

WORLDWIDE CONFERENCE ON
CURRENT CHALLENGES IN INTERNATIONAL AVIATION

September 24-26, 2004

*Presented by
McGill University
Institute of Air & Space Law
Montreal, Canada*

*in cooperation with the
International Civil Aviation Organization
(Preceding the 35th Session of the ICAO Assembly)*

*in association with
Airports Council International
Concordia University International Center for Aviation Management Education &
Research
The Canadian Bar Association (Air & Space Law Section)
and
The International Air Transport Association*

**Presentation by:
Mr. Billie H. Vincent
September 25, 2004**

**HAVE AIRPORTS, AIRLINES, AND GOVERNMENTS
DONE ENOUGH (OR TOO MUCH)
TO AVOID ANOTHER CATASTROPHICTERRORIST
EVENT?**

WORLDWIDE CONFERENCE ON CURRENT CHALLENGES IN INTERNATIONAL AVIATION

HAVE AIRPORTS, AIRLINES, AND GOVERNMENTS DONE ENOUGH (OR TOO MUCH) TO AVOID ANOTHER CATASTROPHIC TERRORIST EVENT?

**Billie H. Vincent
September 25, 2004**

Given the recent destruction of the two Russian Airliners on August 24, 2004, the obvious answer to the above question is: No – not enough has been done. But, should we not be asking: What can be done to prevent these things from happening and can we ever expect 100% success? An attendant question is also raised: Is it all up to aviation, i.e. what other measures are appropriate in the community of nations to prevent these disasters?

The suspected bombing of the two Russian commercial airliners on August 24, 2004, is particularly troubling. The method of concealment, movement of explosives around the Russian security system, or other method of introduction of the explosives onto the two aircraft is still unknown to the public at the preparation of this document. Nevertheless, it is already clear that these two suicide bombings have raised-the-bar on aviation security once again.

A variety of security measures will have to be incorporated in the current aviation security system to counter the use of suicide bombers. There will be opposition to the introduction of these additional measures, as it will reduce the efficiency of the aviation security screening system once again. Among other things these additional measures will entail more extensive use of profiles, the introduction of new technologies at screening points such as walk-through explosives detectors, millimeter wave or low-dose personal X-ray examinations, small explosives detection units for carry-on articles, etc.

Walk-through portal explosives trace detection technology units to screen individuals for explosives, or to detect explosives residue on persons who have handled or been exposed to explosives, are only now reaching a point that they may be deployed in the coming months. These first-generation of people-explosives-detectors are relatively expensive, large, and will reduce the airport security screening checkpoints throughput. Another technology currently in research and development, millimeter wave, has the potential to reveal metal and non-metal objects concealed under clothing.

Still another technology, already in its second or third generation, is low-dose X-ray systems. These low-dose X-ray units reveal all objects carried by individuals under their clothing. These systems have incurred the wrath of the privacy advocacy community as

well as from individuals subjected to the system involuntarily because they reveal too many details of the body. Several of these units have been sold and used internationally and are also being used in prisons in the U.S. The U.S. Customs Service has used them on a voluntary basis where suspected drug smugglers are given the choice of the X-ray or a personal invasive search.

Explosive detection units based on computed tomography are available for examination of carry-on articles but these units are still large, expensive, and slow.

These new technologies may have to be used in conjunction with the application of profiles for two reasons, one having to do with screening effectiveness and the other based on maintaining a degree of efficiency in throughput of passengers:

- 1) Focus these scarce and expensive equipment resources on the persons having the highest probability of a threat to aviation safety, and
- 2) Mitigate the impact on the efficiency of aviation security screening throughput.

So, is the bombing of the two Russian airliners an isolated failure of the overall aviation security system or is it an indicator of an overall problem? A simple review of the world news media over the past several months is instructive in that problems or failures in aviation security continue to persist on a worldwide scale:

“(H)undreds of passengers were delayed for hours at Sydney’s international airport after a man managed to beat all security checks and reach a Qantas departure gate without a boarding pass. It was the second major security scare at Australia’s busiest airport in the past week.”¹

”An undercover investigation of Danish airports by daily newspaper Urban has reportedly found terror security lacking as a journalist using the name of a wanted al-Qaeda terrorist was able to buy an SAS ticket and fly from Copenhagen to Aarhus.”²

“A former Transportation Security Administration screener at Detroit Metropolitan Airport was arraigned . . . on charges of lying to the government when he applied for the position, U.S. Attorney Jeffrey Collins said.”³

”POLICE today were looking for two thieves who made off with more than 1,000,000 euros (\$1.64 million) in merchandise being shipped through the Frankfurt airport in strikingly similar heists in the span of less than four hours.”⁴

“Security officials on Saturday downplayed a newspaper report alleging lax security at Kuwait International Airport after a British reporter took a knife aboard a British

¹ Thursday, July 8, 2004 Intruder breaches airport security By Alexandr Smith and Scott Rochfort, Australia - *The Sydney Morning Herald*

² Wednesday, June 9, 2004 Security lacking at Danish airports report *NORDIC BUSINESS REPORT*

³ Friday, July 23, 2004 Airport screener indicted for making false statements *The Associated Press*

⁴ Friday, April 30, 2004 Frankfurt (Germany) airport raided - Australia - *The Melbourne Herald Sun*.

Airways flight. "This is an individual incident and does not mean we have lax security," a senior Kuwait security official, who requested anonymity, told Reuters."⁵

"They were supposed to ensure security at [Milan's] Malpensa airport with an empty holster, a holster with a toy gun instead of a regular service weapon."⁶

These problems or alleged deficiencies are generally countered by officials who point to the thousands of weapons, knives, and assorted dangerous devices or substances that have been discovered at security screening points. While a number of these articles could have posed a significant danger to aviation, most, if not all, were carried by passengers who had no intent to hijack an aircraft. Nonetheless, as illustrated by the bombing of the two Russian airliners, anything less than 100% success in preventing weapons or other dangerous articles from being carried into airport sterile areas and onto aircraft is unacceptable. But is it possible to accomplish this objective?

What bothers me is not that we will have an occasional failure to detect weapons or other dangerous articles – but the obvious failures to either build a good security system, or having made the effort to do so, failing to properly nurture and support that system. The latter failure is as deadly as the first and generally results from a lack of commitment to, or an understanding of, the need for maintaining a high degree of vigilance given the nature of the overall threat to world aviation. Contributing to this situation is the dilemma we face where the adversary has the advantage of selection of the target, and the time, place, and method of the attack. As Margaret Thatcher, the former Prime Minister of the Great Britain is reported to have said "The terrorist has only to be successful once, we have to be successful all the time."

I continue to run into a few countries' failures to ensure that a very small number of airlines properly implement the International Civil Aviation Organization (ICAO) Annex 17 security standards on baggage-passenger reconciliation. ICAO Annex 17, paragraph 4.4.3, requires each State to ensure that airlines operating from their international airports accomplish baggage-passenger reconciliation. These measures were required for all international aviation beginning with the originating passenger-bag match in November 1987 and the full-bag-passenger reconciliation on April 1, 1989 - yet some few major airlines are still not properly accomplishing this requirement. When questioned about this failure the airline security directors generally beg that it is too difficult for them to implement these measures at their stations. These claims are ludicrous in view of the technology available that makes this a rather simple task.

While this failure seems outlandish after all these years it pales in comparison with the claims made by U.S. airlines that they cannot implement a full baggage/passenger match/reconciliation process within the domestic U.S. system⁷. The claim that the U.S.

⁵ Saturday, July 10, 2004 Kuwait dismisses report of lax airport security – *Kuwait Reuters*.

⁶ Saturday, June 12, 2004 - Italian investigators uncover security scam at Milan airport By Claudio - Del Frate Italy - *Corriere della Sera*

⁷ See *Some Comments on 9/11 Commission Report*, Appendix B, August 11, 2004, Billie H. Vincent – bhv@asi-transec.com

airlines cannot implement baggage-passenger reconciliation within the domestic U.S. system was proven baseless by studies funded by the FAA in 1997.⁸ U.S. airlines still cling to their discredited position by now asserting that it is unnecessary because all checked baggage is subject to 100% screening in the U.S. When faced with the argument that baggage-passenger match is a “layer” of security that is independent of 100% checked baggage screening, the airlines’ representatives then argue that baggage-passenger reconciliation will not detect suicide bombers. Indeed, it will not – but here again it is a necessary layer that will detect non-suicide bombers that may still be the most probable phenomenon – notwithstanding the recent near simultaneous bombing of the two Russian aircraft.

Let me take a brief look at the U.S. system since the September 11, 2001, attacks. Virtually all published comments and reports on the Transportation Security Administration (TSA) are negative. But given the circumstances and the political climate that resulted in the creation of the TSA, we probably could have anticipated this happening. A number of detractors are vehemently opposed to the TSA with some of this opposition coming from the United States Congress.

Congressman John R. Mica (R-FL), the Chairman of the House Aviation Sub Committee, is one of these critics. He advocates that airports select the Opt-Out feature of the Aviation Transportation and Security Act⁹ (ATSA) that created the TSA. His public pronouncements about his views of the failings of the TSA and his support of the Opt-Out provisions of the ATSA have generated some opposition within both houses of Congress¹⁰.

Senator John (Jay) Rockefeller (D-WV), ranking member of the Senate Commerce Committee’s Subcommittee on Health Care and Vice Chairman of the Select Committee on Intelligence, opposes the ATSA Opt-Out program and is supporting the continuation of the TSA. A number of airport directors have weighed in expressing their skepticism in returning to a private screener arena under airport control¹¹. Other sources have also expressed their opposition to returning to the private screening arena¹².

The ATSA legislation that created the TSA was rushed through its development and through the Congress in the eleven weeks following the terrorist attacks on the U.S. on September 11, 2001. Given the haste in which ATSA was drafted, passed, and signed into law by President Bush, one could have expected unanticipated issues surfacing. In addition, the creation of a 50,000 plus organization under crisis conditions following the September 11, 2001 attacks was bound to result in unanticipated problems. But a number of missteps by the TSA executives have generated additional problems. Added to these failings is the negative publicity associated with a number of TSA employees that have

⁸ See FAA Study on Positive Bag Match – Arnold Barnet, George Eastman Professor of Management Science – Massachusetts Institute of Technology – 1997.

⁹ Public Law 107-71 - November 19, 2001

¹⁰ Sunday, July 11, 2004 Airports may apply for private screeners by end of year - Tamara Lytle - The Orlando (FL) Sentinel

¹¹ Washington Post, Tuesday, 6 July 2004, Business - Airport Screeners' New Guard - Sara Kehaulani Goo.

¹² Sunday, July 11, 2004 Editorial A Dangerous Retreat on Security The New York (NY) Times

allegedly violated the public's trust and have been indicted on charges of theft of items from passengers' luggage¹³.

Several TSA employees have been discharged because of alleged improprieties, e.g. fraudulent sales of aviation fuel at Miami International Airport¹⁴. Other TSA employees have been charged with falsifying their employee applications and have been discharged:

“Nationally, about 1,200 of 55,000-plus screeners were fired for lying on applications, criminal histories, or other concerns, according to the records¹⁵.”

Still others, including some Federal Security Directors¹⁶, have been reassigned to other duties¹⁷ or discharged for improper actions¹⁸. A number of TSA employees, including Federal Security Directors, have resigned for reasons running from the job not being what they expected, lack of authority to effect actions locally, conflict with airport directors,¹⁹ to general dissatisfaction with the TSA headquarters' guidance.

Notable among these problems are Albany Airport in New York and Seattle-Tacoma International Airport in Washington. The FSD from Sea-Tac International Airport was reassigned to the TSA's Washington, D.C. headquarters after reports of improper behavior of subordinate supervisors charging their subordinates for assistance in filling out promotion forms. A host of charges have been lodged by employees against the TSA management at the Albany, New York, airport:

“During the past several months, more than two dozen federal security screeners at Albany International were fired or forced to resign for a series of alleged violations that included sexual harassment, misconduct, credit card fraud, drug abuse and lying on job applications, authorities said²⁰.”

“Paul B. Varville, the airport's TSA director, defended the firings and contends he and his managers will be cleared of the allegations²¹.”

¹³ Airport Bag Looting Alleged - Miami International Airport – Cristina Silva - The Miami (FL) Herald – June 30, 2004. Airport Baggage Theft is Nothing New - The New Orleans (LA) Times Picayune, June 27, 2004 -

¹⁴ 19 Accused of Stealing Jet Fuel in Miami By Adrian Sainz Associated Press July 22, 2004, 3:41 PM EDT

¹⁵ Los Angeles Airport Led Country in Dismissed Federal Screeners Associated Press, January 21, 2004.

¹⁶ FSDs are TSA managers in charge of airport security systems. Sometimes they are in charge of multiple airport security systems.

¹⁷ FSD at Seattle reassigned to TSA Washington, DC headquarters because of alleged subordinates charges for assisting employees in filling out promotion forms.

¹⁸ Dulles Airport Security Official Busted, Suspended TSA Official Denies Drinking On Job POSTED: 9:46 AM EST January 2, 2004 NBC 4.com, Washington DC. Security Head at Philly Airport Suspended, Associated Press - December 31, 2003.

¹⁹ Friday, July 23, 2004 - Airport security management disputed at Fargo airport - The Associated Press

²⁰ Federal inquiry begins at airport -- Managers and current and former security screeners are interviewed about allegations, Brendan Lyons - The Albany (NY) Times Union, April 27, 2004

²¹ Ibid

The situation at the Sea-Tac International Airport is a bit different but there are indications of serious organizational problems nonetheless. According to the Seattle Times:

”Eight screening supervisors who were promoted into their positions in January at Seattle-Tacoma International Airport had their promotions rescinded this week as part of an ongoing investigation into personnel practices.” and

” . . . the TSA removed the airport's top four managers as part of a broader review of operations²².”

As a consequence of these problems, the Sea-Tac International Airport FSD was replaced and transferred to the Washington, D;C. headquarters. The TSA Office of Internal Affairs and Program Review began reviews of the allegations at Albany and Seattle.

Key executives in the TSA’s Washington, D.C., headquarters continue to change with the latest announcement that the head of TSA Aviation Operations will become the new “Acting” Phoenix International Airport FSD. There is a bit of uncertainty and speculation about the reasons for this downgrade reassignment and loss of position for this formerly highly placed individual. A former Federal Emergency Management Agency (FEMA) employee is now the head of TSA Aviation Operations. These actions followed the recent U.S. Senate confirmation of Admiral Stone as the new TSA Administrator²³. The interesting thing about the former TSA Aviation Operations Executive’s downgrade reassignment is that he is going to the position as an “Acting FSD” because someone else already occupies the position.

“The federal security director at Arizona's largest airport has been placed on leave amid accusations staff members intentionally lengthened passenger waits while asking the Homeland Security Department for more screeners²⁴.”

Admiral Stone’s confirmation as the new TSA Administrator makes him the third Administrator in TSA’s short history²⁵. John Magaw from the Secret Service was the first Administrator and he lasted for a few months before becoming persona non grata with the Congress and the Bush Administration. Magaw was replaced by retired Coast Guard Admiral Loy who was later “promoted” to obscurity as the Deputy Secretary of the Department of Homeland Security. These rapid-order changes at the top have contributed a great deal to the instability within the TSA.

In TSA’s short history it located, tested, hired, trained, and indoctrinated over 60 thousand persons in a little less than one year. It has also lost some 10 thousand plus

²² Eight Sea-Tac supervisor promotions revoked - Cheryl Phillips - The Seattle (WA) Times – June 12, 2004

²³ Washington Post, July 23, 2004.

²⁴ Phoenix – Associated Press – July 29, 2004.

²⁵ TSA was created in the Aviation Transportation and Security Act (ATSA) legislation on November 19, 2001 and started operations on February 19, 2002.

employees after having “ramped up” to an initial operating employment level beyond its Congressionally authorized strength. A number of FSD’s, particularly at the busier U.S. airports, have stated urgent needs for new employees²⁶, and would like local authority to hire and fire employees in order to handle the security screening workloads. In all these activities, the TSA and its DOT interim predecessor have spent and misspent tens of millions, and perhaps hundreds of millions, of U.S. taxpayer’s dollars.

We continue to hear and read of failures of the TSA screeners to detect knives, guns, and other prohibited items. These incidents beg the question of whether the TSA screening system is any better than the pre-9-11 airline run private screening system. A number of press releases have carried this question further by publishing snippets of data leaked to them from testing²⁷ of the TSA’s aviation security screening system. The General Accountability²⁸ Office (GAO) has also conducted assessments of the TSA’s screening system as has the Inspector General of the DOT and now the TSA.

Shortly after the origination of the TSA in February 2002, a suggestion was advanced to implement a “Trusted Traveler” program. The thought behind this program was to identify persons who could be trusted and, therefore, require less security scrutiny. The first TSA Administrator didn’t appear to be too enthused with this concept and it languished until Admiral Loy replaced Mr. Mcgaw. Admiral Loy then changed the name of the program to “Registered Traveler” to avoid the negative connotations the Trusted Traveler moniker had engendered. We now have this program being tested at a number of locations in the U.S.²⁹

Actually, the Registered Traveler program is not a security system – it is a facilitation program. The intent is to move passengers through the security screening points faster – not necessarily more securely. At least two, and maybe more, of the 19 hijackers on 9-11 could have been members of frequent flyer programs. I realize that the Registered Traveler program entails more than being a frequent flyer. But Al Qaeda and its associated organizations have the resources to research the program and over time get members of their organization qualified as Registered Travelers. The TSA’s protestations to the contrary – what little integrity the program has at the outset will be destroyed the moment the first minority discrimination complaint is filed by someone denied entry to the program. As a consequence of these and other factors, I consider it a loophole in the U.S. security system. It should be killed immediately.

My greatest concern at the moment however is the simultaneous use of suicide car bombs against airport terminal buildings. The U.S. and a number of other countries are particularly vulnerable to this type of attack. Some have addressed this vulnerability with countermeasures but in most instances the measures do not fully address the problem.

²⁶ Seattle, Washington, DC, Miami, Chicago O’Hare, Los Angeles – various reports – 2004.

²⁷ The data on the results of any TSA testing of the U.S. aviation security system has been prohibited from release by declaring it as Sensitive Security Information (SSI).

²⁸ Recently changed from “Accounting” to Accountability.

²⁹ Washington Reagan National Airport, Minneapolis International Airport and Los Angeles International Airports.

Effective countermeasures are not particularly attractive in their impact or cost. As I see it a three-stage system is necessary to have a reasonable chance of preventing successful attacks using suicide vehicle bombs against terminal buildings. Stage 1 is a surveillance and preliminary assessment of all vehicles on the approach road(s) to airport terminal buildings. Stage 2 is an inspection station for those vehicles designated by the Stage 1 surveillance team(s). Stage 3 is the installation of barriers, e.g. above and below ground, as a means of stopping relatively large vehicles if they ignore orders to stop for inspections at Stage 2. I believe it imperative that we address this vulnerability immediately.

In fairness to the TSA, many significant things are underway within the TSA, both in the infrastructure of the overall U.S. screening system as well as the people system. But we must always keep foremost in our minds that we cannot have an effective aviation screening system if we do not first build a good people system. Unfortunately, that is the part of the system that needs the most attention at the moment. Dealing and/or fixing “things”, i.e. equipment - is easy compared with the building of a credible, effective, and efficient “people” screening system. While “equipment” development is moving along quite well, the “people” system needs a great deal of attention

So, is the TSA screening system, with its many reported failures, any better than the pre-9-11 airline run private industry screening system? The answer is: unquestionably yes. I make this judgment because I know the current passenger screening system is much more thorough, notwithstanding the deficiencies in the foregoing paragraphs.

I can also attest to an overall “tightening” and enhancement of the aviation security screening systems worldwide. One recent movement through two security screening points in the Middle East and the central Mediterranean region was heartening in that the screeners were comprehensive enough that they were examining writing pens to ensure that they were not pen-guns, etc. Likewise, travel through Southeast Asia over the past year has revealed tighter security at several airports. Unfortunately, this is not the case across all airports.

Some of the most significant infrastructure improvements are the result of recent ICAO initiatives, e.g. the new Universal Aviation Security Audit program. These audits have already begun to produce improvements in national aviation security systems. Regional organizations such as the European Civil Aviation Conference (ECAC) have contributed significantly to aviation security for many years with ECAC Doc 30, which was strengthened after the attacks of 9-11. European Union Document 2320 initiated in 2002 is another significant advance. All of these efforts are to be complimented for raising worldwide aviation security standards.

The current system includes improved attention to cargo, catering, background screening, etc. But is it sufficient to detect or deter Al Qaeda terrorists? Given recent bombing of the two Russian airliners, the answer to the latter question is no. The system needs added security layers and the existing layers enhanced. Specifically the following needs to be accomplished and incorporated into the world’s aviation security screening system:

Needed Enhancements to the Current Aviation Security Screening System	
Accelerate the training and deployment of pilots with guns (in the U.S). ³⁰ Installation of ballistics protection on the cockpit walls (and the cockpit floor of B-747)	Enhanced training of screeners, their managers, and executive personnel
Profile ³¹ application (Secure Flight concept - CAPPS II replacement in the US) including a very thorough screening of all selectees and their carry-on articles.	Profile assessment and application training of security or other personnel responsible for application of profiles.
Enhanced EDS systems (software and hardware improvements) improving detection algorithms and reduction of false positives	Accelerate the enhancement of Explosives Detection Systems (EDS) by removing them from airport lobbies and incorporating them into the airports/airlines conveyor systems.
Deploy walk-through explosives trace detectors at passenger screening checkpoints	Selectively deploy low-dose X-ray units for examination of people until non-X-ray examination technology is available.
Deploy ARGUS developed EDS units at high-density security screening checkpoints for selective examination of carry-on articles	Accelerate development of non-intrusive detection technologies for detection of articles concealed on persons
Implement mandatory technical screening of all cargo, express parcels, mail, etc. carried on passenger aircraft	Purchase and deploy enhanced Walk-Through Metal Detectors (software upgrades)
Design and implementation of a three-stage vehicle surveillance, assessment, inspection and barrier system to address the potential use of suicide vehicle-bomb attacks against airport terminal buildings	Installation of covert CCTV throughout aircraft passenger cabins for viewing in cockpits. A means to automatically transmit this data to ground stations in emergencies and selectively at other times should also be installed.
Accelerate R&D for enhanced explosives detection systems to screen persons and their personal articles at screening checkpoints	Screening of all persons (including crews, employees and staff) and an inspection of their accompanying articles whenever they enter an airport restricted area
Continue and enhance remote sensing units for perimeter intrusion detection, e.g., ASDEs	Continue and enhance the development of remote people screening systems in airport corridors
Training of flight attendants in self defense and anti-hijacking techniques	Intensify inspection and control of all catering supplies onto passenger aircraft

³⁰ The author realizes that guns-in-commercial-airplanes are a very controversial subject. On the other-hand terrorists have no compunction about bringing guns, knives and explosives into airplanes and to the author it is a simple matter of the ‘good guy’ having the weapons to defend the integrity of the aircraft versus the ‘bad guys’.

³¹ Profiles are necessary to assist in the identification of potential suicide bombers such as the two bombers of the two Russian aircraft in August 2004.

Billie H. Vincent	Phone (703) 322-1900
President & CEO	Fax (703) 322-1911
Aerospace Services International, Inc.	Cell (571) 331-6817
14101 Parke Long Court, Suite V	Home (703) 860-8317
Chantilly, VA 20151-1645	E-Mail bhv@asiwebsite.com