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FACILITATION (FAL) DIVISION — TWELFTH SESSION

Cairo, Egypt, 22 March to 2 April 2004

Agenda Item 5: Modernizing airport facilities and service delivery systems

OUTBOUND PASSENGERS, CREW AND BAGGAGE

(Presented by the United States)

1. BACKGROUND

1.1 This paper presents the current status of the facilitation of capabilities and procedures for handling outbound passenger, crew and (most particular to this paper) baggage (and in particular checked baggage) and the need for updating of these capabilities and procedures.

1.2 Since 1997, the United States has worked within the IATA Radio Frequency Working Group (RFWG) for the development and increased use of Radio Frequency Identification (RFID) baggage tag systems compliant with ACI/IATA Resolution 740 which, among many other things, calls for "License Plate Concept" data within the baggage tag.

1.3 The United States conducted numerous domestic and international RFID baggage tag trials, which resulted in the evaluation of several different RFID systems. Trial results clearly identified the improvements derived from utilizing RFID baggage tags versus barcode baggage tags for both security and normal baggage handling operations.

1.4 Recently, the United States has deployed Ultra high Frequency (UHF) RFID systems for the identification and tracking of special baggage for which specific security scrutiny has been mandated. These UHF systems have proven extremely successful and recognition of their success is leading to more widespread planning for and utilization of UHF RFID baggage tag systems within the United States.

2. UNITED STATES RFID EVALUATION ACTIONS

2.1 Commencing in 1997, the United States initiated a series of operational RFID baggage tag trials aimed at identifying viable candidate systems for use in normal and security-driven baggage handling operations. Numerous operational frequencies and air interface protocols have subsequently been assessed and their performance documented. In nearly every case (and certainly with all of the most mature, more recently tested RFID baggage tag systems) RFID performance was measured with read accuracies well above 98 per cent, whereas similar barcode baggage tag read accuracies generally fell below 85 per cent.

2.1.1 The overall RFID trial results indicated that passive (not containing a battery, but rather communicating with the reader via 'reflective' energy) RFID baggage tags systems operating at either 13.56

MHz, 2.45 GHz, or UHF Industrial, Scientific and Medical (ISM) assigned spectrum had potential for international interoperable use.

2.1.2 Further testing and evaluation, with consideration specifically to determining optimized performance within the United States ISM regulations and the desire for the lowest cost single-use baggage tag, has led the United States to specifically pursue the application of UHF RFID baggage tag systems. This pursuit is based on several factors, not the least of which is the favorable ISM regulations which exist for UHF (902 to 928 MHz) passive within the United States.

2.2 The United States recognizes the potential for UHF RFID baggage tag systems to be used internationally, despite obvious dissimilar ISM regulation for the UHF spectrum in different geographical regions worldwide. As such, the United States is planning the conduct of two international interoperability trials to demonstrate the viability of UHF RFID baggage tag systems.

3. INTERNATIONAL ACTIONS ON RFID STANDARDIZATION

3.1 The issue of international standardization for the use of RFID systems has traditionally been the domain of the International Standards Organization (ISO).

3.1.1 More recently, in addition to ISO, the Massachusetts Institute of Technology (MIT) Auto-Identification Center (Auto-ID Center), has addressed the development of RFID compliant systems. In November, 2003, part of the MIT Auto-ID Center was acquired by the Uniform Code Council (UCC) in order to bring the Auto-ID Center's RFID results into the standards development process. The resultant has been the formation of a joint venture between UCC and European Article Numbering (EAN) International known as EPCglobal. EPCglobal is a neutral, consensus based, not for profit, standards organization.

3.1.2 Within the United States, several government entities, as well as a significant portion of the retail and supply chain industry have shown support for the EPCglobal efforts.

3.1.3 The EPCglobal addresses both the full details of the RFID system performance requirements (including air interface, data structure, transmission requirements and data security) as well as unique item identifier requirements.

3.1.4 The EPCglobal initiatives, along with those of ISO, address the full spectrum of requirements necessary to allow for RFID baggage tag usage for international civil aviation operations.

3.2 The current status of RFID technologies, based on significant trials conducted by numerous airport and airlines worldwide, shows a level of maturity consistent with planning for widespread introduction into the aviation community.

3.2.1 At present, the IATA RFWG has suspended its meetings, leaving individual airlines, airport or member States to determine their own level of RFID introduction. Currently, the largest issue which exists is the selection of the optimum frequency (ies) for international interoperability. However, this interoperability concern diminishes if the use of RFID baggage tags is limited to the sortation of originating baggage from check-in through to aircraft departure. For this application, benefits from utilization of a properly designed RFID baggage tag system versus barcode baggage tag systems can be derived regardless of the specific RFID frequency. This approach would negate any benefit for the RFID enabled facilitation of international transfer baggage.

4. UNITED STATES ACTIONS SUBSEQUENT TO THE IATA RFWG ACTION

4.1 Recognizing the security enhancements offered by RFID baggage tags, as well as the overall enhancements to normal baggage handling operations afforded by this technology, the United States intends to exclusively consider implementation of EPCglobal compliant UHF RFID baggage tag systems when implementing in-line security system baggage inspection.

4.2 The United States will continue pursuit of UHF RFID baggage tag systems for the identification and tracking of special baggage, being cognizant of the potential utilization of these same baggage tag systems to support normal airline and airport baggage handling operations. Numerous UHF RFID baggage tag systems already are in place at several United States airports for the identification and tracking of special baggage requiring mandatory specific security screening.

4.3 In addition to these actions, the United States has adopted a pro-active role in other international fora, most notably through Memorandum of Understanding (MOUs) with some non-United States international airports to advocate increased utilization and standardization for the application of RFID baggage tags systems for aviation baggage handling of all types and through international technical/operational symposia and conferences.

5. ACTION BY THE DIVISION

5.1 The Division is invited to:

a) note RFID baggage tags as a significant identification and tracking tool for both normal and special checked baggage;

b) encourage member States to actively pursue the evolutionary transition from barcode compliant baggage tags to RFID compliant baggage tags; and

c) encourage States to seek regional or international assistance with technological or operational concerns/problems associated with the transition from barcode baggage tags to RFID baggage tags.

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