

**FACILITATION (FAL) DIVISION — TWELFTH SESSION****Cairo, Egypt, 22 March to 2 April 2004****Agenda Item 2: Facilitation and security of travel documents and border control formalities****2.5: Implementation of aviation security****IMPLEMENTATION OF 100 PER CENT HOLD BAGGAGE SCREENING (HBS) ON A GLOBAL BASIS**

(Presented by the International Air Transport Association (IATA))

**SUMMARY**

Passenger and baggage reconciliation is one of the key elements in minimizing the risk of lethal devices being introduced onto an aircraft. The ICAO deadline for implementation of 100 % HBS is 1 January 2006. To be fully effective, reconciliation measures, while important, must be used in conjunction with technical screening methods designed to detect explosives or other dangerous devices. This may include technology-based systems, physical search of bags and risk assessment of passengers. This paper provides the IATA view on how best to implement 100 per cent HBS systems in order to optimize the security screening of passengers and their baggage accounting for the limitations placed on such operations.

Action by the Division is in paragraph 3.1.

**1. INTRODUCTION**

1.1 The air transport industry operates in an extremely complex environment. In order to properly service their customers, air carriers must operate a multiplicity of routes, through numerous transfer and transit points involving numerous States, airports and often air carriers.

1.2 Superimposed on this already complex network are decisions made by individual States regarding the security and facilitation standards that they require within their territories as well as security and facilitation measures to be adopted by their registered air carriers when they operate in another State. This regulatory/operational environment has been made even more complex and difficult since the tragic events of 11 September 2001.

1.3 This makes it essential for industry to participate with the regulatory and border control agencies and other security related organizations in their States at an early stage in the planning process so

as to ensure that hold baggage screening (HBS) is introduced in the most cost-effective way and to avoid unnecessary costs which may otherwise be imposed upon them.

## 2. NECESSARY GUIDING PRINCIPLES

2.1 ICAO Annex 17 –*Security*, Standard 4.4.8 states: “From 1 January 2006, each Contracting State shall establish measures to ensure that originating hold baggage intended to be carried in an aircraft engaged in international civil aviation operations is screened prior to being loaded into the aircraft.” This is currently a Recommended Practice in Annex 17. IATA fully supports implementation of 100 per cent HBS as a critical element of the aviation security system.

2.2 Numerous States have already implemented 100 per cent HBS, however the efficiency and effectiveness of these systems varies substantially from State to State and often from airport to airport within a State.

2.3 The efficiency and effectiveness of the HBS system in a particular airport can have a major impact on facilitation of passengers. As an example, the speed with which hold baggage is processed has a direct impact on originating passenger processing time as well as the Minimum Connect Time (MCT) for those passengers transiting or transferring through a particular airport.

2.4 The impact of HBS systems on passenger processing not only directly impacts on the efficiency with which passengers can be handled and therefore the customer service that they receive, but also on the operational efficiency of the air carriers. Longer processing times place restrictions on the number of flights that an air carrier can operate out of a certain airport in a given period of time, which in turn has a direct financial impact on that air carrier.

2.5 Additionally the efficiency of an HBS system often has a direct impact on the screening effectiveness of the system. The industry has learned through years of experience that there is often a direct correlation between the efficiency of a particular HBS system and its effectiveness in screening out potential threat items.

2.6 The implementation of an efficient and effective 100 per cent HBS system will also facilitate the implementation of the so-called “one-stop security” concept not only on a regional basis but globally. Key to implementation of such a concept, from industry point of view, is the exemption from the need to screen transfer and transit bags. This not only provides tremendous benefits to industry in the form of shorter MCTs but also to States and their designated screening authorities who are able to free up resources for other tasks.

2.7 The screening authority (be it airport operator or other specified screening authority) should be responsible for all elements of the HBS system. This would include the baggage reconciliation system (BRS), as appropriate, which preferably should be automated and run concurrent with the technical screening systems.

2.8 The industry has developed a policy position/guidance document on 100 per cent HBS. A summary of this document is presented as an appendix to this paper. The position paper itself was originally developed by the Airports Council International (ACI) and slightly modified by IATA to account for additional air carrier issues. IATA fully supports the ACI position and for that reason used their document as the basis for the air carrier industry position. This document fully accounts for recent changes to civil aviation regulations introduced since 11 September, 2001.

2.9 This document all builds on other industry papers on HBS as well as the work carried out by the European Civil Aviation Conference (ECAC) Security Working Group in its guidance paper to Member States, in which IATA and ACI played a significant contributory role offering essential operational

experience and advice. In addition, the document also takes into account recent technological advances and experience in baggage screening processes already in daily operation at many airports around the world.

**3. ACTION BY THE DIVISION**

3.1 Given the rapidly approaching ICAO deadline for global implementation of 100 per cent HBS (1 January, 2006), IATA urges the Division to note the attached summary of the IATA position paper on 100 per cent HBS and take account of the document in relation to the planning, implementation and operation, by Member States, of their 100 per cent HBS systems. For the information of the Division the complete position paper is available by contacting the IATA Security Section at: "security@iata.org".

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## **APPENDIX**

### **IATA 100 PER CENT HOLD BAGGAGE SCREENING (HBS) INDUSTRY POSITION PAPER**

#### **EXECUTIVE SUMMARY**

#### **1. INTRODUCTION**

1.1 The IATA 100 per cent Hold Baggage Screening (HBS) Industry Position Paper was drafted by the IATA Security Committee. The paper is based on the Airports Council International (ACI) position paper and builds on other industry documents and the work carried out by the European Civil Aviation Conference (ECAC) Security Working Group. The position paper also takes into account recent changes to international civil aviation security regulations and the measures introduced as a direct consequence of the tragic events of 11 September 2001.

1.2 The screening authority (be it airport operator or other specified screening authority) should be responsible for all elements of the hold baggage screening (HBS) system. This would include the baggage reconciliation system (BRS), as appropriate, which preferably should be automated and run concurrent with the technical screening system.

#### **2. GROUND SECURITY**

2.1 IATA supports development of effective, efficient and operationally manageable ground security measures which meet or exceed the provisions of ICAO Annex 17, to be applied using a globally agreed Risk Management Matrix, on the basis of the level of risk as assessed by the appropriate national authority.

#### **3. PASSENGER AND BAGGAGE SECURITY CONTROLS**

3.1 IATA supports the development of long term solutions to screen and reconcile passengers and their hold baggage through effective application of new technology and procedures, which do not impede the flow of traffic.

3.2 IATA believes that governments must combine resources in a cooperative manner to share information and research and development costs for explosive detection technology and other technologies to enhance the current systems of screening passengers and baggage.

3.3 IATA believes that airports, airlines and regulatory authorities should jointly develop measures that would improve the flow of passengers and their hand baggage through security checkpoints.

#### **4. METHODS AVAILABLE FOR SCREENING HOLD BAGGAGE**

4.1 Advantages and limitations of different screening methods are addressed. The screening methods discussed are:

- a) Manual Search

- b) Trace Detection
- c) Explosive Detection Dogs (K-9)
- d) Conventional X-ray
- e) Computer Assisted (Smart) X-ray Systems
- f) Passenger Risk Assessment Techniques

## 5. **POSSIBLE LOCATIONS FOR SCREENING HOLD BAGGAGE**

5.1 Each airport differs in its design and traffic characteristics, the screening method applied should be a system that suits local conditions. Each airport needs to consider the impact of cost, capacity and local operating conditions when developing appropriate solutions for both the location of screening and the methods/technologies to be used. For each possible HBS location the paper highlights the advantages, moderate disadvantages and major disadvantages.

5.2 The section is designed to be a guide to assist stakeholders determine which solution is best suited for their environment keeping in mind that each airport is very unique. The locations for HBS discussed are:

- a) Off-Airport Screening
- b) Sterile Terminal
- c) Sterile Security Area Before Check-in
- d) Screening in Front of Check-in
- e) Screening During Check-in
- f) Manual Screening
- g) Screening Downstream in the Baggage System (Conventional X-ray Equipment)
- h) Certified EDS Lobby Installations
- i) Combined Technologies. Three models are discussed in details:
  - 1) Certified EDS - Profile Filter (C'EDS-PF)
  - 2) Certified EDS Automated Filter (C'EDS-AF)
  - 3) German Option (Developed by the German Ministry of the Interior – Civil Aviation Security and tested at Nuremberg Airport)

## 6. PLANNING HBS FACILITIES

6.1 As each airport has its own characteristics, there is no single solution that is suitable for all airports. The fundamental aim is to ensure that the system that is developed can deal with current baggage throughput (including peak demand) and future forecasts (i.e. the planning has to be demand-led) and delivers an effective and efficient screening process that meets the required standards at a viable cost.

6.2 Key considerations in the successful management of HBS systems with the introduction of an in-line integrated baggage handling system include:

- a) the requirement to synchronise the belt speed of conveying equipment to the processing speed and capacity of the explosive detection system (EDS) technology employed;
- b) the elimination of any potential “bottle-necks” from hindering facilitation and the baggage transfer process by minimising inclines on the baggage sortation system and baggage handling systems; and
- c) the minimization of inclines on the baggage sortation system, where any alterations are made to integrate with or accommodate the HBS solution in operation.

6.3 The following factors also need to be taken into consideration when planning an HBS facility:

- a) Testing Phase
- b) Traffic Characteristics
- c) Passenger Traffic Flows - including peak demand
- d) Baggage Types
- e) Demand Forecast
- f) General Constraints
- g) Space Requirement and Location
- h) Airport Structures
- i) Check-in Islands and Zones
- j) Existing Handling Facilities and Modes of Operation
- k) Operational Issues
- l) HBS Issues
- m) Detection Performance
- n) Throughput Reject Rates

- o) “False Alarm” Rates
- p) Consistency with Passenger and Cabin Baggage Screening
- q) Space Requirements
- r) Integration with Layered Security Architectures
- s) Passenger Reconciliation
- t) Transfer and Transit Baggage
- u) Pre-Screening Prior to Check-in
- v) Size and Weight of Security Equipment
- w) Operation Environment of Equipment
- x) Redundancy of Equipment
- y) Operational Specifications of Equipment (including Staff Issues)
- z) Legislative Changes

## 7. KEY FACTORS IN THE SCREENING PROCESS

7.1 All relevant baggage must be searched/screened by a means acceptable to the relevant regulatory body. It is recommended that security staff should adopt the principle that, before security controls are carried out, the status of each bag presented for examination is assumed to be “uncleared”. A bag can be designated as “clear” only when it is determined that the bag and its contents do not contain any prohibited articles. Where a bag screened by X-ray has not been “cleared”, further examination procedures must be applied in an attempt to resolve the cause of the concern. The bag cannot be allowed to proceed for carriage until such concerns are resolved fully and effectively.

7.2 Where a multi-level search process is adopted, the following general principles should be applied:

- a) the number of search levels must be kept to a minimum;
- b) relevant information must be passed on from one level to the next;
- c) each successive search level must provide added security value; and
- d) the search process should always be “fail safe”.

7.3 Each successive screening level should provide clear additional security value derived from increased depth, quality and or detail of the examination.

7.4 Where the status of a bag is ambiguous, the bag should be treated as “uncleared” and subjected to the appropriate screening procedures. It is essential to ensure that no assumptions about the clearance status of a bag are allowed. X-ray operators must not clear a bag unless they are satisfied that

no prohibited article is present, or in other words they must reject any bag about which they have any reservations or doubts. The system should reject automatically when:

- a) the operator fails to make a decision;
- b) the bag mistracks within the HBS system; and
- c) the screening equipment fails to make a decision because insufficient information was obtained.

7.5 Also, operational issues are discussed and guidelines are provided for the following topics:

- a) general screening principles (including screening of dense/opaque materials);
- b) hand searches;
- c) process for out-of-gauge (OOG)/super-out-of-gauge (SOOG) baggage;
- d) explosive trace detection equipment;
- e) time on task for X-ray operators;
- f) minimum/preferred time for viewing images;
- g) operator proficiency testing;
- h) procedures for dealing with firearms, other non-IED prohibited articles, contraband and dangerous goods;
- i) communication;
- j) record and system information; and
- k) control and management of the system (software and hardware management and operating protocols).

## 8. CONTINGENCIES

8.1 Effective contingency plans have to be in place to assure that, in the event of a breakdown or failure of the HBS system, all relevant bags can continue to be screened to required standards. Examples of contingency options include:

- a) diverting bags to other available HBS facilities that are in operation;
- b) moving passengers to other check-in desks that are linked to operational HBS facilities;
- c) asking some passengers to take their baggage to central search facilities;
- d) setting up additional hand search facilities;
- e) bringing in mobile X-ray equipment, etc.; and



- f) utilizing State approved emergency baggage screening mitigation techniques.

*Note. — A copy of the complete IATA Position Paper on Implementation of 100% HBS can be obtained by contacting the IATA Security Section at: [security@iata.org](mailto:security@iata.org).*

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