent, and by creation of the Passenger Protect Program (PPP).

Behavioural analysis is a form of PBS that involves monitoring passengers for atypical or suspicious behavioural patterns or attributes that suggest that those passengers may present a risk to civil aviation and should therefore be subjected to more rigorous questioning. Proponents of behavioural analysis contend that it screens individuals for potentially hostile intent, and that, where practised, it provides another necessary layer in the multi-layered approach that is essential to civil aviation security. In fact, it is reasonable to conclude that, had some method of behavioural analysis been used in 1985, the behaviour of “M. Singh” may have triggered greater vigilance and prevented the bombing of Air India Flight 182. Today, the airline industry monitors ticket purchasing patterns using tools that were not available in 1985. Relevant factors include payment in cash through third parties, one-way bookings and certain travel destinations. However, analysis of behaviour observed at the airport terminal raises a number of concerns, most notably the difficulty in constructing an effective and accurate tool that respects individual rights and is not prone to abuse. There is a fine line between behavioural criteria and those which amount to racial profiling.

Behavioural analysis has been used in civil aviation security by other countries, notably Israel. To some extent, it is already practised in Canada in that it is used to observe passengers by Aircraft Protective Officers (APOs), the armed RCMP officers who provide covert security on select flights. However, if behavioural analysis were to be used in PBS, a high degree of discretion would have to be assigned to CATSA’s frontline personnel. In the end, the Commission shared the conclusion of the *CATSA Act Review Advisory Panel* (CATSA Advisory Panel) that, prior to any adoption of this measure as part of PBS, international experiences with this method must be thoroughly reviewed. In addition, the accuracy of the process and the competencies and training required must be carefully assessed.

The PPP created and maintains Canada’s no-fly list. Under this program, which was launched on June 18, 2007, the Minister of Transport, Infrastructure and Communities can deny boarding privileges to any passenger the Minister believes poses an “immediate threat to aviation security.” The PPP has been criticized by the Privacy Commissioner of Canada and her provincial and territorial counterparts, who have questioned the rationale for the program, as well as the lack of transparency in the process by which individuals are selected for inclusion on the no-fly list, which is known as the Specified Persons List (SPL). The SPL is created by an advisory group that includes the RCMP and

the Canadian Security Intelligence Service (CSIS), and is updated regularly. Criteria for inclusion in the SPL are not set out in legislation but are simply provided as public information on Transport Canada's website. The Office of the Privacy Commissioner has questioned the rigour with which foreign-sourced information provided by the RCMP and CSIS to other advisory group members will be evaluated. An individual who is denied boarding privileges receives an emergency direction that is in force for 72 hours. He or she is also referred to the Office of Reconsideration, which is part of Transport Canada. The reconsideration process has been heavily criticized for its lack of a legislative basis, for failure to provide the information underlying the decision, for failure to provide an oral hearing and for the fact that the final decision is made by the Minister – the same official who made the initial determination to deny boarding privileges.

To date, there has been only one denial of boarding privileges under this program: in June 2008. The person who was denied boarding has instituted an application for judicial review, which includes a contention that the PPP violates his *Charter* rights to freedom of movement and due process.

In time, the value of this program – which may include offering a degree of reassurance to other countries that Canada has a robust aviation security regime – may be shown to be significant. However, that has yet to be demonstrated.

## **5.6 The Long-Standing Inadequacy of Canada's Air Cargo Security Measures**

Much criticism was directed at the Government of Canada by witnesses at the Commission for the long delay in addressing the known gap in air cargo security. Air cargo was recognized in Canada as being vulnerable to sabotage by terrorists, both prior to 1985 and in the immediate aftermath of the bombing of Air India Flight 182.

The international civil aviation community also recognized the risk posed by cargo in the wake of the Air India and Pan Am losses, and acted quickly to devise a viable solution for securing cargo for air transport. Following the bombing of Pan Am Flight 103 over Lockerbie, Scotland, an amendment to Annex 17 encouraged ICAO Contracting States to implement a system of regulated agents in order to ensure the security of cargo by those entities handling cargo prior to its arrival at the airport. The United Kingdom and many other European countries followed suit, developing regulated agent systems that were highly lauded by the aviation security experts who appeared at the present Commission's hearings. Many of these same countries are also utilizing advanced screening technologies for searching air cargo.

To date, however, Canada has failed to incorporate such systems, including X-raying cargo, into its aviation security regime, despite knowledge of the deficiencies in the existing air cargo security program and despite ICAO's recommendations. Although there is a system of known shippers in Canada,

this term is outdated and, more importantly, has been misinterpreted and used to refer to entities that have only a cursory business relationship with air carriers. Contrary to the Annex 17 definition of regulated agents, there is no requirement in Canada for known shippers to apply security controls to cargo in their care, nor is there a requirement for government oversight. Cargo is not systematically searched by air carriers, which constitute the only stakeholder charged with the responsibility for searching cargo, and there is little access to any technological equipment for this purpose. There was no evidence to suggest that any training is provided for cargo searching in Canada and concerns have also been raised about airside access to, and monitoring of, cargo.

Air cargo has been left dangerously exposed to the threat of bombs, explosive devices and other methods of unlawful interference. It has been 29 years since bombs were first recognized as the major threat to civil aviation, and still this threat has yet to be comprehensively addressed. While passengers and baggage continue to provide means by which bombs may be placed aboard aircraft, both are subjected to thorough screening processes. Air cargo is not. Viewed in this manner, cargo is less the “next threat” than it is the “last war” that is still being fought, albeit ineptly. To be truly effective the “war” must be fought on all major fronts, not just a chosen few.

By 1991, at the time Annex 17 was amended to include the definition of the known shipper (which was later changed to “regulated agent”), Canada had intimate knowledge of the seriousness of the risk posed by air cargo and should have taken steps to address this gap in aviation security. In 2009, some 18 years later, virtually no changes have been implemented to enhance the security of air cargo.

While harmonization with international partners is a desirable objective, and responding positively to recommendations from ICAO is expected, air cargo security should not be driven by the intervention or inducement of others. Air cargo has been recognized as a weakness in aviation security in Canada since the 1980s, yet Canada chose not to begin addressing this gap until 2004, at a time when cargo security had become a greater priority in the United States. It is difficult to shake the appearance that progress in air cargo security in Canada has been prompted by external influences from the international civil aviation community, through ICAO, and because of developments in Canada’s largest trading partner, the United States. Yet the United States itself has come under fire for not moving more quickly on securing air cargo since the issue was identified in 1996 by the Gore Commission. Deficiencies in security cannot await the slow movement of others.

Such deficiencies, which had grave consequences in 1985, have direct application to the current context of air cargo security. Cargo represents a significant risk to civil aviation and great care must be taken not to repeat previous mistakes. The Commission’s mandate requires consideration of whether a civil aviation security regime is in place that will assure the security of those who come into

contact with civil aviation and whether an effective regime exists to thwart possible terrorist attempts to breach the security barriers as erected. With the knowledge that cargo is susceptible, vulnerable and inadequately protected, it is imperative that connections to the past are drawn.

The statistics alone demonstrate the need for a more effective approach to air cargo security. In Canada, almost 80 per cent of air cargo is transported on passenger aircraft. There are 30 million potential shippers, approximately 2 million shippers for all-cargo aircraft, 20,000-30,000 frequent shippers and 750-1500 freight forwarders (approximately 250 of whom belong to Canadian International Freight Forwarder Association (CIFFA)).

Federal Budget 2009 pledged funding to a new air cargo security initiative. The Commission supports a comprehensive initiative that not only complies with Canada's international treaty obligations, but meets or exceeds international best practices. The Commission urges that this initiative be implemented expeditiously.

## **5.7 Improving Airport Security**

Measures aimed at protecting the airport environment are fundamental to a properly functioning civil aviation security regime. The bombing of Air India Flight 182 revealed important weaknesses in airport security, including problems with access control, airport security plans, perimeter security and general security awareness.

Airports represent the hub of civil aviation, where industry, the government and the public interface. Virtually all aviation security measures, including passenger and baggage screening, are conducted at the airport, which essentially functions as a physical barrier to the aircraft. In a multi-layered approach to aviation security, the airport must provide a protective environment that supports, complements and preserves the integrity of all other security measures. To do otherwise leaves the aircraft, with its passengers and crew, vulnerable to attack.

Quite apart from the sabotage of aircraft, air terminals themselves are targets of aviation terrorism. Long line-ups and passenger congestion at airline check-in and security counters cause large numbers of people to assemble in a confined area, creating target-rich environments that are ripe for attack. There have been a number of significant attacks on airports throughout the history of aviation terrorism. As security defences to safeguard the aircraft are strengthened through the application of comprehensive measures and the use of increasingly sophisticated technology, terrorists will be deterred from attempting to place bombs on aircraft because of the unlikelihood of success. Instead, they will turn to other civil aviation targets to achieve their objectives, probing for areas of weakness that can be exploited to their advantage. Canadian airports provide these in abundance, and the airport terminal is one such area.

The Commission learned that significant deficiencies have long characterized airport security in Canada. In particular, access to airside and restricted areas of airports are poorly controlled. In contrast to the comprehensive, multi-tiered screening process in the airport terminal, to which all passengers and baggage are subjected prior to being permitted aboard aircraft, the system for screening non-passengers who access restricted areas of airports, along with their belongings, lacks rigour and can be easily circumvented. Lax perimeter security also allows vehicles and their occupants to enter airside portions of the airport with minimal, if any, screening. There is evidence to suggest that, once on airport property, the movement of such vehicles is not carefully monitored. As a result, despite impressive efforts to safeguard the aircraft against sabotage from passengers and baggage, opportunities remain for bombs to be placed aboard aircraft by other means.

Weaknesses in airport security, together with shortcomings in air cargo, Fixed Base Operation (FBO) and General Aviation (GA) security, have created a real anomaly in Canada's defence against air terrorism. Charter and air cargo services at FBOs and GA facilities, often involve wide-body aircraft, but unlike similar aircraft arriving at and departing from the air terminals, their crews, passengers and cargo are unscreened. As such, FBOs and the GA sector present ready targets for terrorists. The result is that fortress-like security is applied to the front, more publicly visible side of civil aviation, while the side that is more hidden from public scrutiny remains exposed. The Senate Committee likens the current status of aviation security in Canada to a house in which "...the front door...[is] fairly well secured, with the side and back doors wide open."

That this situation persists is made all the more remarkable by the fact that, following the loss of Air India Flight 182, airport security was also considered a priority in Canada. On July 4, 1985, eleven days after the bombing, Transport Canada's Deputy Minister requested an audit of airport security at Vancouver, Pearson and Mirabel International Airports – the very airports in Canada through which the bomb had journeyed. The audit report was completed on July 24, 1985, and revealed a number of serious deficiencies at all three airports. Common themes included inadequate protection of the aircraft, inadequate control of access to restricted areas, deficiencies in airport security plans and the need for improved security awareness – all themes that experts have continued to highlight as problems today.

Over twenty years have passed, but many of the same deficiencies, including inadequate access control, that were noted in 1985 by the airport security audit report and the Seaborn Report – a seminal document in Canadian aviation security and blueprint for further action in this field – continue to be raised as urgent concerns today. Many solutions similar to those proposed so long ago are now being proposed as basic requirements for bringing airport security to an appropriate level. Even though the Seaborn Report was presented as a strategic action plan for the Government of Canada in relation to aviation security, action has been slow in coming. However, Budget 2009 included \$2.9 million in funding for the development of aviation security plans, with

priority being given to the “initiation of airport security plans” as a result of pilot projects conducted at several airports in the past year. Budget 2009 also provided funding to hire additional oversight officers. Virtually all stakeholders and experts recommended the development of security awareness programs at airports, and various solutions have been proposed for improving access control.

It is true that some strides have been made in relation to airport security, particularly since the terrorist attacks of September 11, 2001. These improvements have included the creation of CATSA, which in November 2002 was given the responsibility for the random screening of non-passengers and for developing the biometric Restricted Area Identification Card (RAIC). The RAIC system has still not been fully implemented at airports across Canada, but is regarded internationally as a very sound security measure. In addition, airport security has been improved in the post-9/11 era in the form of covert security provided by APOs, who are armed and well-trained RCMP officers deployed through the Canadian Air Carrier Protective Program (CACPP). Although their primary function is to protect high risk flights while airborne, APOs provide an additional element of security in the airport environment. Recognizing the growing security concerns surrounding the airport environment, the CACPP training program is evolving to provide greater emphasis on such issues. The CACPP has drawn praise from the international civil aviation security community. The fact remains, however, that much more needs to be done to buttress airport security in Canada.

## **5.8 Identifying the Threat: Past, Present and Future**

To be effective, security must be both retrospective and pro-active. That may seem like a contradiction in terms. However, a consistent theme throughout the history of aviation terrorism is that vulnerabilities are known long in advance, but measures are not implemented to meet the threats until an incident occurs. As Rodney Wallis has written,

Hindsight is a great blessing. History provides an opportunity for turning hindsight into foresight. Hands-on experience gained in a variety of countries helps in the development of security defenses. All security executives should have this experience and be avid students of what has gone on before. It will help them predict and prevent incidents occurring in the future. It will also go a long way to making the skies safer for passengers and crews and for people on the ground. Security managers must always be open to innovative ideas and be unafraid to experiment in the interest of passenger security.

The failure to adjust to the shift in threat from hijacking to sabotage and to the corresponding threat of bombs in baggage is just one example of a reactive approach that has plagued civil aviation security from the very beginning.



Another is the failure to adopt measures to counter the threat posed by liquid explosives. The measures so quickly implemented to address a threat posed by liquid and gel explosives in August 2006 actually addressed a threat that had been known to exist for almost two decades. Even the phenomenon of the suicidal hijacker existed before the events of September 11, 2001. Continuously and repeatedly, lessons fail to be learned.

## 5.9 Use of Intelligence

To be effective, an aviation security program must be intelligence-led, be based upon up-to-date threat assessments and be resilient enough to adapt to new threats as they emerge. It is apparent that steps have been taken toward correcting the intelligence failures that contributed to the bombing of Air India Flight 182. Those failures were due, in part, to excessive secrecy and the institutional preoccupation with the “need-to-know” principle. After the September 11, 2001, terrorist attacks, Canada’s intelligence community moved away from uncritical adherence to that principle and accepted that, in many circumstances, the need to share must prevail. On an institutional level, this has resulted in creation of the Integrated Threat Assessment Centre (ITAC), an organization established in October 2004 and staffed by representatives of numerous government agencies. ITAC produces comprehensive threat assessments focused exclusively on terrorism. No such integrated intelligence capacity existed in 1985.

CATSA has maintained that it lacks sufficient access to the intelligence it considers essential to its operations and has sought to participate in ITAC. Although both CATSA and the Senate Committee have argued that CATSA should be permitted to develop its own intelligence capabilities, the Commission agreed with the CATSA Advisory Panel that Transport Canada remains the most appropriate channel for receiving strategic intelligence information regarding terrorism and disseminating relevant intelligence to CATSA as a consumer. As long as relevant intelligence is provided by Transport Canada, there is no need for CATSA to go beyond its core screening mandate in order to “re-invent the wheel” by developing an intelligence function. However, there is considerable value in providing front line personnel with usable, actionable intelligence through regular briefings or security updates. This is already occurring, and should be encouraged. This intelligence sharing keeps front line personnel up to date with current threats but also boosts their motivation and morale, as well as fostering a genuine sense of mission.

## 5.10 Risk Management

Risk has been defined as the “chance of loss or harm” or the “probability that some discrete type of adverse effect will occur.” Threat, which is present in security-related risk, is an expression of intention to inflict evil, injury or damage.

A proactive approach to risk management is essential for a robust civil aviation security regime. The object of risk management is to reduce risk to a

predetermined and acceptable level (often described as “as low as reasonably achievable” or ALARA). This object is attained by applying a reliable method for identifying the highest priority risks in order to determine appropriate risk control measures. This in turn assists in allocating resources in a cost-effective manner.

In 1985, the risk of sabotage against Air India would have ranked highly in a risk matrix. Moreover, risk management processes used at the time should have identified the June 1<sup>st</sup> Telex as having a significant impact on the perceived risk. The telex, sent to all Air India stations on June 1, 1985, contained a threat advisory from Air India’s Chief of Vigilance and Security Manager. It was based on intelligence obtained by the government of India and reported that Sikh extremists were likely to sabotage Air India aircraft by means of time-delayed explosives being placed in the cabin or in checked baggage. It directed all Air India stations to implement counter-sabotage measures for flights at all airports. However, this telex was not shared with Transport Canada, and decisions were made to employ methods that were known to be of questionable value for the risk faced, or to waive protective measures where there should have been no discretion.

The terms “risk-based approach” and “risk assessment” were used liberally throughout the Commission’s hearings, but at times, those who used these phrases offered little explanation or had little apparent regard for their precise meaning. This may have created an illusion of rigour where the evidence may, in some instances, suggest otherwise. When pressed, Transport Canada officials were unable to articulate a consistent means by which that Department manages risk in civil aviation security. Public confidence in civil aviation security demands that institutions with responsibility in this area provide adequate disclosure of the methods they use to manage risk.

In addition, although civil aviation security is a shared responsibility amongst numerous stakeholders, there was little evidence of a coordinated, system-wide risk management strategy.

The Commission has concluded that, in the absence of a systematic approach to risk management, there is cause for concern that significant risks in civil aviation security may go unnoticed.

### **5.11 Oversight of Aviation Security**

Annex 17 to the Chicago Convention requires each signatory state to designate a domestic agency responsible for its civil aviation security program. Despite the conclusion reached by the Senate Committee, the Commission agrees with the CATSA Advisory Panel that Transport Canada should remain the designated authority responsible for Canada’s national civil aviation security program.

Proper oversight requires the development and maintenance, by Transport Canada, of a robust aviation security regime that adequately addresses all

significant threats. To do so, the regime must not only meet but exceed Annex 17 standards wherever possible, embracing its tenets in the spirit with which its provisions are intended, and must be informed by international best practices. The system must be continuously monitored to ensure that it remains capable of thwarting terrorist threats or that adjustments can be made, as necessary, on a timely basis. The system must include a carefully considered plan for responding to true emergencies.

A sufficiently robust regime can be achieved by ongoing adherence to a number of key principles that were frequently referenced by the experts and industry stakeholders who appeared before the Commission. Some of these principles have already been discussed. They include ensuring that lessons from the past are understood, along with trends and patterns in global air terrorism; implementing measures in a proactive manner, establishing a multi-layered system of security; providing for flexible, performance-based measures where suitable, fostering a culture of security awareness, and, importantly, determining the relative need for security measures through the systematic application of accepted risk management protocols, on both an individual and global basis. The regime must be constantly scrutinized as to its effectiveness in the context of past, present and future threats, including threats that arise in other parts of the world.

Annex 17 requires that each signatory state establish and implement a written national civil aviation security program. Transport Canada has no specific document describing Canada's civil aviation security program in its entirety. Instead, Transport Canada takes the position that it possesses the equivalent of a national program as envisioned by the standard in the form of a substantial body of documents. These documents include all legislative and regulatory instruments and other documents relating to civil aviation security requirements in this country. But precisely because civil aviation is a shared responsibility, a premium should be placed on the clarity and coordination that would be provided by a single articulation of the entire regime. Such a document should set out the full slate of civil aviation security policies and procedures and each entity's role in their implementation. A national civil aviation security program will enhance the ability of each entity (be it a government agency or department, or an industry stakeholder) to comply with the national program and to develop its own program, as required by Annex 17.

Consistent with its view that there exist deficiencies in aviation security, the Commission concluded that Canada's regulatory framework for civil aviation security does not meet all of the minimum standards outlined in Annex 17. Standard 4.1 requires Contracting States to establish measures to prevent unauthorized explosives and other dangerous devices or substances from being introduced on board civil aviation aircraft "by any means whatsoever." At present, Canadian civil aviation security is not sufficiently comprehensive to meet this standard. Civil aviation remains vulnerable to acts of unlawful interference because it is still possible to introduce bombs and other weapons of sabotage on board aircraft by cargo and means other than by passengers and baggage, contrary to Standard 4.1.

Transport Canada has launched an initiative to review the national civil aviation security regulatory regime in its entirety. This is a welcome and important development, and must be an urgent priority of the Government of Canada. Where a significant vulnerability is identified, Canada must strive for timely solutions and must not defer its response until measures are imposed by other regimes or, worse, by another act of air terrorism.

Oversight in civil aviation security must involve rigorous mechanisms of inspection and enforcement of established security procedures, which requires ongoing government commitment.

### **5.12 Limits on Civil Aviation Security**

Security is not absolute. Resources are limited and other factors need to be considered as well, including the efficiency of air travel and the rights of individuals. In addition, some measures are required as a result of international obligations, both legal and practical. Security measures must, therefore, be chosen on the basis of risk management principles that are themselves based on nationally/internationally accepted standards. Limited resources must be distributed across all areas of risk to achieve an overall acceptable level of security. Both past and anticipated threats must be accounted for. Care should be taken to ensure that the necessary rigour and meaning are given to the mantra – often used by those responsible for civil aviation security – that a “risk-based approach” to civil aviation security is required.

### **5.13 Duty to Warn**

No hindsight is necessary to conclude that threat communication among those responsible for aviation security was starkly deficient in 1985. The Government of Canada and Air India were both aware of the terrorist threat faced by Air India, but neither of them ensured that other civil aviation stakeholders were aware of that threat. If air carriers interlining passengers and baggage to Air India had been made aware of the threat faced by Air India, they might well have altered their security operations. Had CP Air been informed of that threat, it might have exercised greater vigilance about interlining the “M. Singh” bag in the absence of a reservation on Air India Flight 182. Today, Transport Canada would inform other air carriers of threats to a target airline or aircraft to which passengers may be interlined.

The Commission was invited to conclude that government officials have a legal or ethical duty to warn the public about threats against airlines. However, it is difficult to articulate the threshold that must be met before a warning should be given. Ultimately, the Commission concluded that important information about security threats and measures should be shared with the public in a manner that promotes overall security.

### **5.14 Funding Aviation Security**

The issue of who should pay for aviation security has long been debated. For at least two decades, IATA has argued that this should be a responsibility of national governments, due to the fact that, since airlines have national flags on their tails, they amount to a small piece of the target country. There is force to this argument. Aviation security is a core function that is directly related to national security. As such, funding must be derived primarily from government.

Government funding can include funds obtained through the user-pay principle, as exemplified by the Air Travellers Security Charge (ATSC), first imposed in 2002. However, the ATSC has well-founded criticism. It lacks transparency, and funds generated by this charge are not directly applied to aviation security concerns. Regardless of the precise means by which aviation security is to be funded, new initiatives to address the gaps in Canada's aviation security regime will require both an initial influx of funding and an ongoing commitment on the government's part.

The reality is that aviation security incidents themselves are costly events, and prevention is the more economical option.

### **5.15 Conclusion**

Despite the passage of 24 years since the bombing of Air India Flight 182, deficiencies continue to exist in Canada's civil aviation security regime. Improvements in screening passengers and their baggage have been necessary and important, but those improvements may have come at the cost of addressing gaps elsewhere in aviation security. Deficiencies in other areas must be addressed as soon as possible. It would be unfortunate if Air India Flight 182's legacy to Canada's civil aviation security regime were to be narrowly focused on passenger and baggage screening. Some of these gaps have existed for so long that further inaction is both dangerous and unconscionable. The Government of Canada has recently moved to address some of these gaps – notably in relation to air cargo security – but increased momentum is essential. Independent reporting by government watchdogs, such as the Standing Senate Committee on National Security and Defence and the Auditor General of Canada, will help to sustain that momentum but, because of the dynamic nature of civil aviation security and the record of successive governments in delaying action in this field, the Commission recommends that a formal, independent review of Canada's civil aviation security regime should take place every five years. More detailed recommendations can be found in Volume Four.

