



**TECHNICAL ADVISORY GROUP ON MACHINE READABLE
TRAVEL DOCUMENTS (TAG-MRTD)**

EIGHTEENTH MEETING

Montréal, 5 to 8 May 2008

Agenda Item 1: Activities of the NTWG
Agenda Item 1.3 UIMRTD

UIMRTD PHOTOS AND PRINTING

Presented by the New Technologies Working Group (NTWG)

1. SUMMARY

1.1 This Working Paper is intended to examine the use of digital portraits as a mandatory requirement for issuing all machine readable passports concurrent with the Universal Implementation of Machine Readable Travel Documents (UIMRTD) program. For purposes of this Working Paper, the term "digitized photo" means that the image of the bearer is integrated directly into the substrate of the data page of the passport using a digital or equivalent personalization process. The image is then an integral aspect of the material to which it is incorporated. This definition excludes, therefore, any photo image that is affixed, glued-in or otherwise added as a separate component of the data page itself.

2. PRESENT SITUATION

2.1 All States are to be issuing MRPs by the ICAO mandatory date of 1 April 2010, as required in FAL Annex 9, Paragraph 3.10. At the present time, approximately 50 countries are not yet issuing MRPs. The requirement refers to "machine readability" but is silent on the use of digitized photos.

2.2 In rewriting and updating the Informative Appendix on Security for MRTDs (See WP/xx), the question arose as to the desirability of making the use of a digitized photo image, that is incorporated directly into the passport rather than affixed by glue or other method. The current edition of Doc 9303, Part 1 Machine Readable Passports, Sixth Edition, 2006, makes clear that digital portraits are much preferred over stick-in photographs in several sections.

2.3 Informative Appendix 1 to Section III. Security Standards for Machine Readable Travel Documents, Para 5.4.1 concludes, “Documents with stick-in photographs are particularly susceptible to photo substitution. Therefore this method is not recommended”.

2.4 Section IV, Technical Specifications for Machine Readable Passports, Displayed Identification Feature(s) of the Holder 7.1, makes clear that: “Necessary measures shall be taken by the issuing State or organization to ensure that the displayed portrait is resistant to forgery and substitution.....Digital imaging is strongly recommended, as affixed photographs are prone to fraudulent photo substitution.”

2.5 Virtually all currently available passport personalization printers use digital printing for data and digital imaging for the holder’s portrait. Of the more popular modern general methods of personalization, polycarbonate data page with laser engraving, ink jet direct with thin laminate security overlay, and reverse printing on security laminate and subsequent heat transfer into the book none are compatible with use of hard copy, glued-in photographs

2.6 Issuing authorities that have implemented traditional OCR-B passports or ePassport programs over the past five plus years have almost without exception chosen to use a digitized displayed portrait. The use of a digitized photo in passports has been considered among the most important, if not the single most important, travel document security feature of the past decade. The use of such technology is the single most effective tool to impede photo substitution, which remains the number one abuse of travel documents.

3. DISCUSSION

3.1 The measures outlined in the Appendix 1 being redrafted, which is sometimes referred to as “Minimum Security Standards” were originally drafted over five years ago. At that time, most States were still using glued-in photos and separately printed data in their passports. Since that time, the evolution of desk top publishing in general, and passport personalization specifically, has dramatically advanced and improved in terms of both quality as well as cost effectiveness. However, essentially all of the countries that do not currently issue machine readable passports still use glued-in photos.

3.2 States that are modernizing their systems in order to meet the ICAO UIMRTD deadline for issuance of MRPs will likely specify the use of a digital printing system. They can use this system for both data and portrait with relatively little increase in cost, though they must be cognizant of the value of the digital photo in order to specify the use in their tenders.

3.3 The use of a digital portrait of the holder in the MRP is already incorporated and facilitated by current 9303 specifications and does not conflict with any provisions. The location, size, nature of pose, lighting and image quality are clearly outlined in the current specifications. Indeed, for the first time, States have very finite image quality requirements that substantially enhance the displayed image and the ability of the border inspector to compare that displayed portrait with the bearer.

3.4 The use of digitized images allows the issuing authority a much wider range of storage and retrieval capabilities, including the automated, machine assisted use of biometric comparisons. The requirement of a digital photograph is totally consistent with both live image capture at time of application as well as the traditional method of submitting a hard-copy photo with the application. The use of a digitized photo is consistent with, indeed presumed by, modern tools of information technology

as well as current personalization practices.

3.5 However, comments received in the drafting and consideration of this paper suggest that the impact of requiring, as a mandatory feature, the use of digitized photos may have serious impacts on some states, particularly in the overseas issuance of passports. Since the breadth and nature of this impact is not clear, research and assessment are needed to determine these possible impacts.

4. **ACTION REQUESTED OF THE TAG-MRTD**

4.1 The TAG-MRTD is requested to approve in principle reiteration that the digital presentation of the portrait of the holder is a very valuable and highly recommended best practice.

4.2 The TAG-MRTD is further requested to authorize the conduct of research to determine and assess the impacts and other considerations associated with making the use of digitized photos a 9303 requirement. This research will focus on especially, but will not be limited to, the issuance of passports in overseas missions.

4.3 The TAG-MRTD is also requested to authorize a statement to the travel document communities that digitized photos are highly recommended and that ICAO is moving in the direction of, subject to the above research, of making the use of digitized photos mandatory on all passports. It is suggested that for expeditious dissemination to the travel document community, the ICAO Secretariat use the 9303 Supplement as the vehicle to convey this information.

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