

## VOLUME FOUR AVIATION SECURITY

### CHAPTER II: RESPONSES TO THE BOMBING OF AIR INDIA FLIGHT 182

In the early morning of June 23, 1985, Air India Flight 182 was on its way from Toronto to London, England,<sup>1</sup> when a bomb exploded on board. The aircraft, a Boeing 747 named the *Kanishka*, crashed in the Atlantic Ocean off the southwest coast of Ireland, killing all 329 passengers and crew.<sup>2</sup> The bomb had been concealed in a suitcase that began its journey on Canadian Pacific Airlines (CP Air) Flight 060 from Vancouver and was later transferred to the Air India aircraft in Toronto.<sup>3</sup> Throughout its entire transport, the suitcase containing the bomb was not accompanied by any corresponding passenger.<sup>4</sup> Less than an hour before Flight 182 disappeared, another bomb hidden in a suitcase exploded in the baggage handling area of Narita Airport in Japan, killing two baggage handlers and injuring four others. This suitcase had also travelled unaccompanied from Vancouver – in this case, on CP Air Flight 003 – and was destined for loading onto Air India Flight 301 to Bangkok.<sup>5</sup>

The bombing of Air India Flight 182 marked a watershed in international civil aviation security.<sup>6</sup> There had been incidents of aircraft sabotage before, but the scale of destruction in 1985 was unprecedented. This was also the first time that a specific *modus operandi* was identified. An unaccompanied bag had entered the airline system and was subsequently interlined to the target aircraft in a different city.<sup>7</sup>

Until the events of September 11, 2001, the bombing of Air India Flight 182 was the worst act of air terrorism the world had seen.<sup>8</sup> It remains Canada's worst encounter with terrorism.<sup>9</sup> Before the bombing, Canada's non-controversial international roles had bred complacency within Transport Canada's Civil Aviation Security Branch.<sup>10</sup> No known terrorist group harboured grievances

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1 The flight made a transit stop in Montreal: Exhibit P-35, p. 1.

2 Exhibit P-164, p. 1.

3 Exhibit P-157, p. 11 of 135.

4 Exhibit P-157, pp. 25, 77 of 135.

5 Exhibit P-157, p. 11 of 135.

6 Testimony of Rodney Wallis, vol. 36, May 30, 2007, p. 4288.

7 Testimony of Rodney Wallis, vol. 35, May 29, 2007, pp. 4209-4210; see also Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4517.

8 Exhibit P-35, p. 1.

9 Exhibit P-35, p. 2.

10 Exhibit P-157, p. 54 of 135; see also Exhibit P-259: Rodney Wallis, *Combating Air Terrorism* (New York: Brassey's, 1993), p. 7 [Wallis, *Combating Air Terrorism*].

against Canada<sup>11</sup> and, despite indications to the contrary,<sup>12</sup> there was a tendency to believe the country immune to the violent regional conflicts that had elsewhere led to a rash of hijackings and other forms of air terrorism.<sup>13</sup> As a result, civil aviation security was given low priority.<sup>14</sup>

The bombing of Flight 182 was the result of a conspiracy that was conceived, planned and executed in Canada, and most of the victims were Canadians.<sup>15</sup> It demonstrated that terrorist acts need not be confined to the country that was the source of a dispute, but could be perpetrated anywhere that suited terrorist purposes.<sup>16</sup>

To that point, Canada had failed to keep pace with the realities of air terrorism. The Air India bombing led to significant changes in Canadian and international civil aviation security regimes. The focus quickly shifted from preventing hijackings to preventing sabotage, particularly the threat of explosive devices hidden in checked baggage.<sup>17</sup> A number of post-bombing investigations and reviews in Canada and abroad recommended sweeping changes to existing aviation security systems. Chief among the changes then made in Canada was the introduction of passenger-baggage reconciliation, a measure that had already been used here, and that, had it been used in June 1985, might well have prevented the Air India bombing. In the aftermath, Canada became the staunchest proponent of passenger-baggage reconciliation, leading the way for this measure to become a mandatory international civil aviation security standard. The basic security philosophies that were established following the bombing form the foundation of security regimes today.<sup>18</sup>

However, despite these efforts to enhance security, it remained inadequate. The Air India bombing revealed significant weaknesses, not only in passenger and baggage security, but in almost all areas of aviation security. Reviews of the disaster recognized that passenger aircraft were exposed to multiple methods of terrorist attack, and outlined a clear vision for comprehensive change. The Seaborn Report, commissioned by the Government of Canada in 1985, provided a strategic plan whose principles remain relevant.<sup>19</sup> Nevertheless, the focus of the response in Canada and internationally was on passenger and baggage security. Although attempts were made to address other areas of vulnerability, they were not adequate. It was not until Pan American World Airways (Pan Am) Flight 103 was destroyed more than three years later, using the same method employed against Air India, that a greater commitment to reform in security emerged. Efforts to secure reform were further strengthened following the attacks of September 11, 2001. Still, many lessons of the Air India bombing remain unheeded almost 25 years later.

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<sup>11</sup> Wallis, *Combating Air Terrorism*, p. 7.

<sup>12</sup> Exhibit P-157, pp. 47-48 of 135.

<sup>13</sup> Exhibit P-157, p. 54 of 135.

<sup>14</sup> Exhibit P-157, p. 54 of 135.

<sup>15</sup> Exhibit P-35, p. 2.

<sup>16</sup> Wallis, *Combating Air Terrorism*, p. 7.

<sup>17</sup> Exhibit P-157, p. 75 of 135.

<sup>18</sup> Testimony of Rodney Wallis, vol. 35, May 29, 2007, p. 4219.

<sup>19</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4507.

## 2.1 International Response

The international civil aviation security community responded within days of the loss of Air India Flight 182. The International Civil Aviation Organization (ICAO) called a special meeting of its assembly. The International Air Transport Association (IATA) convened an extraordinary meeting of its Security Advisory Committee (SAC).<sup>20</sup> The SAC was a special security body of IATA established in 1967 to develop collective airline policies for combatting aviation terrorism.

Although there was no initial confirmation that a bomb had destroyed Flight 182, suspicion ran high. Given the nature of the incident and the connection to the Narita bombing, the working assumption was that a bomb had brought down Flight 182. Both incidents involved a non-existent passenger, the same airline was targeted, physical evidence of a bomb was discovered at Narita Airport,<sup>21</sup> and those participating in the search and recovery process for Air India Flight 182 had observed catastrophic damage. On this basis, those attending the meetings at IATA and ICAO recommended major reforms to civil aviation security to reduce the risk of sabotage.<sup>22</sup> Canada played a prominent role, leading the push for mandatory passenger-baggage reconciliation.<sup>23</sup>

### 2.1.1 International Air Transport Association

IATA is the trade association for international scheduled airlines.<sup>24</sup> On June 28, 1985, airline security chiefs from around the world,<sup>25</sup> including representatives of Air India, CP Air and Air Canada, assembled at IATA's headquarters in Montreal to attend the SAC meeting. The measures recommended by the SAC became mandatory after the full membership adopted resolutions.<sup>26</sup>

The SAC meeting was convened to review the recent aviation terrorism events and to identify immediate steps to close security gaps.<sup>27</sup> The attendance of airline representatives from around the world only days after the Air India bombing reflected the deep concern of the industry.<sup>28</sup> The airlines sought to restore public confidence, which had been "badly shattered by the incidents,"<sup>29</sup> and to maintain the viability of their operations.<sup>30</sup> A number of observers also

<sup>20</sup> Wallis, *Combating Air Terrorism*, p. 5.

<sup>21</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4483.

<sup>22</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4482-4483.

<sup>23</sup> Testimony of Rodney Wallis, vol. 39, June 4, 2007, p. 4755.

<sup>24</sup> Wallis, *Combating Air Terrorism*, p. 102.

<sup>25</sup> The extraordinary meeting included representatives from the following airlines: CP Air, Air India, Swiss Air, KLM, TWA, Qantas, Air France, UTA, Middle East Airlines, Japan Airlines, Aer Lingus, Nigeria Airways, British Caledonian, South African Airways and British Airways. The meeting was also attended by representatives of the International Civil Aviation Organization (ICAO) and the Air Transport Association of Canada. See Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4474-4475.

<sup>26</sup> Exhibit P-260: Rodney Wallis, *Lockerbie: The Story and the Lessons* (Westport, Conn.: Praeger Publishers, 2001), pp. 4-5 [Wallis, *Lockerbie*].

<sup>27</sup> Wallis, *Combating Air Terrorism*, pp. 5-6.

<sup>28</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4475.

<sup>29</sup> Wallis, *Combating Air Terrorism*, p. 6.

<sup>30</sup> Wallis, *Combating Air Terrorism*, p. 6.

attended the IATA meeting, including representatives of Transport Canada and the US Federal Aviation Administration (FAA). The presence of government representatives at an “airline meeting” demonstrated the significance attached to the issues being discussed.<sup>31</sup> The holding of the meeting so soon after the bombing permitted IATA to learn the industry’s immediate reaction and to represent its views shortly afterwards at ICAO’s special meeting.<sup>32</sup>

Notably absent from the SAC meeting, however, were security representatives from the US airlines. According to Rodney Wallis, Director of Security at IATA at the time, officials from American air carriers viewed the bombing as a “foreign” matter that held little relevance for their operations.<sup>33</sup> They were focusing instead on another incident unfolding at the same time involving an American aircraft. A Trans World Airlines (TWA) Boeing 727 had been hijacked in the Mediterranean region on June 14, 1985, resulting in a two-week hostage-taking and the killing of one American passenger.<sup>34</sup> This was a major event in the US, with daily coverage in the media. Because American hostages were being held, “...the level of emotion created in the United States was certain to give precedence of thought in that country to this criminal act rather than to the Air India disaster.”<sup>35</sup> The relative inattention of US airline representatives to the lessons of the Air India bombing was to have grave repercussions three years later when, according to Wallis, Pan Am Flight 103 was bombed after the airline abandoned the key preventive measure developed following the Air India bombing.<sup>36</sup>

The SAC meeting in June 1985 resulted in a number of recommendations for IATA’s membership and marked the beginning of “massive changes”<sup>37</sup> in aviation security around the world. The most significant was passenger-baggage reconciliation<sup>38</sup> – the process of matching passengers with their baggage to prevent unaccompanied bags being carried on aircraft.<sup>39</sup> To avoid the danger that arose when ill-intentioned passengers voluntarily separated themselves from their baggage, it became necessary to treat the passenger and accompanying baggage as a single entity. It was not sufficient simply to identify “no shows” at the gate, or missing transit and transfer passengers. Bags that had illegally “infiltrated” the system had to be identified.<sup>40</sup>

Passenger-baggage reconciliation was an established procedure even before the Air India bombing. Some countries, including Spain and Turkey, had implemented fairly rudimentary passenger-baggage reconciliation procedures,

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31 Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4474-4475.

32 Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4475-4476.

33 Wallis, *Lockerbie*, p. 10.

34 Wallis, *Lockerbie*, p. 10.

35 Wallis, *Lockerbie*, p. 10.

36 Wallis, *Lockerbie*, p. 11.

37 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4476.

38 Wallis, *Lockerbie*, pp. 10-11.

39 Wallis, *Lockerbie*, p. 152.

40 Wallis, *Lockerbie*, p. 13.

mostly on an *ad hoc* basis in response to bomb threats.<sup>41</sup> Passenger-baggage reconciliation had been used successfully in Canada by KLM and CP Air in relation to a bomb threat in 1984.<sup>42</sup> After the Air India bombing, the goal was to ensure that such procedures became mandatory, that they were enhanced, where applicable, through a process of automation and that the procedures were workable for both developed and developing nations.<sup>43</sup> Wallis described the mandatory requirement for passenger-baggage reconciliation as the most significant change in international civil aviation security standards during the 1980s.<sup>44</sup>

The SAC identified additional security issues that needed greater attention, including ramp and air cargo security. Air cargo, in particular, was known to be susceptible to sabotage, and there was increasing concern about the ability to use devices hidden in air cargo to target specific aircraft. IATA established working groups of aviation security experts to review these vulnerabilities<sup>45</sup> and to review the ICAO Security Manual.<sup>46</sup> The groups reported at the next regular SAC meeting in September 1985, essentially confirming the SAC's initial views about where improved security was required.<sup>47</sup>

Those attending the SAC extraordinary meeting gave priority to implementing controls over checked baggage,<sup>48</sup> but a proposal to screen all checked baggage did not find favour.<sup>49</sup> This measure had been strongly advocated by Transport Canada.<sup>50</sup> As an adjunct to passenger-baggage reconciliation, it would enhance passenger security.<sup>51</sup> After the bombing, airlines at Canadian airports had been instructed to conduct full checked baggage screening for all international flights through physical or X-ray inspection.<sup>52</sup> However, this caused considerable delays, with opportunity costs estimated at \$10,000 to \$18,000 per hour in 1985 dollars.<sup>53</sup> The SAC supported other measures instead, calling for improved communication and intelligence<sup>54</sup> and enhanced security at airports. IATA eventually established minimum criteria for securing airports against terrorism and inaugurated a corresponding program of airport surveys.<sup>55</sup>

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41 These procedures consisted of passengers physically identifying their baggage before it was loaded on the aircraft. See Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4412-4413, 4478.

42 Exhibit P-101 CAF0637, pp. 18-19.

43 Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4476, 4478, 4485-4486.

44 Wallis, *Lockerbie*, p. 10.

45 See Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4477, 4480.

46 Exhibit P-162, p. 4.

47 Exhibit P-162, p. 5.

48 Exhibit P-162, pp. 3, 5.

49 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4481.

50 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4481.

51 Wallis, *Lockerbie*, p. 154.

52 Exhibit P-263, Tab 13, p. 2 of 4. Note, however, that X-ray screening was still considered a cosmetic security measure that was of limited use for detecting bombs in baggage. See Wallis, *Lockerbie*, p. 12.

53 These figures were in relation to wide-bodied jets: Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4482.

54 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4481.

55 Exhibit P-157, p. 89 of 135.

While IATA is influential in the international civil aviation community, its mandate is to represent the commercial concerns of its membership, international scheduled airlines. Its recommendations represent best practices but do not have the force of law.<sup>56</sup> Nevertheless, IATA and ICAO have always enjoyed a cooperative relationship. In 1985, on behalf of IATA, Wallis brought the concept of passenger-baggage reconciliation – an airline proposal – to the subsequent ICAO deliberations on the Air India bombing,<sup>57</sup> and ICAO “...ran with this idea.”<sup>58</sup>

### 2.1.2 International Civil Aviation Organization

ICAO is a specialized agency of the United Nations and is the supreme law-making body in international civil aviation.<sup>59</sup> Within days of the Air India bombing, ICAO convened a special Ad Hoc Committee of Experts, consisting mainly of government representatives from around the world, to discuss security weaknesses that had led to the bombing.<sup>60</sup> Key issues included the baggage that CP Air had accepted for interlining without a reservation on the onward flight, and the handling of the interlined baggage that arrived in Toronto without its corresponding passenger.<sup>61</sup> ICAO recognized that the international civil aviation security regime and Annex 17 to the *Convention on International Civil Aviation (“Chicago Convention”)* in particular, had been wholly inadequate in dealing with the threat of sabotage. Annex 17, *Safeguarding International Civil Aviation Against Acts of Unlawful Interference*, governs civil aviation security and outlines the security standards with which all Contracting States must comply. On July 10, 1985, the ICAO Council requested a complete review of Annex 17. A wholesale revision of the Annex followed, among the most significant in its history. The Ad Hoc Committee made recommendations that led to fundamental changes in baggage security procedures. However, one of the most important changes – the introduction of passenger-baggage reconciliation as an international standard – was criticized as inadequate.<sup>62</sup>

The Ad Hoc Committee had intended to develop a standard for Annex 17 to ensure that no bag would travel if its owner intentionally separated him- or herself from it. This would ensure that no extraneous bag would infiltrate the airline system, as had occurred with Air India. The matching of passengers on board with baggage to be loaded was seen as the primary countermeasure.<sup>63</sup> Both IATA and Transport Canada, through its representative, were strong proponents of a comprehensive measure. Indeed, Canada championed the cause of passenger-baggage reconciliation on the international stage.<sup>64</sup>

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<sup>56</sup> See Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4486, 4495.

<sup>57</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4477, 4486.

<sup>58</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4477.

<sup>59</sup> Wallis, *Combating Air Terrorism*, p. 91.

<sup>60</sup> Wallis, *Lockerbie*, p. 11; see also Wallis, *Combating Air Terrorism*, p. 5.

<sup>61</sup> Wallis, *Combating Air Terrorism*, p. 7.

<sup>62</sup> Wallis, *Lockerbie*, p. 11.

<sup>63</sup> Wallis, *Lockerbie*, p. 11.

<sup>64</sup> Testimony of Rodney Wallis, vol. 39, June 4, 2007, pp. 4755-4756

Transport Canada pushed for a strict rule where no unaccompanied baggage could travel, regardless of the circumstances. Its position was reflected in the simple maxim, "...no passenger, no bag." IATA did not support this proposal, maintaining that such a measure was unrealistic, since there were many reasons that a bag might need to be carried unaccompanied,<sup>65</sup> including its mishandling by airlines.<sup>66</sup> Wallis argued on behalf of IATA that unaccompanied baggage should be permitted on aircraft if subjected to the highest degree of scrutiny.<sup>67</sup> Thoroughly screened baggage, he stated, should not be considered dangerous. ICAO accepted this position.<sup>68</sup>

The text that was eventually published in Annex 17 as Standard 5.1.4 was a compromise. It did not satisfy Canada's or IATA's original intent or that of the Ad Hoc Committee. The text of Standard 5.1.4 read:

Each Contracting State shall establish measures to ensure that operators providing service to or from that State do not place or keep the baggage of passengers who have registered, but have not reported for embarkation, on board the aircraft, without subjecting it to security control.<sup>69</sup>

This rule ensured that all baggage, including interlined baggage,<sup>70</sup> belonging to booked passengers who did not present for boarding<sup>71</sup> on international flights<sup>72</sup> would not be loaded onto or transported on an aircraft. However, the unaccompanied baggage that had arrived in Toronto in June 1985 to be transferred to Air India Flight 182 was not associated with a booked passenger because "M. Singh" did not have a reservation on that flight. This situation was therefore not captured by the rule. In other words, infiltration of the airline system by an unaccompanied bag was not covered,<sup>73</sup> and the rule, as written, would not have prevented the bombing of Air India Flight 182.<sup>74</sup>

A further problem arose because some states, lobbied by their national airlines, interpreted the rule as allowing unaccompanied baggage to travel if it had been subjected to security controls *before* the discovery of a "no show" passenger. Such security controls would have included X-ray machines and vapour detection equipment, both of which were insufficiently developed to be used as the sole

<sup>65</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4477.

<sup>66</sup> Wallis, *Lockerbie*, p. 12.

<sup>67</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4477.

<sup>68</sup> Exhibit P-269, p. 12.

<sup>69</sup> "Security control" was defined in Annex 17 as "...[a] means by which the introduction of weapons or articles likely to be utilized to commit an act of unlawful interference can be prevented." See Exhibit P-153, pp. 7, 12 of 47.

<sup>70</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4500.

<sup>71</sup> Such passengers are referred to as "no shows."

<sup>72</sup> Annex 17 standards and recommended practices apply only to international flights. ICAO does not legislate for domestic services. See Wallis, *Lockerbie*, p. 11.

<sup>73</sup> Wallis, *Lockerbie*, p. 11.

<sup>74</sup> Wallis, *Lockerbie*, p. 11.

security controls.<sup>75</sup> The security controls described in Standard 5.1.4 were meant to be applied to baggage *after* it had been identified as unaccompanied, not before.<sup>76</sup>

Watered-down provisions are not unusual at ICAO due to the consensus model that has been adopted for their approval.<sup>77</sup> States with limited financial resources are often unable to agree to stronger, often costlier, provisions. The consequence is an imperfect text that reflects the “lowest common denominator” in security.<sup>78</sup> Since Annex 17 essentially sets minimum standards, developed countries are always encouraged to exceed the standards.<sup>79</sup> As will be discussed, the US Federal Aviation Administration (FAA) did just that for passenger-baggage reconciliation. However, insufficient compliance monitoring meant that Pan Am’s discontinuance of reconciliation before the 1988 Lockerbie tragedy went unnoticed.

The ICAO rule respecting passenger-baggage reconciliation applied as of December 19, 1987, but states were encouraged to implement the rule beforehand as soon as was practicable and feasible.<sup>80</sup> The implementation date was then delayed until April 1989 to enable the technical aspects of automated reconciliation to be resolved.<sup>81</sup> However, those states capable of implementing the procedure sooner were urged to do so.<sup>82</sup>

As discussed, the addition of this standard was part of a major revision of Annex 17 conducted by the Ad Hoc Committee of Experts. The Committee was later renamed the Panel of Aviation Security Experts<sup>83</sup> and eventually came to be known as the AVSEC Panel.<sup>84</sup> It was given a permanent mandate to investigate acts of unlawful interference with civil aviation and to develop amendments to security measures for worldwide adoption. The Panel was to meet annually to review the security measures in Annex 17 and recommend new provisions. In March 1986, a completely revised and expanded Annex 17 was published,<sup>85</sup> with 35 mandatory international standards, where previously that had only been 13.<sup>86</sup> This was the first comprehensive review of Annex 17 since its adoption in 1974,<sup>87</sup> and remains one of its most fundamental.<sup>88</sup>

<sup>75</sup> Wallis, *Lockerbie*, p. 12.

<sup>76</sup> Wallis, *Lockerbie*, p. 11.

<sup>77</sup> Wallis, *Lockerbie*, p. 11.

<sup>78</sup> Testimony of Rodney Wallis, vol. 35, May 29, 2007, pp. 4218-4219.

<sup>79</sup> Testimony of Rodney Wallis, vol. 35, May 29, 2007, p. 4218.

<sup>80</sup> Exhibit P-153, p. (vii); see also Wallis, *Lockerbie*, p. 12.

<sup>81</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4484.

<sup>82</sup> Contracting States can withdraw from their obligations under Annex 17 by informing ICAO of their inability or unwillingness to comply. The economic consequences, however, such as loss of air services and insurance coverage, can be substantial: Exhibit P-157, pp. 78-79.

<sup>83</sup> Wallis, *Lockerbie*, p. 11.

<sup>84</sup> Testimony of Moses Aléman, vol. 35, May 29, 2007, p. 4217.

<sup>85</sup> Exhibit P-157, p. 88 of 135; see also Wallis, *Lockerbie*, p. 11.

<sup>86</sup> Testimony of Moses Aléman, vol. 35, May 29, 2007, p. 4217.

<sup>87</sup> Testimony of Moses Aléman, vol. 35, May 29, 2007, p. 4217.

<sup>88</sup> Testimony of Rodney Wallis, vol. 35, May 29, 2007, p. 4219.



The revision of Annex 17 was necessary to improve counter-sabotage measures in civil aviation security. Still, many security weaknesses revealed by the Air India bombing were not adequately addressed. IATA placed proposals before ICAO to enhance air cargo security, but these did not find sufficient support among Contracting States following the bombing.<sup>89</sup> The concept of 100 per cent hold bag screening also failed to gain widespread support. It was not until after the bombing of Pan Am Flight 103 and the September 11, 2001, attacks that a more comprehensive approach to address security deficiencies took hold.<sup>90</sup>

Additional ICAO developments included the establishment of a “model clause” on security to be used as part of the basic language governing bilateral air agreements between countries. As well, ICAO began to conduct security surveys at airports that requested assistance, providing recommendations for improvements. More affluent states such as Canada provided assistance in the form of security experts and funding for states in need. In addition, ICAO developed a list of high-risk air carriers and imposed heightened security measures on them.<sup>91</sup>

During this period Canada played a significant role at ICAO and in helping to develop several international aviation security initiatives. Canada’s role there continues to be prominent.<sup>92</sup>

### 2.1.3 United States: Federal Aviation Administration

Unlike the ICAO standard, the rule implemented by the US Federal Aviation Administration (FAA) to address security gaps exposed by the Air India bombing was comprehensive. The FAA introduced a passenger-baggage reconciliation requirement for US airlines in November 1985, well ahead of the publication of the ICAO standard. The FAA rule required all airlines with flights operating at extraordinary-risk airports to “...conduct a positive passenger/checked baggage match resulting in physical inspection or non carriage of all unaccompanied bags.”<sup>93</sup>

According to Wallis, this was a foolproof rule. It applied to interlined baggage and, if correctly employed, would prevent an extraneous bag from infiltrating the system. Unfortunately, the FAA failed to monitor its implementation, and was unaware in 1988 that Pan Am had dropped the procedure at both its Frankfurt and London operations. The bombing of Pan Am Flight 103 demonstrated that the development of rigorous rules by regulatory authorities is not sufficient. Their application must be properly monitored as well.<sup>94</sup>

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<sup>89</sup> Testimony of Rodney Wallis, vol. 41, June 6, 2007, p. 5002.

<sup>90</sup> Testimony of Rodney Wallis, vol. 41, June 6, 2007, p. 5002.

<sup>91</sup> Exhibit P-157, p. 88 of 135.

<sup>92</sup> Exhibit P-157, p. 89 of 135.

<sup>93</sup> Wallis, *Lockerbie*, p. 12.

<sup>94</sup> Wallis, *Combating Air Terrorism*, p. 37.

### 2.1.4 Ireland: Coroner's Inquest

A coroner's inquest relating to Air India Flight 182 took place in Cork, Ireland, from September 17 to 24, 1985.<sup>95</sup> The inquest was to establish the identities of the Air India victims and determine how, where and when they died.<sup>96</sup> Cornelius Riordan, the Cork County Coroner, presided over a jury of ten local citizens. There was a significant Canadian presence as well, including Ivan Whitehall, counsel for Canada's Department of Justice; Robert Hathaway of the Canadian Embassy in Dublin, representing the Government of Canada; and Bruce Garrow, counsel from Canada attending on behalf of a number of the victims' relatives.<sup>97</sup> The inquest heard testimony from air traffic controllers, navy officers and others who participated in the recovery process, representatives of Air India, pathologists who examined the bodies, and police officers who coordinated emergency services following the crash.<sup>98</sup>

During the inquest, Whitehall argued that a bomb was only one of several possibilities and that there was "no evidence"<sup>99</sup> to indicate the nature of what had occurred on the aircraft. This conflicted with evidence presented by Dr. Ian Hill, a British aviation pathologist, who concluded that there was a "good chance"<sup>100</sup> that an explosive decompression had occurred, caused either by an explosion or by structural failure. Although Hill found no evidence of an explosive device,<sup>101</sup> he believed that the available evidence was consistent with a "catastrophic event"<sup>102</sup> that had occurred at altitude, leading to the breakup of the aircraft in mid-air.<sup>103</sup>

When the coroner requested that certain forensic reports from police laboratories form part of the record at the inquest,<sup>104</sup> the Irish State Solicitor, Barry Galvin,<sup>105</sup> asserted that these reports were being used by the RCMP in its investigation into the possibility of a "criminal act"<sup>106</sup> – a fact that, in itself, might have served to undermine the Canadian position at the inquest. Galvin insisted that the reports were privileged<sup>107</sup> and should not be made public. Although the coroner persisted with his requests, he relented on the final day of the inquest.<sup>108</sup>

<sup>95</sup> See Volume Two: Part 2, Post-Bombing, Section 5.1, Early Government Response for an analysis of Canada's participation at the inquest.

<sup>96</sup> Public Production 3428, p. 1 of 2 (entered on December 13, 2007 as a compendium of documents on DVD as Exhibit P-391).

<sup>97</sup> Public Production 3428, p. 1 of 2 (entered on December 13, 2007 as a compendium of documents on DVD as Exhibit P-391).

<sup>98</sup> Public Production 3428, pp. 1-2 of 2 (entered on December 13, 2007 as a compendium of documents on DVD as Exhibit P-391).

<sup>99</sup> Exhibit P-101 CAE0339, p. 3 of 4.

<sup>100</sup> Exhibit P-101 CAE0339, p. 2 of 4.

<sup>101</sup> Exhibit P-101 CAE0339, p. 2 of 4.

<sup>102</sup> Exhibit P-101 CAE0339, p. 2 of 4.

<sup>103</sup> Exhibit P-101 CAE0339, p. 2 of 4.

<sup>104</sup> Exhibit P-101 CAE0339, p. 3 of 4.

<sup>105</sup> Public Production 3428, p. 1 of 2 (entered on December 13, 2007 as a compendium of documents on DVD as Exhibit P-391).

<sup>106</sup> Exhibit P-101 CAE0339, p. 3 of 4.

<sup>107</sup> Exhibit P-101 CAE0339, p. 3 of 4.

<sup>108</sup> Exhibit P-101 CAE0339, p. 3 of 4.

At the conclusion of the inquest, Hathaway reported that the coroner “appeared to have made up his mind”<sup>109</sup> that the disaster was most likely caused by a bomb. The coroner considered instructing the jury to recommend closer scrutiny of baggage at airports. Indeed, Garrow argued that deficiencies in airport security had caused baggage to be interlined to Air India without confirmation that the corresponding passengers were on board.<sup>110</sup> In response, Whitehall attempted to impose restrictions on the scope of the inquest. He argued that the coroner’s powers were limited by legislation to determining the cause of death and identity of the victims. He maintained that there were a number of possible causes for the crash, that the inquest had not heard all the available evidence, that only medical evidence had been presented and that another investigation with a wider mandate was then in progress.<sup>111</sup> He submitted that there was no evidence to indicate that security failings at either the Montreal or Toronto airports had caused the crash. This position was taken in spite of a confidential security audit conducted in Canada in July 1985, which revealed significant security failings at both airports. In addition to finding weak airside and aircraft security, the audit noted that there was inadequate protection of checked baggage at Toronto’s Pearson International Airport.<sup>112</sup> Yet Whitehall asserted at the inquest that there was “no basis for speculation unsupported by evidence.”<sup>113</sup>

In the end, Canada’s position at the inquest prevailed. Hathaway reported that, as a result of the arguments made on behalf of the Government of Canada, the coroner “ultimately accepted”<sup>114</sup> Canada’s position and instructed the jury that there was no conclusive evidence as to the cause of the crash and that no recommendations should be made.<sup>115</sup>

On September 24, 1985, the final day of the inquest, an unprecedented review of airport and airline security in Canada was released. The review had been commissioned by the Government of Canada in response to the events of June 23, 1985.<sup>116</sup> This review, known as the Seaborn Report, made recommendations designed expressly to help Canadian aviation security prevent sabotage.<sup>117</sup>

### 2.1.5 India: Kirpal Commission

Because the Flight 182 bombing occurred over international waters, the Government of India was designated as the investigative authority in accordance with ICAO Annex 13, which dealt with aircraft accident investigations.<sup>118</sup> The Honourable Mr. Justice B.N. Kirpal, Judge of the High Court of Delhi, was

<sup>109</sup> Exhibit P-101 CAE0339, p. 3 of 4.

<sup>110</sup> Exhibit P-101 CAF0878, p. 1 of 8.

<sup>111</sup> Exhibit P-101 CAE0339, p. 3 of 4. Whitehall was likely referring to the work of the Kirpal Commission, discussed below; see also Exhibit P-164.

<sup>112</sup> Exhibit P-457, p. 19 of 27.

<sup>113</sup> Exhibit P-101 CAE0339, p. 4 of 4.

<sup>114</sup> Exhibit P-101 CAE0339, p. 4 of 4.

<sup>115</sup> Exhibit P-101 CAE0339, p. 4 of 4.

<sup>116</sup> Exhibit P-101 CAF0039, p. 1 of 10.

<sup>117</sup> Exhibit P-101 CAF0039, p. 5 of 10.

<sup>118</sup> Exhibit P-164, p. 3.

appointed by the Government of India to lead a formal investigation into the causes and circumstances of the disaster.<sup>119</sup> On February 26, 1986, after a lengthy and thorough investigation, the Kirpal Commission presented a report.<sup>120</sup>

The Commission concluded that the detonation of a bomb on board the *Kanishka* was the only plausible explanation for its disappearance:

After going through the entire record we find that there is circumstantial as well as direct evidence which directly points to the cause of the accident as being that of an explosion of a bomb in the forward cargo hold of the aircraft. At the same time there is complete lack of evidence to indicate that there was any structural failure.<sup>121</sup>

While much of the report dealt with forensic findings and safety matters, the Kirpal Commission recognized the need to address security issues. The Commission directed its recommendations about aviation security to ICAO, IATA, governments and industry. The recommendations aimed to improve security and prevent explosives from being placed aboard commercial aircraft.<sup>122</sup> To this end, the report recommended that ICAO, IATA and state governments undertake an ongoing review of established aviation security standards for preventing explosives being placed aboard aircraft. The report called for the creation of a system to monitor security measures implemented in airports around the world, along with a means of reporting findings and suggesting improvements for each airport studied.<sup>123</sup> It also recommended that ICAO develop a “model clause” on security, for use in bilateral air agreements, to govern the exchange of mutual air traffic rights, and that ICAO consider establishing training standards for security personnel.<sup>124</sup> Both ICAO and IATA responded to these recommendations.<sup>125</sup>

The Kirpal Commission made comprehensive recommendations to address the security deficiencies that it had identified as leading to the bombing of Flight 182. Several recommendations pertained to security measures for interlined passengers and their baggage, passenger-baggage reconciliation and unaccompanied baggage:

- IATA should develop practical procedures for reconciliation of interlined passengers and their baggage at intermediate airports;
- Interlining of checked baggage should not occur without a confirmed reservation on the onward carrier flight;

<sup>119</sup> See Volume Two: Part 2, Post-Bombing, Section 5.1, Early Government Response for an analysis of Canada’s participation at the Kirpal Commission.

<sup>120</sup> Exhibit P-164, p. 172.

<sup>121</sup> Exhibit P-164, pp. 159-160.

<sup>122</sup> Exhibit P-157, p. 78 of 135.

<sup>123</sup> Exhibit P-164, p. 172, Recommendation 5.1(a) and (b).

<sup>124</sup> Exhibit P-164, p. 172, Recommendation 5.2(a) and (b).

<sup>125</sup> Exhibit P-157, pp. 88-89 of 135.

- The baggage of interlined passengers should be matched with passengers by the onward carrier before being loaded onto the aircraft;
- A passenger count should be done at the boarding gate and, in the case of a passenger “No Show,” the passenger’s baggage must be offloaded;
- All checked baggage, regardless of whether it has been screened by X-ray machine or not, should be personally matched and identified with the passengers boarding an aircraft, and any baggage not so identified should be offloaded; and
- All unaccompanied bags should be placed aboard the aircraft only after their contents have been physically checked, or alternatively, after being placed in a decompression chamber and where the host state is satisfied that the baggage is clean and the shipper has been identified.<sup>126</sup>

The Kirpal Commission also made recommendations relating to intelligence communication during times of “high security threats”:

- Whenever a government becomes aware of a particular high risk security threat, it should notify not only the airline at risk, but also all connecting airlines to ensure that extra precaution can be taken at potential points of introduction of interline baggage into the system; and
- When an airline is aware of a high security threat, it should inform the host state, and if possible and prudent to do so, other airlines operating there.<sup>127</sup>

The Kirpal Commission warned against excessive reliance on technology. It commented on the known failings of the available screening equipment. Significantly, it recommended offloading checked baggage that had not been matched with passengers, even if it had been subjected to X-ray screening. The Commission explained:

...[E]xamination of the baggage with the help of an X-ray machine has its own limitations and is not foolproof. Some explosives hidden in Radios, Cameras, etc. may not be readily detected by such a machine. In fact an explosive not placed in a metallic container will not be detectable by an X-ray machine. Similarly, a plastic explosive can be given an innocuous shape or form so as to avoid detection by an X-ray. Reliance on an X-ray machine alone may in fact provide a false sense of security.<sup>128</sup>

<sup>126</sup> Exhibit P-164, pp. 172, Recommendations 5.3, 5.4, 5.5, 5.8, 5.9, 5.11.

<sup>127</sup> Exhibit P-164, pp. 172-174.

<sup>128</sup> Exhibit P-164, p. 173, Recommendation 5.9.

In a separate recommendation, the Kirpal Commission singled out the inadequacy of the PD-4 “sniffer” upon which Air India had placed sole reliance for screening checked baggage on June 22, 1985, when the X-ray machine in Toronto broke down: “...Effectiveness of the instrument known as PD-4 is highly questionable. It is not advisable to rely on it.”<sup>129</sup>

The Commission recommended that airlines ensure that they have effective backup equipment or procedures in the event of a breakdown of security equipment.<sup>130</sup>

Many of the Kirpal recommendations, including passenger-baggage reconciliation, were eventually adopted worldwide,<sup>131</sup> and numerous other recommendations were implemented by Canada.<sup>132</sup>

## 2.2 Canadian Response

### 2.2.1 Introduction

The Canadian response to the Air India bombing was swift. On June 23, 1985, the day of the bombing, Transport Canada introduced additional security measures for all international flights leaving Canada. These measures were implemented by directing Canadian and foreign air carriers to amend their security programs, rather than by adopting new regulations.<sup>133</sup> The measures included:

- More rigorous screening of passengers and their carry-on baggage;
- The physical or X-ray inspection of all checked baggage (this measure was later extended to domestic flights);<sup>134</sup>
- A 24-hour hold on cargo, except perishables from known shippers, unless a physical search or X-ray inspection had occurred;
- The acquisition and deployment of 26 new explosives detector units (then in the final stages of development and testing); and
- The acquisition and deployment of additional X-ray units for carry-on baggage, hand-held metal detectors and walk-through metal-detector units.<sup>135</sup>

All checked baggage interlined to Air India flights was also to undergo physical or X-ray inspection.<sup>136</sup> It does not appear that this requirement was extended to baggage interlined to other air carriers.

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<sup>129</sup> Exhibit P-436, p. 30; Exhibit P-164, p. 173, Recommendation 5.10.

<sup>130</sup> Exhibit P-164, p. 174, Recommendation 5.12.

<sup>131</sup> Exhibit P-157, p. 78 of 135.

<sup>132</sup> Exhibit P-35, p. 20.

<sup>133</sup> Exhibit P-157, p. 79 of 135.

<sup>134</sup> Testimony of Jean Barrette, vol. 37, May 31, 2007, p. 4485.

<sup>135</sup> Exhibit P-35, p. 19.

<sup>136</sup> Exhibit P-263, Tab 14, p. 1 of 6.

When Transport Canada introduced these additional security requirements, air carriers were initially required to conduct hand searches of all checked baggage to be carried on international flights. This caused delays, and Transport Canada recognized that the practice was not sustainable in the long term.<sup>137</sup> Over the months that followed, the application of the Transport Canada measures was clarified.<sup>138</sup> Additional Linescan II X-ray machines, with wider apertures, were deployed to ensure that a combination of hand searching and X-ray scanning of checked baggage was in place until passenger-baggage reconciliation could be implemented.<sup>139</sup>

These measures recognized the need for enhanced security in the immediate aftermath of the bombing, but they did not sufficiently address the problem of bombs placed in unaccompanied baggage. When asked whether these measures could have prevented the bombing, Jean Barrette, Director of Security Operations at Transport Canada at the time of the Commission hearings, responded "...No, obviously the reconciliation of passenger baggage...was key."<sup>140</sup>

Although Canada was instrumental at the international level in the days following the bombing, steadfastly promoting mandatory passenger-baggage reconciliation, it did not immediately implement the procedure itself.<sup>141</sup> Passenger-baggage reconciliation had been used successfully in Canada by KLM and CP Air in the context of a bomb threat in 1984.<sup>142</sup> Reconciliation should have been implemented by Air India in June 1985 because of the elevated threat facing the airline.

The Commission heard evidence that it was not possible for all airlines to implement this measure immediately following the Air India bombing.<sup>143</sup> The simplest form of reconciliation would have been the identification of baggage by passengers before they boarded, as done in 1984. While this was feasible at smaller airports, major airports required some form of automation.<sup>144</sup> Manufacturers could not immediately provide the appropriate technology, an inability reflected in the delayed implementation of Standard 5.1.4 of ICAO's Annex 17.<sup>145</sup> Nevertheless, Canada was the first ICAO member country to require passenger-baggage reconciliation on international flights before the publication of the ICAO standard. Canada later extended the measure to domestic flights.<sup>146</sup>

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137 Testimony of Jean Barrette, vol. 37, May 31, 2007, p. 4485.

138 Exhibit P-263, Tab 14, p. 1 of 6.

139 Testimony of Jean Barrette, vol. 37, May 31, 2007, p. 4485.

140 Testimony of Jean Barrette, vol. 37, May 31, 2007, p. 4509.

141 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4477

142 Exhibit P-101 CAF0637, pp. 18-19.

143 Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4478-4479.

144 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4478.

145 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4479.

146 Exhibit P-35, p. 20.

Measures used in place of passenger-baggage reconciliation did not adequately address the threat of bombs in checked baggage, let alone unaccompanied baggage. X-ray machines provided only black and white images<sup>147</sup> and were known to be a largely cosmetic form of security.<sup>148</sup> The Kirpal Commission recognized this,<sup>149</sup> and Wallis testified that, even with skilled operators, the value of X-rays in screening for explosives was limited:

...[X]-rays were not designed as bomb detecting pieces of equipment. They were designed to identify images. If you were successful in hiding an image, then the screener wouldn't pick it up. That's always assuming the screener had been trained to pick up images and was conscientious in his program.<sup>150</sup>

This Commission heard evidence that even hand searches required skilled and knowledgeable screeners, and that electronic equipment in baggage, which could conceal explosives, would need thorough inspection.<sup>151</sup> It was unlikely that sufficiently skilled screening personnel would be immediately available to handle the sudden influx of X-ray machines for screening checked baggage.

Both Wallis and Dr. Peter St. John, a former professor of international relations with expertise in air terrorism, warned of the danger of implementing security measures too rapidly. St. John warned that confusion could result "...when you do too much too quickly."<sup>152</sup> Wallis testified that, to be effective, emergency plans needed to be worked out in advance:

If you have a set of procedures that are working on a day-to-day basis, you can't suddenly ratchet them up to become two or three times as effective overnight. That doesn't work. That creates chaos because the airport won't have the staff to do this. The airlines won't have the staff. Queues build up. They go outside the terminal building. You've created a new target of opportunity for terrorists....

You have to be flexible but governments and airlines have to work together on this. You can't be flexible by receiving a dictate from government. That is a recipe for disaster. The governments and the airlines must have worked in advance on flexibility so that when the government feels the need to bring

147 Testimony of Jean Barrette, vol. 37, May 31, 2007, p. 4509.

148 Wallis, *Lockerbie*, p. 12.

149 Exhibit P-164, p. 173, Recommendation 5.9.

150 Testimony of Rodney Wallis, vol. 35, May 29, 2007, p. 4256.

151 Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4418-4419.

152 Testimony of Peter St. John, vol. 37, May 31, 2007, p. 4510.



something new in, it can be put in as quickly as possible but without creating the hazards that we've seen....<sup>153</sup>

The danger posed by misplaced reliance on X-ray equipment may have been mitigated somewhat by the deployment of explosive vapour detection (EVD) units across Canada immediately after the Air India bombing. Designed for screening hold baggage, the units had been under development since the 1970s.<sup>154</sup> In the aftermath of the bombing, Transport Canada expedited the installation of 26 units at major Canadian airports. This equipment was known to be effective in explosives detection and became increasingly sophisticated and reliable in the years to follow.<sup>155</sup> As early as the late 1980s, the Canadian-developed EVD technology became the world standard.<sup>156</sup>

In addition to reconciliation procedures, Transport Canada reported in a briefing to the Hon. Bob Rae that it had already acted on several recommendations from the Kirpal Commission. These included: continuous monitoring by trained security inspectors at airports; participation in ICAO's AVSEC Panel; participation in international technical groups, including those involving explosives-detection technologies; continuous assessment of world events that could affect international and domestic aviation security; and assessment and dissemination of information received from intelligence agencies worldwide.<sup>157</sup> Transport Canada continued to improve its security regime in the late 1980s and 1990s by implementing further Kirpal Commission recommendations. In 1989, Canada adopted a new "model clause" on security as part of its basic language governing bilateral air agreements. Transport Canada also required that any contractual changes between private security companies and air carriers not adversely affect screening standards or performance.<sup>158</sup> Further improvements to Canada's aviation security regime included:

- Consolidating security functions in Transport Canada through the creation of a dedicated, multi-modal, multi-functional group, now known as the Security and Emergency Preparedness Directorate;
- Increasing the complement of security inspectors and personnel dedicated to the Directorate;
- Funding (\$5 million) for the development of new technologies;
- Performing a general overhaul of the regulatory framework, including the creation of a four-level alert system, with security measures adjusted accordingly; and
- Increased and more efficient sharing of security intelligence information with domestic and international partners.<sup>159</sup>

<sup>153</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4508.

<sup>154</sup> Testimony of Jean Barrette, vol. 38, June 1, 2007, pp. 4563-4564.

<sup>155</sup> Testimony of Jean Barrette, vol. 37, May 31, 2007, p. 4529.

<sup>156</sup> Testimony of Jean Barrette, vol. 38, June 1, 2007, pp. 4563-4564.

<sup>157</sup> Exhibit P-263, Tab 13, p. 2 of 4.

<sup>158</sup> Exhibit P-263, Tab 13, pp. 3-4 of 4.

<sup>159</sup> Exhibit P-263, Tab 13, p. 3 of 4.

Alongside the Kirpal Commission's investigation in India, three important studies were undertaken in Canada to address the destruction of Air India Flight 182 and aviation security:

- A 1985 security audit of the international airports in Toronto, Montreal and Vancouver, conducted in the weeks after the bombing. It revealed significant deficiencies in several areas, including access to restricted and airside areas of airports, and the security of air cargo, mail and the aircraft themselves. It also identified a need for improved monitoring of security procedures and better trained security personnel;
- A Canadian Aviation Safety Board (CASB) study; its report, released in January 1986, was written to assist the Kirpal Commission; and
- An additional study commissioned by the Government of Canada to make a more holistic assessment of aviation security, since the CASB's mandate was limited to the disaster itself.<sup>160</sup> This resulted in a far-reaching and widely-praised report, known as the Seaborn Report, released in September 1985. Foremost among its recommendations, consistent with Canada's position at the meeting of ICAO's Ad Hoc Committee of Experts in the days following the tragedies and with the Kirpal Commission's later recommendations, was that checked baggage not be carried on international flights unless the corresponding passenger was also on board.<sup>161</sup>

Although the CASB, Kirpal and Seaborn investigations influenced Canada's aviation security program,<sup>162</sup> many of the weaknesses they exposed remain.<sup>163</sup>

### 2.2.2 1985 Airport Security Audit

On July 4, 1985, the Deputy Minister of Transport requested an audit<sup>164</sup> of Pearson, Mirabel and Vancouver International airports to assess delivery of the Civil Aviation Security Program (CASP) in place at the time and to determine whether Transport Canada, the RCMP and air carriers were fulfilling their responsibilities.<sup>165</sup> The CASP was based on the concept of "...clean aircraft, clean

<sup>160</sup> Exhibit P-35, p. 20.

<sup>161</sup> Exhibit P-35, p. 20.

<sup>162</sup> Exhibit P-157, p. 75 of 135.

<sup>163</sup> See Section 3.8, which discusses the current gaps in civil aviation security in Canada.

<sup>164</sup> The audit report contains an introductory note: "Report prepared for Department of Justice Counsel Assessing the Potential for Litigation." Indeed, throughout this Commission's proceedings and after the close of hearings, the Attorney General of Canada exerted a claim of solicitor-client privilege over this document and did not permit its disclosure or use by the Commission, despite protracted negotiations with the Commission. It was not until February 2009 that the Attorney General agreed to release the audit report in full. Although the document was subsequently disclosed to the parties, the result of the delay meant that its full content was not available for examination by all parties during the course of the public hearings: Exhibit P-457.

<sup>165</sup> Exhibit P-457, p. 3 of 27.

passengers, clean baggage, clean cargo and clean mail.”<sup>166</sup> The Internal Audit Branch of Transport Canada conducted the audit and reported its findings on July 25, 1985.<sup>167</sup> The audit focused on four main areas: the screening of passengers, flight crew, baggage, mail, aircraft and cargo; the patrolling of airside areas; the security pass system; and the provision of physical security facilities and equipment.<sup>168</sup> The audit revealed significant deficiencies in each of these areas. Contrary to the CASP directive,<sup>169</sup> the audit was unable to determine the adequacy of air carrier screening of cargo, mail and aircraft, because there were no applicable standards or regulations.<sup>170</sup> The audit report concluded that “... only part of aircraft loads can be considered to be clean in terms of the CASP;”<sup>171</sup> because cargo, mail and flight crew baggage were not screened.<sup>172</sup> This is also one of the major findings of the present Commission.

The audit reported such weaknesses as unauthorized access to restricted areas, including cargo and mail warehouses and airside portions of airport terminals. The audit also found deficiencies in the monitoring of security standards, problems with airport and air carrier security plans, weaknesses in addressing different levels of security and inadequate training of security personnel.<sup>173</sup> Problems with access control included unlocked gates, insecure doors, non-standard fencing, unprotected aircraft and insufficient control and inspection of identification passes.<sup>174</sup> The audit noted that several thousand identification passes could not be accounted for because they had been lost or stolen or not returned by the recipients.<sup>175</sup> In some instances, access doors could be opened with credit cards, or entry codes were written on the doors themselves.<sup>176</sup> “Sterile” areas were sometimes compromised because unscreened passengers from feeder airports were allowed to enter them.<sup>177</sup>

The audit found deficiencies in the daily monitoring of security measures and inspection procedures and in follow-up action related to security reviews.<sup>178</sup> Some airport security plans were outdated, and emergency/disaster plans did not define stakeholder responsibilities at different levels of threat.<sup>179</sup> At Pearson International Airport in particular, checked baggage security was inadequate. Control over baggage tags was inconsistent and control over access to accepted baggage awaiting loading was weak.<sup>180</sup> Security personnel were generally insufficiently trained.<sup>181</sup>

<sup>166</sup> Exhibit P-457, p. 6 of 27.

<sup>167</sup> Exhibit P-457, p. 1 of 27.

<sup>168</sup> Exhibit P-457, p. 5. of 27.

<sup>169</sup> Exhibit P-457, p. 10 of 27.

<sup>170</sup> Exhibit P-457, p. 6 of 27.

<sup>171</sup> Exhibit P-457, p. 24 of 27.

<sup>172</sup> Exhibit P-169, p. 52 of 202.

<sup>173</sup> Exhibit P-101 CAF0695, p. 1 of 3.

<sup>174</sup> Exhibit P-101 CAF0695, p. 1 of 3.

<sup>175</sup> This was noted at Toronto’s Pearson International Airport: Exhibit P-457, p. 13 of 27.

<sup>176</sup> Exhibit P-457, p. 14 of 27.

<sup>177</sup> This was specifically noted at Toronto’s Pearson International Airport: Exhibit P-457, p. 18 of 27.

<sup>178</sup> Exhibit P-101 CAF0695, p. 2 of 3.

<sup>179</sup> Exhibit P-457, p. 13 of 27.

<sup>180</sup> Exhibit P-457, p. 19 of 27.

<sup>181</sup> Exhibit P-457, pp. 17-18 of 27.

A post-audit Transport Canada memorandum addressed to the Deputy Minister proposed a plan to address the major deficiencies. Both short- and long-term initiatives were included:

- Development of new cargo and mail screening requirements;<sup>182</sup>
- Facility improvements and repairs;
- Increased monitoring of access points by security personnel and airlines;
- New regulations to enhance enforcement of access control through sanctions and fines;
- Increased regulatory inspections and spot checks of access points;
- Strengthened standards, guidelines and follow-up procedures for day-to-day monitoring of security measures, including air cargo security;
- Updated airport and air carrier security plans and implementation of test exercises;
- Development of staffing requirements for different threat levels; and
- Establishment of a security awareness program for airport workers and users.<sup>183</sup>

The deficiencies were to be corrected on a high-priority basis,<sup>184</sup> but many remain today. In particular, air cargo and mail, as well as restricted and airside areas of airports, remain vulnerable.<sup>185</sup> In addition, stakeholder security plans, training of security personnel and security awareness have been singled out as still needing improvement.

### 2.2.3 Seaborn Report

Because of the Air India bombing, the Government of Canada requested the Interdepartmental Committee on Security and Intelligence to undertake an overall review of airport and airline security in Canada, under Intelligence and Security Coordinator Blair Seaborn.<sup>186</sup> When it was released on September 24, 1985, the Seaborn Report was widely praised at home and abroad as a seminal document in civil aviation security. Jim Marriott, Director of Transport Canada's Aviation Security Regulatory Review at the time of the Commission hearings, spoke of the report's importance:

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<sup>182</sup> Exhibit P-101 CAF0555, p. 9 of 10.

<sup>183</sup> See, generally, Exhibit P-101 CAF0695.

<sup>184</sup> Exhibit P-101 CAF0695, p. 3 of 3.

<sup>185</sup> See Sections 3.8.1 and 3.8.2, which discuss the deficiencies in air cargo and airport security, respectively.

<sup>186</sup> Exhibit P-101 CAF0039, p. 1.

The Seaborn Report really became a strategic plan for the Department for many years to follow. It outlined a large number of practices...to further enhance aviation security. And the Department very aggressively pursued implementation of all recommendations in the Seaborn Report over the course of the coming years, in conjunction with and in coordination with other federal government departments that had security responsibilities, and, of course, in conjunction and in coordination with the aviation industry, airlines, airports and labour groups with airports and airlines for that matter.

So it was really a roadmap to take aviation security in Canada from where it was in the aftermath of 1985 to a new and much higher ground. I think it's also important to recognize that not only was it a significant report for Canadian aviation security but also for international aviation security.

...[T]he recommendations implemented by Canada became standards...or benchmarks against which international aviation security evolved and looked to.<sup>187</sup>

Indeed, the report highlighted several general principles that remain relevant today. It cautioned that terrorism should not be permitted to interfere unduly with the activities of daily life, but recognized the vulnerability of air travellers to terrorist attacks.<sup>188</sup> It advised that the needs of security must be balanced with the need to facilitate travel.<sup>189</sup> The report emphasized the importance of sharing and integrating security information, integrating decision-making and establishing clear lines of authority.<sup>190</sup> It called for greater security awareness, a proactive approach,<sup>191</sup> effective coordination among stakeholders in aviation security<sup>192</sup> and practical means for improving security. The report recommended a graduated system of security measures, to be adjusted according to the level of threat,<sup>193</sup> with rigorous procedures established even for normal threat levels.<sup>194</sup> During the work of the Commission, many experts and stakeholders stressed similar measures as components of strong aviation security.

The Seaborn Report identified checked baggage and air cargo as particularly vulnerable to sabotage. It outlined screening measures for both, with adjustments made according to levels of threat: normal, enhanced and high.<sup>195</sup> As discussed, one of the most significant changes resulting from the Seaborn Report was

<sup>187</sup> Testimony of Jim Marriott, vol. 37, May 31, 2007, pp. 4504-4505.

<sup>188</sup> Exhibit P-101 CAF0039, p. 7.

<sup>189</sup> Exhibit P-101 CAF0039, p. 1.

<sup>190</sup> Exhibit P-157, p. 75 of 135.

<sup>191</sup> Exhibit P-101 CAF0039, p. 1.

<sup>192</sup> Exhibit P-101 CAF0039, p. 3.

<sup>193</sup> Exhibit P-101 CAF0039, p. 9.

<sup>194</sup> Exhibit P-101 CAF0039, p. 4.

<sup>195</sup> Exhibit P-101 CAF0039, pp. 3-4.

passenger-baggage reconciliation, which Seaborn considered a “better front-line defence against sabotage” than X-raying checked baggage during normal threat levels.<sup>196</sup> Instead, the report recommended supplementing reconciliation with a checked baggage “profile” that airline check-in personnel would apply. Additional measures, including X-ray inspection, explosives detection dogs, hand searching of checked baggage and hijacker “profiles,” were suggested for enhanced and high levels of threat.<sup>197</sup>

The report noted that terrorists could use small cargo parcels to target specific aircraft, and suggested that these be X-rayed even in normal threat situations.<sup>198</sup> The report recommended subjecting larger cargo to various methods of inspection or to a hold period, as appropriate, during enhanced threat level situations. It stated that new technology for detecting explosives vapour would likely be available within two to three years, and encouraged the continued development of technology for enhancing aviation security, as well as the use of explosives detection dogs.<sup>199</sup> For high threat levels, the report advocated either a ban on cargo or refusal of all cargo that could not be thoroughly inspected.<sup>200</sup> For both baggage and air cargo, no exceptions to the rules were to be tolerated when threat levels were enhanced or high.<sup>201</sup>

In 2009, air cargo remains largely unscreened and technology for this purpose is still being developed.

The Seaborn Report did not recommend removing responsibility for screening passengers and baggage from air carriers.<sup>202</sup> Instead, it recommended adequate training for those performing screening.<sup>203</sup> The CATSA Act Advisory Review Panel (CATSA Advisory Panel) was asked in November 2005 to review the civil aviation security breaches associated with the Air India bombing. It produced a report, *Air India Flight 182: Aviation Security Issues*, in 2007. The report characterized the screening of passengers and baggage by air carriers as a “serious weakness” that was rectified only after the attacks of September 11<sup>th</sup> and the creation of CATSA.<sup>204</sup>

The 2007 CATSA Advisory Panel report also identified shortcomings in airport security. It recommended full screening of passengers and materials arriving at international airports from less secure airfields. In addition, it recommended, as a condition of employment, security and criminal background checks for all airside employees and for others with access to sensitive areas of the airport

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<sup>196</sup> Exhibit P-157, p. 76 of 135.

<sup>197</sup> Exhibit P-101 CAF0039, p. 4.

<sup>198</sup> Exhibit P-101 CAF0039, p. 4.

<sup>199</sup> Exhibit P-101 CAF0039, p. 4.

<sup>200</sup> Exhibit P-101 CAF0039, p. 4.

<sup>201</sup> Exhibit P-101 CAF0039, p. 5.

<sup>202</sup> Exhibit P-157, p. 76 of 135.

<sup>203</sup> Exhibit P-101 CAF0039, p. 5.

<sup>204</sup> Exhibit P-157, p. 67 of 135.

or to aircraft.<sup>205</sup> The report advised airport management and air carriers to maintain a high level of security awareness throughout the airport and on the airfield. It noted that the public could contribute to enhancing security.<sup>206</sup> It described vigilance as key to effective security, meaning careful auditing and regular testing of the system.<sup>207</sup>

Intelligence was not viewed as reliable for predicting and thwarting specific acts of terrorism. Rather, the main value of intelligence was its usefulness in determining the level of security required for the perceived threat.<sup>208</sup> Thus, the report recommended a graduated, multi-level system of security, with appropriate measures at each level.<sup>209</sup>

In terms of oversight and auditing, the report recommended that the Department of Transport, in consultation with the Solicitor General, report annually to the Prime Minister on the adequacy and effectiveness of the security regulations in place. It also called for reporting about the existence of an up-to-date “war-book” at each airport for managing terrorist incidents.<sup>210</sup>

Many of the Seaborn Report’s recommendations required major changes to Canada’s aviation security regime. Some recommendations were immediately followed. However, it was recognized that others would need to be implemented over the coming years.<sup>211</sup> Of the Seaborn Report’s 15 principal recommendations, 10 were directed towards Transport Canada and procedures for strengthening aviation security. The CATSA Advisory Panel observed that all 15 were accepted in principle and eventually addressed to some degree.<sup>212</sup> As a result of the Seaborn Report, Canada was the first ICAO member to require passenger-baggage reconciliation on international (and, later, domestic) flights, comprehensive background checks for airport workers, removal of coin-operated baggage lockers from major airports and bans on the use of cameras around security checkpoints.<sup>213</sup>

The Seaborn Report had advocated a more prescriptive (as opposed to performance-based) regulatory framework because of the magnitude of the systemic failures involved in the Air India tragedy. The CATSA Advisory Panel noted that, given the threat and lack of preparedness, this was an appropriate response at the time. However, the Panel viewed the prescriptive legacy of the Seaborn Report as leading to an overly-detailed, rigid security regime that does not allow for the flexibility required in today’s dynamic threat environment.<sup>214</sup>

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205 Exhibit P-101 CAF0039, pp. 5-6.

206 Exhibit P-101 CAF0039, p. 6.

207 Exhibit P-101 CAF0039, p. 7.

208 Exhibit P-101 CAF0039, p. 2.

209 Exhibit P-101 CAF0039, p. 9.

210 Exhibit P-101 CAF0039, p. 7.

211 Testimony of Jim Marriott, vol. 37, May 31, 2007, pp. 4506-4507.

212 Exhibit P-157, p. 75 of 135.

213 Exhibit P-263, Tab 13, p. 3 of 4.

214 Exhibit P-157, p. 75 of 135.

The Seaborn Report also addressed Canada's performance in civil aviation security. It acknowledged that, before June 23, 1985, the emphasis in aviation security had been on anti-hijacking measures. It concluded that airport and airline security in Canada had "...by and large been adequate and in line with international standards."<sup>215</sup> This finding is not surprising, not only because ICAO's Annex 17 sets only minimum standards, which developed countries are expected to exceed,<sup>216</sup> but also because Annex 17 was itself inadequate at the time of the Air India bombing.<sup>217</sup> The report noted that Transport Canada had responded quickly to the events of June 23, 1985, initiating several comprehensive security measures on all international flights leaving Canada. The report found that the Government was instituting measures to address shortcomings identified by the 1985 security audit of three major airports.<sup>218</sup>

The Seaborn Report included a statement that, at the time of its completion, there was no intelligence to corroborate the theory that a bomb had destroyed Air India Flight 182.<sup>219</sup> Nevertheless, its focus was on combatting sabotage against civil aviation.<sup>220</sup>

There is no doubt that the Seaborn Report played a pivotal role in enhancing aviation security in Canada.<sup>221</sup> However, the CATSA Advisory Panel noted the striking similarities between its own recommendations and those of the Seaborn Report more than two decades earlier.<sup>222</sup> Despite the broad recommendations of the Seaborn Report, subsequent improvements to Canada's security regime focused primarily on passenger and baggage security. Few improvements were made to the security of air cargo and mail, and those directed at airport security were not sufficient. Consequently, aviation remains vulnerable to attack.<sup>223</sup>

#### 2.2.4 Canadian Aviation Safety Board Investigation

The Canadian Aviation Safety Board (CASB) completed its investigation of the Air India tragedy on January 22, 1986.<sup>224</sup> This investigation was undertaken to assist the Kirpal Commission in India. Its objective was to identify safety deficiencies and to recommend corrective measures to regulatory and enforcement authorities.<sup>225</sup> Much of the report dealt with the forensic evidence related to the aircraft wreckage and the possible safety and structural causes of the disaster. The CASB report concluded:

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<sup>215</sup> Exhibit P-101 CAF0039, p. 7.

<sup>216</sup> Testimony of Rodney Wallis, vol. 35, May 29, 2007, p. 4218.

<sup>217</sup> Testimony of Moses Aléman, vol. 35, May 29, 2007, p. 4217.

<sup>218</sup> Exhibit P-101 CAF0039, p. 3.

<sup>219</sup> Exhibit P-101 CAF0039, p. 2.

<sup>220</sup> Exhibit P-101 CAF0039, p. 1.

<sup>221</sup> Exhibit P-157, p. 75 of 135.

<sup>222</sup> See Exhibit P-157, pp. 118, 120 of 135.

<sup>223</sup> Exhibit P-157, p. 91 of 135.

<sup>224</sup> See Volume Two: Part 2, Post-Bombing, Section 5.1, Early Government Response for an analysis of Canada's subsequent use of the CASB Report at the Kirpal Commission.

<sup>225</sup> Exhibit P-167, Title page.



There is considerable circumstantial and other evidence to indicate that the initial event was an explosion occurring in the forward cargo compartment. This evidence is not conclusive. However, the evidence does not support any other conclusion.<sup>226</sup>

Like Seaborn, the CASB report found that the Canadian aviation security arrangements then in place met or exceeded international standards. Also like the Seaborn Report, it emphasized that the focus had been placed on preventing the boarding of weapons, including explosive devices, in hand baggage, and that the screening of checked baggage was undertaken only in circumstances of heightened threat.<sup>227</sup>

The CASB report made several findings of fact about the security circumstances of the events of June 22 and 23, 1985. It concluded that the security numbering system used in Toronto did not prevent the unaccompanied interlined baggage from being loaded onto the flight, and that the effectiveness of the explosives detector used by Air India was in doubt.<sup>228</sup> The report found that, had passenger-baggage reconciliation been performed in Toronto, the unaccompanied baggage “would have been detected” and “...airline procedures would have prevented the placement of the suitcase on the aircraft.”<sup>229</sup>

### 2.2.5 Changes to Legislative and Regulatory Framework

Concluding a multi-year effort, the *Aeronautics Act* was amended on June 28, 1985 – just days after the Air India bombing. These amendments were not directly related to the bombing. Most related to safety and enforcement, and some referred to security.<sup>230</sup> The amendments laid the foundation for what was to become Canada’s modern aviation security and enforcement regime.<sup>231</sup>

The security amendments to the *Aeronautics Act* gave the Minister of Transport greater regulation-making authority over airport operators and persons carrying on activities at airports. The CATSA Advisory Panel explained this authority:

Authority to make regulations applying to Canadian and foreign aircraft was no longer limited to screening activities, but could extend to a wide variety of other security activities required to protect passengers, crew members, aircraft and other aviation facilities. The new rules were expressed in the *Air Carrier Security Regulations* and the *Aerodrome Security Regulations*. The amendments also permitted the Minister of

226 Exhibit P-167, p. 58.

227 Exhibit P-167, p. 54.

228 Exhibit P-167, p. 59.

229 Exhibit P-167, pp. 56-57.

230 Exhibit P-157, p. 79 of 135.

231 Exhibit P-263, Tab 15, p. 1 of 5.

Transport to make confidential orders, called “measures,” to deal with such security-sensitive issues as security of persons and their carry-on baggage and cargo, as well as security screening equipment.<sup>232</sup>

Unauthorized disclosure of these confidential security measures was an offence.<sup>233</sup>

In December 1985, amendments were made to the *Civil Aviation Security Measures Regulations* and its corresponding *Order* and to the *Foreign Aircraft Security Measures Regulations* and *Order*. These amendments authorized the Minister to approve security procedures for a broad range of security purposes and required air carriers to carry them out. In February 1986, Transport Canada issued the first edition of approved security procedures applicable to foreign and domestic air carriers. They prescribed the flights that required screening and detailed the screening procedures required. They also addressed the security of passengers, carry-on baggage, checked baggage and cargo, and included measures applicable to security equipment and security officers. All screening equipment used by air carriers required the Minister’s approval.<sup>234</sup> Passenger-baggage reconciliation counts were required for checked baggage, and the baggage was to be removed if the passenger was not on board.<sup>235</sup>

In 1987, the *Air Carrier Security Regulations* replaced the *Civil Aviation Security Measures Regulations* and *Foreign Aircraft Security Measures Regulations* and the corresponding *Orders* associated with each regulation. New *Aerodrome Security Regulations* were introduced at the same time. The *Air Carrier Security Regulations* and *Aerodrome Security Regulations* authorized the Minister to approve air carrier security procedures during periods of normal and increased levels of threat. They required air carriers and airport operators to submit written security programs containing the approved procedures and formalized many internal policies and procedures adopted by Transport Canada as owner and operator of the international and major domestic airports in Canada.<sup>236</sup>

The first set of approved security measures for aerodromes was issued in 1987.<sup>237</sup> It dealt with implementing background checks for employees with regular access to restricted areas and flowed from the recommendations of the Seaborn Report. The Aerodrome Restricted Area Access Clearance Program (ARAACP) instituted checks of criminal backgrounds and criminal associations, in addition to the credit checks conducted by Transport Canada.<sup>238</sup>

A 1990 Federal Court decision struck down the ARAACP. Transport Canada then corrected what was essentially a legal and drafting problem with the ARAACP

<sup>232</sup> Exhibit P-157, p. 79 of 135.

<sup>233</sup> Exhibit P-263, Tab 14, p. 1 of 6.

<sup>234</sup> Exhibit P-263, Tab 14, p. 2 of 6.

<sup>235</sup> Exhibit P-157, p. 80 of 135.

<sup>236</sup> Exhibit P-157, p. 80 of 135.

<sup>237</sup> Exhibit P-263, Tab 14, p. 3 of 6.

<sup>238</sup> Exhibit P-157, p. 86 of 135.

by making two new orders – the *Air Carrier Security Measures Order* and the *Aerodrome Security Measures Order*. These orders, by reference, incorporated approved security measures for air carriers and aerodromes, including the ARAACP.<sup>239</sup>

## 2.2.6 Changes in Oversight

### 2.2.6.1 Roles and Responsibilities

The following roles and responsibilities in Canada's civil aviation security program were prescribed under the June 28, 1985, amendments to the *Aeronautics Act*: The Minister of Transport was responsible for aviation security policy, the regulatory framework and compliance monitoring;

- Airport managers, who were employees of Transport Canada, were responsible for implementing the security measures and procedures prescribed under the *Aerodrome Security Regulations* and the *Aerodrome Security Measures*, including the preparation of security and emergency plans and procedures;
- All commercial air carriers with flights into and out of Canada were responsible for implementing the security measures and procedures prescribed under the *Air Carrier Security Regulations* and the *Air Carrier Security Measures*, and for providing the Minister with an Air Carrier Security Plan; and
- The RCMP was responsible for policing at Canadian international airports and some major domestic airports.<sup>240</sup>

As the CATSA Advisory Panel observed, the key to any effective security regime is the clear delineation, communication and application of policies and rules by those responsible for their implementation. After the Air India bombing, a Transport Canada task force recommended the establishment of a multi-modal, multi-functional transportation security directorate to oversee security divisions, including intelligence, for all modes of transportation. The Security and Emergency Preparedness Directorate was created in July 1986, and was given responsibility for policy development, the transportation security clearance program and security training guidelines for inspectors and the industry.<sup>241</sup>

### 2.2.6.2 Inspection and Enforcement

The Transport Canada task force recommended deploying a dedicated team of security inspectors across the country to monitor and inspect airport and air carrier field operations, and to take enforcement action when they saw violations of legislation or regulations. The mandate to monitor, inspect and enforce was

<sup>239</sup> Exhibit P-263, Tab 14, p. 3 of 6.

<sup>240</sup> Exhibit P-157, p. 82 of 135.

<sup>241</sup> Exhibit P-157, pp. 82-83 of 135.

carried out in various ways: inspections of air carriers and airports; monitoring and testing of screening procedures; monitoring and inspection of cargo facilities, air terminal facilities and airside access controls; and certification and designation of security officers. Under the *Aeronautics Act*, inspectors had the authority to inspect, to enter business premises, to search and seize, to detain an aircraft and to levy “administrative monetary penalties” for non-compliance with regulations or measures.<sup>242</sup>

Transport Canada undertook a more aggressive and cyclical security inspection program of air carriers and airports, based on threat assessments and consistent with international obligations. By 1990, Transport Canada’s Security Inspection and Compliance Branch included about 30 security inspectors.<sup>243</sup>

At the heart of the Department’s aviation security enforcement philosophy was “...the conviction that aerodromes and air carriers would find **voluntary compliance** with regulations and measures to be in their self-interest, as well as in the public interest.”<sup>244</sup> Where voluntary compliance was not forthcoming, enforcement action occurred in a manner that attempted to be fair, consistent and uniform across all regions.<sup>245</sup> Voluntary compliance was encouraged and supported through education, publicity and the presence of inspectors in the field. The intention of the inspection and enforcement framework was to create conditions where voluntary compliance with regulations was “...the logical, desirable and economically feasible choice for the regulated community.”<sup>246</sup> According to Transport Canada, this was a new program designed to provide a wide range of flexible, proactive and proportional options to secure compliance. Inspectors supported the program by carrying out their responsibilities in the four core areas of activity: prevention, detection, investigation and enforcement.<sup>247</sup> Seminars and presentations were delivered to individuals, industry groups and outside agencies upon request.<sup>248</sup> Publicity programs were designed to increase aviation security awareness and to prevent security violations.<sup>249</sup> Providing advice on security matters became an integral component of the day-to-day business of security inspectors.<sup>250</sup>

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<sup>242</sup> Exhibit P-157, p. 83 of 135.

<sup>243</sup> Exhibit P-157, p. 83 of 135.

<sup>244</sup> Exhibit P-263, Tab 15, p. 3 of 5 [Emphasis in original].

<sup>245</sup> Fairness in the enforcement context meant that: the Department’s inspection and enforcement manual were to be made available for public scrutiny to the fullest extent possible, without compromising national security; industry was to be consulted on an ongoing basis, with senior departmental officials accessible to explain the program and receive suggestions for improvement; inspectors were not to exceed their delegated authority in carrying out their duties and were required to declare any apparent or actual conflicts of interest; voluntary compliance was to be encouraged and supported through education, publicity and inspector presence in the field; minor violations were to be handled leniently at first instance, through administrative rather than prosecutorial action; and violations that were pre-meditated or were marked by indifference were to be dealt with vigorously. See Exhibit P-263, Tab 15, pp. 3-4 of 5.

<sup>246</sup> Exhibit P-263, Tab 15, p. 4 of 5.

<sup>247</sup> Exhibit P-263, Tab 15, p. 4 of 5.

<sup>248</sup> Exhibit P-157, p. 84 of 135.

<sup>249</sup> Exhibit P-263, Tab 15, p. 4 of 5.

<sup>250</sup> Exhibit P-157, p. 84 of 135.

If a security violation occurred, inspectors had a range of enforcement options:

- Emergency action, including detention of aircraft, denial of air traffic control clearance, or emergency suspension of a Canadian aviation document, where circumstances created an immediate threat to aviation security and the public interest;
- Judicial action, by summary conviction prosecution or, upon advice of Crown counsel, by prosecution by indictment; or
- Administrative action, with a series of proportional and graduated responses, beginning with letters of enforcement, proceeding to the imposition of administrative monetary penalties and appearance before a specialized administrative tribunal, and ending with the suspension or cancellation of a Canadian aviation document, or the Minister's refusal to renew.<sup>251</sup>

### 2.2.7 Changes in Training

Transport Canada created a joint industry-government training task force in response to the Air India bombing. This resulted in improved training programs, certification and inspection standards and testing of passenger screening personnel. Air carriers were responsible for training screening personnel, and Transport Canada was responsible for providing the training materials.<sup>252</sup> Transport Canada developed an educational program to ensure a sound knowledge of civil aviation security legislation and the consequences of non-compliance. A training component was designed for pre-board screening personnel, including both practical and written examinations to assess screening officer qualifications.<sup>253</sup> The tests became more difficult, more extensive, and had a higher pass mark. Transport Canada reported that there were a great number of failures initially, and that these individuals were removed from active duty.<sup>254</sup>

The new training programs were also directed at supervisors and trainers.<sup>255</sup> In addition, security training programs were developed for air traffic controllers, flight service station operators, airside employees, passenger agents, pilots and flight crews. Transport Canada provided training and awareness programs for its own airport managers and workers, as it owned and managed most major airports in Canada at the time. In addition, airport security committees met more frequently and provided security updates to airport workers on a regular basis.<sup>256</sup> In October 1988, Transport Canada retained three education and training specialists to professionalize the security inspectors' occupational certification program.<sup>257</sup>

251 Exhibit P-263, Tab 15, p. 5 of 5.

252 Exhibit P-157, p. 84 of 135.

253 Exhibit P-157, p. 84 of 135.

254 Exhibit P-263, Tab 16, p. 1 of 5.

255 Exhibit P-157, p. 84 of 135.

256 Exhibit P-157, p. 85 of 135.

257 Exhibit P-263, Tab 16, p. 1 of 5.

### 2.2.8 Enhancements in Security Systems and Equipment

By 1985, Transport Canada was already testing explosive vapour detection (EVD) units for hold bag screening, but had not yet deployed them in airports. Immediately after the Air India bombing, the Department expedited the acquisition and installation of 26 units at major airports. Though Transport Canada initially trained its own security officers to operate the EVD units, the RCMP assumed responsibility for training and operating the units in 1987. In 1995, the first series of EVD units were replaced with newer, enhanced units that were portable and that could detect plastic explosives. In 1997, the not-for-profit Air Transport Security Corporation, which was funded by the airlines to deliver screening on their behalf, relieved the RCMP of its responsibility for operating EVD units when it took over the entire screening function on behalf of air carriers.<sup>258</sup>

Air carriers were responsible for operating and manning the security equipment, which consisted of walk-through and hand-held metal detectors and devices for screening carry-on baggage. Transport Canada initially maintained the equipment. It later transferred its maintenance role to the Air Transport Security Corporation, but before that upgraded the X-ray equipment at 28 major airports from black and white to “dual-energy” colour capable of detecting both explosives and organic material.<sup>259</sup>

After 1985, additional facilities and systems were established, and equipment purchased, to increase protection of restricted areas and improve passenger and baggage screening. These measures included electronic surveillance systems, key card access control systems, enhanced communication systems, and upgraded fences, security doors and gates. Additional security measures at perimeter access points were also implemented, with upgraded signage and security guards at access gates to collect identifying information from vehicles and their occupants.<sup>260</sup>

As well, Transport Canada’s research and development program focused on projects to improve aviation security, particularly in those areas exploited by terrorists in the Air India tragedy. Projects included X-ray pattern recognition, enhancement of trace explosives detection equipment, creating walk-through and X-ray explosives detection equipment and automating the passenger-baggage reconciliation process.<sup>261</sup>

### 2.2.9 Conclusion

The Air India bombing demonstrated the inadequacy of the anti-sabotage measures in place at the time. This led to a transformation of the Canadian and international civil aviation security regimes. Annex 17 to the *Chicago*

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<sup>258</sup> Exhibit P-157, p. 85 of 135.

<sup>259</sup> Exhibit P-157, pp. 85-86 of 135.

<sup>260</sup> Exhibit P-157, p. 86 of 135.

<sup>261</sup> Exhibit P-157, p. 86 of 135.

*Convention* was completely revised to better address the threat of sabotage, and the Canadian regime was overhauled, with changes to its regulations, an improved system of inspection and enforcement, a clarification of roles and responsibilities, and enhancements to screening technologies. Transport Canada was also instrumental in securing important changes at the international level, in particular the adoption of passenger-baggage reconciliation as an international standard.

The international and domestic responses to the bombing were impressive in many ways, but also sometimes flawed. Although Annex 17 required passenger-baggage reconciliation through the adoption of Standard 5.1.4, this standard was imperfect. The new standard did not address an extraneous bag infiltrating the system – the situation that Air India faced in June 1985. As well, the wording of the Standard was unclear, leading some in the civil aviation community to argue that security controls were not required following the discovery of an unaccompanied bag if some type of screening of the bag for prohibited items had been conducted beforehand.

The immediate emergency response in Canada was also deficient, with continued reliance on X-ray technology that was known to be ineffective for detecting explosives. It would be more than a decade before the technology was adequate for this purpose. The deployment of additional X-ray machines at the time was not an adequate substitute for passenger-baggage reconciliation (admittedly, however, reconciliation was not available for across-the-board application until some months after the bombing). Cosmetic measures might provide a false sense of security and waste precious resources.

The international and Canadian responses were also incomplete. They failed to adequately address other weaknesses revealed by the bombing – specifically, air cargo security and access control at airports. Improved technology to facilitate full hold bag screening was also recognized by many as an important goal. To its credit, the Government of Canada recognized that a limited response was insufficient, and that a holistic review of deficiencies in security was required. In the resulting Seaborn Report, the Government received a guide to comprehensive change, but failed to implement many recommendations.

Support for more systemic improvements was lacking at the international level and there was inadequate follow-through domestically. Enhancements to passenger and baggage security became the primary focus, but even these were not fully addressed. It was only following the bombing of Pan Am Flight 103 (whose method of sabotage paralleled that of the Air India bombing) and September 11, 2001, that more comprehensive, multi-layered solutions to the threat of sabotage began to be implemented.

Because of persistent vulnerabilities in the system following the loss of Air India Flight 182, passenger security continued to be deficient. Bombs could still be introduced by means other than passengers and baggage. More than 20 years later, the 2007 report by the CATSA Advisory Panel noted that many deficiencies

first highlighted in the Seaborn Report remained. While the importance of passenger-baggage reconciliation must not be diminished, the Air India bombing revealed more than just the danger of unaccompanied, infiltrated bags. The bombing exposed other widespread deficiencies in procedures for preventing sabotage. Comprehensive action to improve civil aviation security is long overdue.

### 2.3 Failure to Learn: The Bombing of Pan Am Flight 103

Had the rules which emanated from the Air India bombing been applied in 1988, Lockerbie would never have happened.<sup>262</sup>

The history of civil aviation security shows repeated failures to learn from the past. Some aviation experts, including Rodney Wallis, a former Director of Security at the International Air Transport Association whose words are quoted above, believe that this deafness to what history might teach has seldom been more apparent than in the 1988 bombing of Pan American World Airlines (Pan Am) Flight 103 over Lockerbie, Scotland. The acts that led to the bombing emulated precisely those which led to the destruction of Air India Flight 182 three years earlier. An unaccompanied suitcase concealing a bomb was interlined to Pan Am Flight 103 from a different carrier.<sup>263</sup> Pan Am did not detect the bomb. Yet this method of sabotage was well understood because of the experience gained from the Air India disaster, and international standards had recognized passenger-baggage reconciliation as the incontrovertible solution.<sup>264</sup> Still, terrorists launched a successful attack on Flight 103 that killed 270 people.<sup>265</sup> The United States Commission on Aviation Security and Terrorism (US Commission), established in August 1989, concluded that the bombing of Flight 103 was preventable:

Stricter baggage reconciliation procedures could have stopped any unaccompanied checked bags from boarding the flight at Frankfurt.<sup>266</sup>

Like Air India, Pan Am did not use passenger-baggage reconciliation as a security measure. Unlike Air India, Pan Am had been required to do so by US federal regulation – a measure introduced as a direct result of the Air India bombing.<sup>267</sup> In testimony before the Commission, Wallis recounted how Pan Am, in a bid to cut costs, unilaterally discarded compulsory passenger-baggage reconciliation. In its place, Pan Am screened interlined baggage for

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<sup>262</sup> Testimony of Rodney Wallis, vol. 35, May 29, 2007, p. 4210.

<sup>263</sup> Exhibit P-166, pp. 2-3.

<sup>264</sup> Wallis, *Lockerbie*, pp. 11-12.

<sup>265</sup> Wallis, *Lockerbie*, p. 1.

<sup>266</sup> Wallis, *Lockerbie*, p. 46.

<sup>267</sup> Exhibit P-166, p. 3.



explosives using X-ray technology that it knew to be ineffective.<sup>268</sup> Air India had made similar decisions in 1985. In both cases, the decision not to implement passenger-baggage reconciliation was symptomatic of broader deficiencies in the security regime. These included insufficient regulatory oversight, a failure of shared responsibility, a misplaced reliance on ineffective technology and an inappropriate balancing of efficiency and security concerns.

The failure to appreciate the lessons of Air India was all the more significant because the Air India disaster was a watershed in the history of aviation security.<sup>269</sup> It was the worst aviation terrorism incident the world had seen, and remained so until the events of September 11, 2001.<sup>270</sup> The bombing of Flight 182 signalled the urgent need for a shift in focus from preventing hijacking to preventing sabotage,<sup>271</sup> and was the driving force behind one of the most extensive reforms of the international regulatory regime for civil aviation. The result was a more stringent Annex 17 to the *Convention on International Civil Aviation* (“*Chicago Convention*”), which better addressed the security threats facing civil aviation.<sup>272</sup>

The loss of Air India Flight 182 ought to have brought complacency about the threat of sabotage to an end.<sup>273</sup> However, Wallis suggested that it was “a fact of life” to tend to attach more significance to incidents that were seen to affect “the Anglo-Saxon world,” rather than people from a different heritage.<sup>274</sup> As Peter St. John, a retired professor of international relations with expertise in air terrorism and extensive knowledge of the bombing of Air India Flight 182, observed, “... there was a popular conception in Canada that somehow the Canadians of Indian origin on board Air India 182 were Indian citizens from India, and that it wasn’t our crisis and it wasn’t our problem.”<sup>275</sup>

### 2.3.1 Failure to Address the Known Threat of a Bomb in Interlined, Unaccompanied Baggage

Pan Am Flight 103 was a service from Frankfurt to New York, with a transit stop in London. On December 21, 1988, not long after departing London’s Heathrow Airport for New York, a bomb detonated aboard the Boeing 747, named *Maid of the Seas*, just as it had reached 31,000 feet above the small town of Lockerbie, Scotland.<sup>276</sup> The aircraft shattered and its remains “...rained death and destruction on the town of Lockerbie.”<sup>277</sup> All 259 passengers and crew on board were killed, along with 11 local residents who died when debris fell to the ground.<sup>278</sup>

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<sup>268</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4516-4517.

<sup>269</sup> Testimony of Rodney Wallis, vol. 36, May 30, 2007, p. 4288.

<sup>270</sup> Exhibit P-35, p. 1.

<sup>271</sup> Exhibit P-157, p. 75 of 135.

<sup>272</sup> Testimony of Moses Aléman, vol. 35, May 29, 2007, p. 4217.

<sup>273</sup> Testimony of Rodney Wallis, vol. 35, May 29, 2007, p. 4209.

<sup>274</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4527.

<sup>275</sup> Testimony of Peter St. John, vol. 37, May 31, 2007, p. 4524.

<sup>276</sup> Wallis, *Lockerbie*, p. 1.

<sup>277</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4525.

<sup>278</sup> Wallis, *Lockerbie*, p. 1.

The *modus operandi* was identical to that used to destroy Air India Flight 182.<sup>279</sup> Both Air India and Pan Am had been operating under an elevated level of threat from sabotage.<sup>280</sup> As with Air India Flight 182, the bomb that destroyed Pan Am Flight 103 began its journey at an outlying airport from which Pan Am did not operate. The idea was to gain access to the intended aircraft by initially sending the bomb in an interlined, unaccompanied suitcase on the connecting flight of another air carrier – one that was not operating under an elevated level of threat.<sup>281</sup>

The means to attack the *Maid of the Seas* were readily available, and the methodology was a tried and familiar one, proven effective by earlier terrorist groups. In so many ways the loss of the *Maid of the Seas* paralleled the destruction of Air India's *Kanishka* in 1985. In both, an unaccompanied suitcase carrying an improvised explosive device concealed in a cassette radio had been infiltrated into the airline industry's interline baggage system. An airport, off-line to the targeted carrier's route network, had been selected for this purpose. The device was first flown on a feeder service from that airport to another, where it was transferred to the intended aircraft.<sup>282</sup>

The similarities between the two incidents warrant a detailed description. In 1985, a passenger appeared at the Canadian Pacific Air (CP Air) ticket counter at Vancouver Airport and checked in a suitcase that contained a bomb. The suitcase was loaded onto a CP Air flight destined for Toronto. At the passenger's insistence, the suitcase was labelled with an interline tag for onward carriage on Air India Flight 181 in Toronto (the flight number changed to 182 during a transit stop in Montreal).<sup>283</sup> An interline tag was placed on the bag in contravention of CP Air's standard security procedures,<sup>284</sup> since the passenger did not have a reservation for the subsequent leg of the journey. Once in Toronto, the unaccompanied bag was delivered to the airport's baggage makeup area where it was interlined to the Air India aircraft.<sup>285</sup>

With Pan Am Flight 103, the bomb was initially placed aboard an Air Malta aircraft in Malta as a result of a breach in airside security. The perpetrator was

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279 Exhibit P-166, p. 2.

280 Wallis, *Combating Air Terrorism*, p. 27; see also Exhibit P-157, p. 49 of 135.

281 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4516.

282 Wallis, *Lockerbie*, p. 63.

283 Exhibit P-436, pp. 18, 20.

284 Exhibit P-436, p. 18.

285 Exhibit P-436, p. 29.

a former chief of security with Libyan Arab Airlines<sup>286</sup> whose links to the airline gave him access to the baggage makeup area and, ultimately, to baggage tags. The suitcase concealing the bomb had not gone through normal check-in procedures. It was simply labelled with an interline tag, loaded onto the Air Malta flight and interlined to Pan Am in Frankfurt. Like the situation leading to the bombing of Air India Flight 182, the bag was not accompanied by a corresponding passenger on any segment of its journey.<sup>287</sup> Though some of the finer points of the Pan Am and Air India bombings differed, there were many core similarities:

...Introduce your bomb bag at an airport, off-line to the major carrier so that guards are down. The bag slips into the interline system and the interline system carried it onto the target aircraft. So they are identical situations<sup>288</sup>

By 1988, this *modus operandi* for committing sabotage against aircraft was well known. The loss of Flight 182 in 1985 had sparked an immediate flurry of activity within the international civil aviation community,<sup>289</sup> which realized that its security regime had been insufficient against sabotage.<sup>290</sup> The result was a complete revision of Annex 17 to the *Chicago Convention*.<sup>291</sup> The revision established passenger-baggage reconciliation as an international standard.<sup>292</sup> Passenger-baggage reconciliation sought to prevent unauthorized bags, possibly containing bombs, from being placed on aircraft by matching checked baggage with passengers on board.<sup>293</sup> Before the bombing of Flight 182, reconciliation procedures had been used on an *ad hoc* basis during periods of high threat,<sup>294</sup> but were not a requirement of most aviation security regimes.<sup>295</sup> Several international and Canadian reviews of the Air India disaster concluded that passenger-baggage reconciliation was the one measure that, on its own, could have prevented the bombing.<sup>296</sup>

Although Pan Am and Air India were both operating under an elevated level of threat, neither airline was using passenger-baggage reconciliation around the time of the sabotage against their aircraft. Unlike the situation with Air India in

286 He was also an intelligence officer of the Libyan government. In 2001, he was found guilty of murder in the bombing of Pan Am Flight 103 and was sentenced to 27 years in prison: Wallis, *Combating Air Terrorism*, p. 38.

287 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4516.

288 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4517.

289 Exhibit P-162, pp. 2-3.

290 Testimony of Moses Aléman, vol. 35, May 29, 2007, p. 4217.

291 Annex 17 is the treaty that governs matters of international civil aviation security. See Exhibit P-153, the 1986 revised edition of Annex 17 which resulted from the bombing of Air India Flight 182.

292 Testimony of Moses Aléman, vol. 35, May 29, 2007, pp. 4217-4218.

293 Wallis, *Lockerbie*, p. 152.

294 See, for example, Exhibit P-101 CAF0637, pp. 18-19.

295 The Commission received evidence, however, that the United Kingdom's Department of Transport had implemented a rule, prior to 1985, that required bags on flights leaving the country to be reconciled with their passengers.

296 See, for example, Exhibit P-101 CAF0039, p. 4 of 10.

1985, Pan Am was required by law to do passenger-baggage reconciliation for Flight 103.<sup>297</sup> Even before the international reconciliation standard took effect, the US Federal Aviation Administration (FAA)<sup>298</sup> required reconciliation by all US airlines operating out of airports designated as “extraordinary risk.” Starting in November 1985, the FAA rule required all checked baggage to be matched with passengers on board the aircraft. Any unaccompanied baggage was to be physically inspected or else removed from the flight.<sup>299</sup> Rodney Wallis praised the FAA rule, claiming that it should have provided “foolproof protection against the infiltrated, unaccompanied bag.”<sup>300</sup> Indeed, in October 1988, before the loss of Flight 103, Dr. Assad Kotaite, then President of the International Civil Aviation Organization (ICAO) Council, hailed reconciliation as “the cornerstone of aviation’s defense against the saboteur.”<sup>301</sup>

The measures implemented after the Air India disaster sought to prevent similar sabotage.<sup>302</sup> By late 1988, the FAA had designated all airports in Europe as extraordinary risk.<sup>303</sup> Because of this, Flight 103 was required to conduct passenger-baggage reconciliation.

Both Air India Flight 182 and Pan Am Flight 103 were scheduled to make one transit stop before their transatlantic crossings.<sup>304</sup> Flight 103 did more than simply make a transit stop at Heathrow Airport in London. A change of aircraft took place. A Boeing 727 had flown from Frankfurt to London, where a larger jet, a Boeing 747, was waiting to take both Frankfurt- and London-originating passengers on to New York. The two aircraft were parked beside each other, and baggage from the 727 aircraft was placed in a container to be loaded aboard the 747. This presented a further opportunity to do passenger-baggage reconciliation.

Besides the FAA rule, the United Kingdom Department of Transport required all flights leaving the country to reconcile bags with passengers:

This rule had been in place prior to 1985 when the [UK Department of Transport] had emphasized the potential danger arising from interline baggage. In Frankfurt the FAA had mandated U.S. airlines to apply positive passenger/baggage matching procedures; with the same rule applying at Heathrow, the opportunity existed there to identify and

<sup>297</sup> Exhibit P-166, p. 3.

<sup>298</sup> The Federal Aviation Administration (FAA) is no longer in existence. Since 2001, civil aviation security in the United States is managed by the Transportation Security Administration, which is governed by the Department of Homeland Security (DHS). See Exhibit P-157, p. 96 of 135.

<sup>299</sup> Wallis, *Lockerbie*, p. 12.

<sup>300</sup> Wallis, *Lockerbie*, p. 46.

<sup>301</sup> Wallis, *Combating Air Terrorism*, p. 30. Kotaite made this statement in an address to the FAA’s Washington Triennial Aviation Security Conference.

<sup>302</sup> Wallis, *Lockerbie*, pp. 1-2.

<sup>303</sup> Wallis, *Combating Air Terrorism*, p. 30.

<sup>304</sup> Air India Flight 182 had stopped in Montreal following its departure from Toronto, on its way to London: Exhibit P-436, pp. 37-38.

remove or physically search any unaccompanied bags. Because that did not happen, what should have been a foolproof system was defeated.<sup>305</sup>

Air India Flight 182 missed one opportunity to match baggage with passengers. Pan Am Flight 103 missed two.<sup>306</sup>

As mentioned earlier, the US Commission described the bombing of Flight 103 as “preventable.”<sup>307</sup> By late 1988, Flight 103 was operating under a heightened level of threat of sabotage, since the FAA had designated all European airports as extraordinary risk for US air carriers. In addition, Pan Am was aware that Flight 103 was a specific target.<sup>308</sup> Two months before the bombing, the airline was informed about the discovery of a terrorist ring in Germany that had been manufacturing bombs containing Semtex plastic explosives for detonation on board aircraft. At least two bombs, hidden in Toshiba cassette radios, were known to be in circulation.<sup>309</sup> On December 5, 1988, the US Embassy in Helsinki received an anonymous telephone call warning of the bombing of a Pan Am aircraft operating between Frankfurt and the US “within the next two weeks.”<sup>310</sup> Both Finnish and US authorities concluded at the time that the call was a hoax.<sup>311</sup> Nonetheless, when the warning was received, the FAA shared the details of the threat with Pan Am and other US airlines.<sup>312</sup>

In summary, according to Wallis, Pan Am management in Frankfurt, in breach of US federal regulations, and despite the elevated threat of sabotage, decided to discontinue its reconciliation practices because of concerns about the cost of matching interlined baggage with passengers.<sup>313</sup> In its place, the airline opted to scan interlined baggage for explosives using less expensive X-ray technology.<sup>314</sup>

Pan Am set up a subsidiary company in Frankfurt, Alert Management, to carry out its security operations, and bought new X-ray machines to conduct checked baggage screening. Wallis wrote that the airline concluded that this measure absolved it of the need to match interlined passengers with their baggage.<sup>315</sup>

By 1988, it was well known that X-ray technology was unreliable in detecting explosive devices in checked baggage.<sup>316</sup> In 1986, the Indian inquiry established to investigate the bombing of Air India Flight 182 (Kirpal Commission) concluded:

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<sup>305</sup> Wallis, *Combating Air Terrorism*, pp. 26-27.

<sup>306</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4517.

<sup>307</sup> Wallis, *Lockerbie*, p. 46.

<sup>308</sup> Wallis, *Combating Air Terrorism*, p. 27.

<sup>309</sup> Wallis, *Combating Air Terrorism*, p. 27.

<sup>310</sup> Wallis, *Combating Air Terrorism*, p. 27.

<sup>311</sup> Given the discovery of bomb manufacturing in Germany, experts agreed that the warning had constituted a detailed threat: Wallis, *Combating Air Terrorism*, pp. 27-28.

<sup>312</sup> Wallis, *Combating Air Terrorism*, p. 28.

<sup>313</sup> Wallis, *Lockerbie*, p. 109.

<sup>314</sup> Wallis, *Combating Air Terrorism*, p. 31.

<sup>315</sup> Wallis, *Lockerbie*, p. 109.

<sup>316</sup> Wallis, *Lockerbie*, p. 23.

All checked-in baggage, whether it has been screened by X-ray machine or not, should be personally matched and identified with the passengers boarding an aircraft. Any baggage which is not so identified should be off-loaded. This is advisable as examination of the baggage with the help of an X-ray machine has its own limitations and is not fool proof. Some explosives hidden in Radios, Cameras etc. may not be readily detected by such a machine. In fact an explosive not placed in a metallic container will not be detectable by an X-ray machine. Similarly, a plastic explosive can be given an innocuous shape or form so as to avoid detection by an X-ray. Reliance on an X-ray machine alone may in fact provide a false sense of security.<sup>317</sup>

As in 1985, the X-ray equipment used in 1988 was of limited value. It provided only black and white images and required skilled operators.<sup>318</sup> Wallis wrote that the operator on duty for Pan Am on December 21, 1988, had received no training on the equipment, had not been provided with the machine's operating manual, and had not been tested on his ability to interpret images on the screen. Earlier in the year he had been employed as a cleaner for Pan Am. He had poor eyesight and used his glasses only when he wanted to see detail more clearly. Like all screening staff working for Alert Management, he had not been made aware of the Toshiba cassette radio bomb warning and had received no special instruction on bomb identification.<sup>319</sup>

Wallis stated that Pan Am was, moreover, informed that the bombs recently discovered in Germany would be difficult, if not impossible, to detect by X-ray. Tests conducted at the time demonstrated that the equipment was unable to detect the plastic explosives contained within the cassette radio bombs found by police<sup>320</sup>:

By August 1988, knowledge that terrorists had improved technology for the construction of improvised explosive devices (IEDs) designed for use against aircraft was becoming available. Modifications in the manufacture of these bombs [were] coupled with changes in the method of their concealment. It had become obvious that detailed baggage search techniques would be necessary to detect the devices, since X-ray examination was known to be inadequate for the purpose. Nor was the average screening operator considered up to the task of identifying the high-tech detonation mechanisms now available to the terrorists. The FAA

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317 Exhibit P-164, p. 173.

318 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4517.

319 Wallis, *Lockerbie*, p. 116.

320 Wallis, *Lockerbie*, p. 23.

requirement for all baggage to be matched with passengers took on even greater importance.<sup>321</sup>

Wallis concluded that, despite its knowledge about the lack of utility of X-ray equipment in the current threat situation, Pan Am did not revert to passenger-baggage matching.<sup>322</sup> It chose to use X-ray equipment as its sole security control for interlined baggage.<sup>323</sup>

Following the bombing, a Scottish Fatal Accident Inquiry confirmed that the improvised explosive device consisted of Semtex-type plastic explosive concealed in a Toshiba cassette radio carried in a suitcase.<sup>324</sup> The inquiry also concluded that "...limitations of X-ray screening as a means of detecting plastic explosives contained in electronic equipment were generally recognized" by December 1988,<sup>325</sup> and that reliance by Pan Am on X-ray screening alone for interlined baggage in London and Frankfurt was a "defect" which contributed to the deaths.<sup>326</sup>

The US Commission established in 1989 also concluded that the bombing of Flight 103 was preventable:

Stricter baggage reconciliation procedures could have stopped any unaccompanied checked bags from boarding the flight at Frankfurt.<sup>327</sup>

Echoing the words of the ICAO Council President two months before the bombing, the report called passenger-baggage reconciliation "...the bedrock of any heightened civil air security system."<sup>328</sup>

### 2.3.2 Air India and Pan Am: Parallel Systemic Failures

The need for passenger-baggage reconciliation as a primary security defence against in-flight bombings was one of the key lessons of the loss of Air India Flight 182, but a narrow focus on this ignores other security weaknesses. In 1985, the failure of Air India to institute this measure, and of the Government of Canada to require it, was symptomatic of major systemic security deficiencies in aviation which, in combination, created an environment vulnerable to sabotage. These deficiencies have been the subject of much of the Commission's focus during its review of aviation security.

<sup>321</sup> Wallis, *Lockerbie*, p. 20.

<sup>322</sup> Wallis, *Lockerbie*, p. 23.

<sup>323</sup> Wallis, *Combating Air Terrorism*, p. 31; see also Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4517-4518.

<sup>324</sup> Wallis, *Lockerbie*, p. 55.

<sup>325</sup> Wallis, *Lockerbie*, p. 56.

<sup>326</sup> Wallis, *Lockerbie*, p. 56.

<sup>327</sup> Wallis, *Lockerbie*, p. 46.

<sup>328</sup> Wallis, *Combating Air Terrorism*, p. 33.

The US Commission's report was critical of both Pan Am and the FAA. It stated that Pan Am's apparent security lapses and the FAA's failure to enforce its own regulations followed a pattern that had existed for months before the bombing and that continued for nine months after.<sup>329</sup> Although the FAA was instrumental in helping ICAO develop new rules after the bombing of Flight 182, the FAA did not effectively monitor their implementation. Despite audits of Pan Am security operations at Frankfurt,<sup>330</sup> the FAA was unaware that Pan Am had stopped matching passengers with baggage at Frankfurt and Heathrow airports.<sup>331</sup> Pan Am was also never cited for other breaches of the federal security program. In October 1988, the FAA inspector responsible for overseeing civil aviation security measures in Frankfurt recorded several failures by the airline, including the absence of any identifiable tracking system for interline baggage. He made recommendations to overcome these shortcomings, but did not cite the airline for violating FAA baggage security requirements. Instead, the inspector's report concluded that the minimum FAA requirements were being met.<sup>332</sup>

The Scottish Fatal Accident Inquiry also concluded that the direction and circulars provided to airlines by the UK Department of Transport "...afforded insufficient protection against the possibility that an undetected unaccompanied bag would be transferred"<sup>333</sup> from the Frankfurt feeder flight to the Boeing 747 at Heathrow. Wallis remarked on the significance of this finding:

Many government civil aviation officials around the world have been apt to issue directives with little or no effort being made to ensure their terms are understood. Monitoring implementation of the regulations is nonexistent. Often the rules are put together by civil servants who have no practical experience of airline or airport operations and are developed without consultation with aviation operations executives. [The Scottish Inquiry's] comments might bring home to government authorities the need to understand the operation and the conditions under which regulations have to be applied before drying the ink on a new set of administrative requirements.<sup>334</sup>

While effective oversight by government is crucial for ensuring a properly functioning regime, security is a shared responsibility.<sup>335</sup> It is an integrated system that involves government departments and agencies, as well as private sector and non-profit entities.<sup>336</sup> All stakeholders are obligated to respect the rules that apply to them, and must faithfully discharge their responsibilities. Anything less

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<sup>329</sup> Wallis, *Lockerbie*, pp. 45-46.

<sup>330</sup> Wallis, *Lockerbie*, pp. 46-47.

<sup>331</sup> Wallis, *Lockerbie*, p. 82.

<sup>332</sup> Wallis, *Lockerbie*, pp. 46-47.

<sup>333</sup> Wallis, *Combating Air Terrorism*, p. 36.

<sup>334</sup> Wallis, *Combating Air Terrorism*, p. 37.

<sup>335</sup> Exhibit P-361, Tab 1, p. 8.

<sup>336</sup> Exhibit P-169, p. 31 of 202.



than this destroys the value of a legislated regime. Any weakness gives terrorists the chance to exploit the system – a danger clearly demonstrated in the Pan Am bombing. US airlines at the time generally did not favour requiring positive passenger-baggage matching,<sup>337</sup> despite knowing the threat of bombs being placed in unaccompanied baggage. Some airlines were granted permission to use X-rays in place of reconciliation procedures at airports that were not designated as “extraordinary risk.” Frankfurt airport, however, was designated as extraordinary risk.<sup>338</sup>

Air carriers play a vital role in ensuring passenger protection. Not only must they adhere strictly to the regime under which they are operating but “...regardless of rules laid down by governments, the carriers themselves need to ensure that their procedures are commensurate with the prevailing threats and risks.”<sup>339</sup>

As noted earlier, the Pan Am station in Frankfurt relied on ineffective technology to screen baggage rather than on the established method of baggage-passenger reconciliation. This was similar to the situation in 1985, when Air India relied on technology that was known to be ineffective because it was deemed to be more efficient than the time-consuming and costly passenger-baggage matching process. Air India took this course of action, despite testing that had revealed the PD-4 sniffer to be incapable of detecting explosives, and despite knowing of the limited value of X-ray equipment in explosives detection.<sup>340</sup> When the X-ray machine malfunctioned in Toronto on June 22, 1985, screening officers received only cursory, on-the-spot training about the PD-4 equipment, which was then used to check the remaining unscreened baggage.<sup>341</sup>

As early as 1986, an Israeli security consultancy firm had suggested in a report commissioned by Pan Am that the airline was placing too much reliance on technology. The report described the airline’s security operations at European airports as “dangerously lax”<sup>342</sup> and criticized the airline’s heavy reliance on technical equipment. The report noted that, under the current program, Pan Am was “highly vulnerable to most forms of terrorist attack.” That Pan Am had not already suffered a major disaster was “merely providential.”<sup>343</sup> The report attacked the air carrier’s management structure, its selection of staff, the lack of adequate training for security employees and the absence of monitoring programs.<sup>344</sup> The report declared the entire operation not cost-effective, but did not view an increase in budget as necessary. Rather, all that was required was proper “authority, management and resolve.”<sup>345</sup>

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337 Wallis, *Lockerbie*, p. 13.

338 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4516.

339 Wallis, *Combating Air Terrorism*, p. 37.

340 Exhibit P-436, pp. 31-32.

341 Exhibit P-436, p. 31.

342 Wallis, *Lockerbie*, p. 30.

343 Wallis, *Lockerbie*, p. 30.

344 Wallis, *Lockerbie*, p. 30.

345 Wallis, *Lockerbie*, p. 31.

In the case of Pan Am, the breach in security involved, as noted, a former chief of security of an airline. He gained access to restricted areas of the airport in Malta, enabling the baggage containing the bomb to circumvent normal security procedures altogether. According to Wallis, this "...portrayed the worst possible scenario facing legitimate governments with respect to attacks against civil aviation targets, namely direct involvement (rather than coercion) of airline staff with knowledge of and access to attack aircraft under cover of their legitimate roles."<sup>346</sup> He noted that this was not the first civil aviation security incident of this nature.<sup>347</sup> This highlights the importance of ensuring adequate security measures for airside and restricted areas of airports, and the need for international co-operation to ensure consistent security throughout. A weakness in security in one location can surreptitiously weaken security at another, whether in the same country or abroad.

Good security must have multiple, robust layers. It must be based on a proper understanding of risk – including an in-depth knowledge of past threats and their current relevance – and it requires the co-operation and collaboration of many entities in Canada and abroad.

It is telling that an exact repeat of the Air India bombing could occur in a field – aviation security – often criticized for "fighting the last war instead of the next."<sup>348</sup> The evidence suggests that neither the last war nor the next have been fully addressed, leaving unacceptable gaps in security. Indeed, the Commission has concluded that many of the lessons from 1985 have yet to be incorporated into the domestic regime.<sup>349</sup> While Canada immediately championed passenger-baggage reconciliation following the Air India disaster,<sup>350</sup> passengers remain vulnerable to sabotage because bombs can still be introduced onto aircraft by means other than passengers and their baggage.<sup>351</sup>

### 2.3.3 Responses to the Bombing of Pan Am Flight 103

The bombing of Air India Flight 182 was the deadliest single aviation terrorism incident to that time, killing even more than the sabotage of Pan Am Flight 103 three years later. However, as the experts who appeared before the Commission observed, the loss of Pan Am Flight 103 generated a greater sense of collective urgency on the world stage and more support for systemic change. Emphasis was placed on the very same issues that had been raised after the loss of Flight 182, such as hold bag screening (HBS) and air cargo security. Many countries, particularly in Europe, demonstrated a greater commitment to following through with these initiatives.<sup>352</sup> Yet earlier work by ICAO, IATA and the Kirpal Commission following the Air India disaster had reached the same conclusion

<sup>346</sup> Wallis, *Lockerbie*, p. 38.

<sup>347</sup> Wallis, *Lockerbie*, p. 38.

<sup>348</sup> Testimony of Reg Whitaker, vol. 38, June 1, 2007, p. 4646.

<sup>349</sup> See Section 3.8, which reviews the major deficiencies that still remain in the Canadian regime.

<sup>350</sup> Testimony of Rodney Wallis, vol. 39, June 4, 2007, p. 4755.

<sup>351</sup> Deficiencies in air cargo and airside security continue to provide an avenue by which bombs can be introduced aboard passenger aircraft. See Sections 3.8.1 and 3.8.2 for further details.

<sup>352</sup> Exhibit P-166, p. 6.

as the later US and Scottish investigations into the Pan Am bombing – that passenger-baggage reconciliation was the key security measure for preventing bombs in baggage from being placed aboard aircraft.<sup>353</sup>

Jim Marriott, Director of Transport Canada's Aviation Security Regulatory Review at the time of the Commission hearings, represented Canada on ICAO's Aviation Security Panel of Experts after the bombing of Flight 103. He participated in similar meetings across Europe for Transport Canada and was uniquely positioned to observe the response as it unfolded. He described as "striking" the attention that many governments paid to the need for widespread enhancements in civil aviation security following the Pan Am tragedy. A series of action plans were developed, with the UK playing a lead role within ICAO to promote broad improvements.

By early 1989, the UK government had made eight proposals to ICAO.<sup>354</sup> Among them was a proposal dealing with passenger-baggage reconciliation,<sup>355</sup> a measure that ought to have been fully addressed in the wake of the Air India bombing. The adoption of passenger-baggage reconciliation as a mandatory standard for international flights was foremost among the changes made to Annex 17 after the loss of Air India Flight 182. Although an initial implementation date was set for December 19, 1987, the date was changed to April 1989 to allow Contracting States time to comply. However, states that could implement the standard sooner were strongly urged to do so. Still, even by the 1990s, only a few states had begun implementing passenger-baggage reconciliation.<sup>356</sup>

A further UK proposal called for full HBS of all checked baggage with explosives-detecting equipment. The technology available in 1989, like that of 1985, lacked sophistication. Marriott testified that much of the drive to invest significant resources in research and development for HBS could be traced to the aftermath of Pan Am Flight 103,<sup>357</sup> although the same need had been identified earlier following the Air India bombing. Technologies were in development before 1988, but the Pan Am disaster led to an increase in this activity.<sup>358</sup> Marriott remarked that:

...[T]he task of integrating [hold] baggage screening systems into airport baggage handling systems was one that received a great deal of engineering attention.... [T]he events of the Pan Am 103 tragedy drove a great many governments, the international community, to focus a great deal more attention on the enhancement of aviation security across the whole range of theme areas, but [hold] bag screening certainly was...[a] principal focus....<sup>359</sup>

<sup>353</sup> Wallis, *Combating Air Terrorism*, pp. 33, 35.

<sup>354</sup> Exhibit P-157, p. 89 of 135.

<sup>355</sup> Exhibit P-157, p. 89 of 135.

<sup>356</sup> While standards are mandatory, Contracting States can withdraw from their obligations by informing ICAO of their inability or unwillingness to comply: Exhibit P-157, pp. 89-90 of 135.

<sup>357</sup> Testimony of Jim Marriott, vol. 37, May 31, 2007, pp. 4520-4521.

<sup>358</sup> Testimony of Jim Marriott, vol. 37, May 31, 2007, p. 4521.

<sup>359</sup> Testimony of Jim Marriott, vol. 37, May 31, 2007, p. 4521.

Some countries, including the UK, managed to implement 100 per cent HBS fairly quickly, but many others, including Canada,<sup>360</sup> did not do so until the ICAO standard took effect on January 1, 2006.<sup>361</sup>

The UK also aggressively pursued enhancements to air cargo security after the Pan Am bombing.<sup>362</sup> Following the loss of Air India Flight 182, air cargo security had been singled out by the international community as a significant vulnerability.<sup>363</sup> Much like hold baggage, air cargo was becoming an increasingly easy vehicle for getting bombs aboard passenger aircraft.<sup>364</sup> Nonetheless, efforts to improve security measures for air cargo did not gain widespread support until 1989, after the bombing of Pan Am Flight 103. By 1990, the US and the UK had joined forces with IATA to promote greater security for air cargo throughout its supply chain. The concept of the “known shipper”<sup>365</sup> (the term was later changed to “regulated agent”),<sup>366</sup> in which a shipper or consolidator would be licensed by the government after meeting certain security standards, and which was introduced after the Air India bombing, was finally accepted by ICAO in 1991 for addition to Annex 17.<sup>367</sup> The UK moved quickly to implement the measure, developing regulations by 1993.<sup>368</sup> Canada, on the other hand, has only recently considered measures to strengthen air cargo security in conformity with the ICAO principle.<sup>369</sup>

The UN Security Council and General Assembly also weighed in on efforts to address the failings that led to the destruction of Pan Am Flight 103. In June 1989, recognizing the difficulty in detecting plastic explosives such as those used in the Pan Am attack, the UN Security Council passed Resolution 635. The Resolution urged ICAO “...to intensify its work on devising an international regime for the marking of plastic and sheet explosives for the purpose of detection.”<sup>370</sup> The UN General Assembly subsequently affirmed this resolution. In response, ICAO drafted the *Convention on the Marking of Plastic Explosives for the Purpose of Detection (1991)*. The Convention prohibits the manufacture, sale or possession of plastic explosives, commonly used in air terrorism, without specific chemical markings stipulated by the Convention.<sup>371</sup> Chemical markers

<sup>360</sup> Exhibit P-169, p. 65 of 202.

<sup>361</sup> Exhibit P-157, p. 89 of 135.

<sup>362</sup> Testimony of Jim Marriott, vol. 37, May 31, 2007, p. 4529.

<sup>363</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4480-4481; Testimony of Rodney Wallis, vol. 41, June 6, 2007, p. 5002.

<sup>364</sup> Exhibit P-162, p. 4; see also Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4480-4481.

<sup>365</sup> This term, as it is used in Canada, does not correspond to the meaning attributed to it by Annex 17. In Canada, the term “known shipper” is not a government-licensed shipper or consolidator, but an entity that is known to an airline because a business relationship has been established. See Testimony of Reg Whitaker, vol. 38, June 1, 2007, p. 4630; see also Testimony of Rodney Wallis, vol. 41, June 6, 2007, pp. 5002-5003.

<sup>366</sup> Testimony of Rodney Wallis, vol. 35, May 29, 2007, p. 4249.

<sup>367</sup> Wallis, *Combating Air Terrorism*, p. 78.

<sup>368</sup> Testimony of Rodney Wallis, vol. 41, June 6, 2007, p. 5003.

<sup>369</sup> See, for example, Exhibit P-189; see also Section 3.8.1 for a more detailed analysis of air cargo security in Canada.

<sup>370</sup> Exhibit P-157, p. 90 of 135.

<sup>371</sup> Testimony of Moses Aléman, vol. 35, May 29, 2007, p. 4228.

in plastic explosives make it easier for electronic equipment and explosives detection dogs to identify them. The Convention entered into force in 1998.<sup>372</sup>

The Pan Am bombing prompted Canada to address even more vigorously several systemic security issues exposed following the loss of Air India Flight 182. This included a new emphasis on HBS. Research and development in technology for screening hold baggage for explosives was expedited, with bilateral and trilateral agreements involving Canada, the US and the UK. Transport Canada also accelerated its “foreign offshore security inspection program” to ensure compliance monitoring and quality control, particularly for passenger-baggage reconciliation. In general, the inspection program was meant to ensure that foreign-registered and domestic air carriers departing from foreign airports were implementing Canadian regulatory requirements.<sup>373</sup>

The US reacted to the Pan Am bombing by working within international organizations, including ICAO, to improve aviation security worldwide. It also worked with certain countries individually to address specific issues or threats, and examined its own security framework. In May 1990, the US Commission that reviewed the Pan Am disaster made 64 recommendations, among them to:

- transfer primary responsibility for aviation security from US air carriers to the US State Department;
- ensure mandatory criminal record checks for all airport employees;
- conduct mandatory passenger-baggage reconciliation; and
- create a technical assistance program, through the FAA, to provide aviation security assistance to countries upon request and to concentrate efforts wherever the threat was greatest.<sup>374</sup>

The CATSA Act Review Advisory Panel (CATSA Advisory Panel), the independent panel of experts that, as part of its mandate, reviewed aviation security issues associated with the bombing of Air India Flight 182, reported that many of the US Commission’s recommendations were not implemented. Ironically, this failure flowed, at least in part, from industry concerns about the cost of funding security initiatives and the impact they would have on their operations.<sup>375</sup> One influential family member of a victim of the Pan Am bombing later argued that “...history has proven the aviation industry’s lack of sincerity and willingness to address safety and security on behalf of their customers.”<sup>376</sup>

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372 Canada incorporated the requirements of the Convention through amendments to the *Explosives Act*, which came into force on September 11, 1996. See Exhibit P-157, p. 90 of 135, note 113; see also Testimony of Moses Aléman, vol. 35, May 29, 2007, p. 4228.

373 Testimony of Jean Barrette, vol. 37, May 31, 2007, p. 4528.

374 Exhibit P-157, p. 90 of 135

375 Exhibit P-157, p. 90 of 135.

376 Victoria Cummock, who was appointed as a Commissioner on the subsequent 1996/7 White House Commission on Aviation Safety and Security to investigate the loss of another Boeing 747, TWA Flight 800, later made these remarks in a letter of dissent to the report of that Commission: Wallis, *Lockerbie*, p. xiv.

In his 2001 book, *Lockerbie: The Story and the Lessons*, Wallis noted that US aviation security standards were still not optimal then and that passengers remained vulnerable to the baggage bomber.<sup>377</sup> He contended that it was not just a “lack of sincerity and willingness” on the part of air carriers, but also that, despite the best efforts of ICAO, IATA and other international bodies, many national authorities failed to understand what was required of them. He also laid blame on the inadequate funding pledged to civil aviation security.<sup>378</sup> The CATSA Advisory Panel noted that, even when governments and other organizations worked together after the Pan Am bombing to improve and standardize security measures around the world, many measures proposed by ICAO remained either voluntary or were not adopted by member states.<sup>379</sup>

Transport Canada officials considered the bombing of Pan Am Flight 103 to be the second watershed in civil aviation security, with Air India Flight 182 being the first.<sup>380</sup> However, Wallis considered the Pan Am bombing merely to represent a failure to respond to the lessons of Air India Flight 182.<sup>381</sup> The loss of Pan Am Flight 103 simply demonstrated that the Air India disaster had not resonated with the international community as a whole.

#### **2.3.4 Failure to Appreciate Significance of Air India Flight 182 Bombing**

The bombing of Flight 182 was a seminal moment in the history of civil aviation security. Within days, emergency meetings were held at IATA and ICAO. Airline security chiefs and authorities came from around the world to discuss how to address major security deficiencies.<sup>382</sup> The bombing triggered a major overhaul of international civil aviation security. As well, the Kirpal Commission in India conducted a thorough investigation of the incident, producing an extensive report in 1986. The report made key recommendations directed at ICAO, national authorities, airlines and airports.<sup>383</sup> Had these recommendations been followed, terrorists might not have succeeded in bombing Pan Am Flight 103 in 1988.

Experts who appeared before the Commission agreed that, although the Air India bombing was one of the most significant acts of unlawful interference with civil aviation, it was only the loss of Pan Am Flight 103 that led to more definitive action on the very same security issues.<sup>384</sup> The bombing of Flight 103 resulted in a significant increase in dialogue internationally about civil aviation security.<sup>385</sup> However, the question remains: Why did the earlier Air India bombing not have greater impact on aviation officials, even when they faced a specific threat of sabotage?

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<sup>377</sup> Wallis, *Lockerbie*, pp. 150-151.

<sup>378</sup> Wallis, *Lockerbie*, pp. 151-152.

<sup>379</sup> Exhibit P-157, p. 91 of 135.

<sup>380</sup> Testimony of Jim Marriott, vol. 37, May 31, 2007, p. 4510.

<sup>381</sup> Testimony of Rodney Wallis, vol. 35, May 29, 2007, p. 4210.

<sup>382</sup> Exhibit P-162, pp. 2-3, 13.

<sup>383</sup> Exhibit P-164, pp. 172-175.

<sup>384</sup> See, for example, Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4525.

<sup>385</sup> Exhibit P-166, p. 6.

The CATSA Advisory Panel suggested that the loss of Flight 103 merely three years after the Air India bombings had "...resulted in a dramatic loss of public confidence in civil aviation and further pressured governments into taking action."<sup>386</sup> However, the Commission heard evidence suggesting that the different treatment of virtually identical incidents cannot be entirely explained by this public outrage.

Both Wallis and St. John highlighted the symbolism that the attack against Pan Am Flight 103, an American flag carrier, created. The Pan Am bombing killed all of the mostly American passengers and crew.<sup>387</sup> It was seen as a calculated act of aggression against the US.<sup>388</sup> Both the fact that it was an American aircraft and that "enemies in the Middle East" caused the crash, ensured extensive media coverage, particularly in the US.<sup>389</sup> Air India, on the other hand, was the flag carrier for India. When Flight 182 was destroyed, India, not Canada, was the target. The bombing of Flight 182 did not create the same sort of imagery as the Pan Am attack.<sup>390</sup>

Shortly after the Pan Am bombing, it was widely believed that the attack was retaliation for a tragic accident in which an American warship, the USS Vincennes, mistakenly shot down an Iran Air Airbus "full of pilgrims."<sup>391</sup> More than 200 passengers and crew died after their aircraft was struck by a surface-to-air missile.<sup>392</sup> Ultimately, however, responsibility for the Pan Am bombing was attributed to a Libyan, not Iranian, operative. The subsequent imposition of sanctions on Libya by the US served to maintain the Pan Am bombing as a live international issue.<sup>393</sup>

As well, another event overshadowed the Air India bombing for the American public and the US civil aviation community. This was the seizure of an aircraft belonging to Trans World Airlines (TWA), an American airline, on June 14, 1985,<sup>394</sup> and the subsequent saga of hostages held in Lebanon. The lessons of the Air India disaster were overlooked – a profound mistake, according to Wallis:

The importance given by the U.S. carriers to the TWA seizure was understandable. It was a major national and media event with daily pictures of the aircraft on the ground at Beirut being shown on all the front pages and on the television news bulletins.... With a number of men taken and held hostage in Beirut, the level of emotion created in the United States was certain to give precedence of thought in that country to this

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<sup>386</sup> Exhibit P-157, p. 89 of 135.

<sup>387</sup> Exhibit P-157, p. 89 of 135.

<sup>388</sup> Testimony of Peter St. John, vol. 37, May 31, 2007, p. 4522; see also Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4526; see also Wallis, *Lockerbie*, p. 53.

<sup>389</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, pp. 4525-4526.

<sup>390</sup> Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4527.

<sup>391</sup> Testimony of Peter St. John, vol. 37, May 31, 2007, pp. 4522-4523.

<sup>392</sup> Wallis, *Combating Air Terrorism*, p. 28.

<sup>393</sup> Testimony of Peter St. John, vol. 37, May 31, 2007, pp. 4522-4523.

<sup>394</sup> Wallis, *Combating Air Terrorism*, p. 2.

criminal act rather than to the Air India incident. Yet it was a gargantuan mistake for the Air India disaster to be afforded only second-level importance by the U.S. airlines. From the loss of the *Kanishka* came the most significant change in international aviation security standards in the 1980s – the mandatory requirement for passenger and baggage reconciliation. Failure by Pan Am to implement this procedure was to claim 270 more lives just three years later.<sup>395</sup>

Wallis speculated that, had US airlines participated more fully in the debates within IATA that followed the Air India bombing, their attitudes towards passenger-baggage reconciliation might have been different.<sup>396</sup> Passenger and baggage matching had been recommended by IATA since the summer of 1985. The Kirpal Commission urged the same measure in its February 1986 report, particularly for interlined baggage.<sup>397</sup>

Wallis also noted that the Pan Am disaster, unlike the bombing of Air India Flight 182, occurred over land. The wreckage was strewn over the town of Lockerbie and people also died on the ground: "...The hunt for wreckage, for evidence as to what had happened, the attempt to recover the victims" was all on dry land and was "played out on television."<sup>398</sup> In contrast, Flight 182 crashed into the sea, and although the hunt for wreckage received media coverage, the extent of the damage was not as easily visible.<sup>399</sup>

However, it was perhaps the perception that the bombing of Pan Am Flight 103 was an attack on the West, rather than on the East, that lies at the heart of the issue. As St. John observed in testimony, the downing of an American airline containing mostly British and American passengers created "...enormous consternation and international reaction"<sup>400</sup>

Some other civil aviation security incidents give rise to similar inferences. On November 29, 1987, liquid explosives carried in hand baggage destroyed Korean Air Flight 858 as it flew over the Andaman Sea, destined for Seoul. All 115 people on board died. South Korea was the target.<sup>401</sup> This was clearly a significant act of aviation terrorism, but the threat posed by liquid explosives was not addressed by the international community until 2006, when a terrorist plot was exposed in the UK to launch simultaneous attacks on several Western air carriers using liquid and gel explosives. Only then were lasting security measures implemented. A ban on liquids and gels in carry-on baggage occurred, and limits on the volumes of liquids and gels are now a feature of pre-board screening (PBS).<sup>402</sup>

395 Wallis, *Lockerbie*, pp. 10-11.

396 Wallis, *Lockerbie*, p. 13.

397 Exhibit P-164, Recommendation 5.5, p. 173.

398 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4525.

399 Testimony of Rodney Wallis, vol. 37, May 31, 2007, p. 4525.

400 Testimony of Peter St. John, vol. 37, May 31, 2007, p. 4522.

401 Wallis, *Combating Air Terrorism*, p. 18.

402 Testimony of Reg Whitaker, vol. 38, June 1, 2007, p. 4585.



No country, air carrier or airport operator can afford to ignore aviation security incidents, wherever in the world they occur. A threat to one must be understood as a threat to all.

### **2.3.5 Conclusion**

Security can never be perfect, but there is no excuse for repeating mistakes when the measures to prevent them are known and available. The bombing of Air India Flight 182 spurred the civil aviation community to action to prevent sabotage. The introduction of a regulation requiring passenger-baggage reconciliation was a known method of preventing a recurrence of this disaster. Federal regulations in the US required its use. Yet Pan Am did not implement the measure for its Flight 103.

Perhaps the greater focus on the Pan Am bombing reflected the US-centred axis of world media. Within the civil aviation security community itself, this bias should not have carried weight. The lessons from the bombing of Air India Flight 182 should have been absorbed into the marrow of that community. The follow-up lesson taught by Pan Am Flight 103 should not have been necessary before the security gaps already identified after the Air India bombing were addressed.

The CATSA Advisory Panel noted that, even after the Air India and Pan Am bombings, the implementation of many measures proposed by ICAO remained voluntary and that, even when the measures were mandatory, Contracting States did not always adopt them. Before September 11, 2001, few governments had introduced regulations requiring the screening of all passengers and hold baggage on all flights. Few countries conducted passenger-baggage reconciliation, and equipment for detecting plastic explosives at airports was relatively rare.

Words and pledges of action are not enough. Improved security conceived in theory is fine, but the practical application is the only thing that will save lives. Aviation authorities around the world must commit in concert to an unfaltering focus on effective security. If weaknesses are allowed here and there, terrorists will simply direct proven methods of sabotage to these points of vulnerability.

