

**FOR DECISION**

## SIXTEENTH ITEM ON THE AGENDA

**Report of the Director-General****Third Supplementary Report: Revision of the biometric standard adopted under the Seafarers' Identity Documents Convention (Revised), 2003 (No. 185)**

1. It will be recalled that, at its 289th (March 2004) Session, the Governing Body adopted the biometric Standard ILO SID-0002, *Finger minutiae-based biometric profile for seafarers' identity documents*,<sup>1</sup> pursuant to the Seafarers' Identity Documents Convention (Revised), 2003 (No. 185), which entered into force on 9 February 2005. As the Governing Body has been informed,<sup>2</sup> the Office has carried out tests of biometric products to check their performance and conformity with the Convention and the Standard, as well as their global interoperability, and three products have so far been identified as meeting the requirements of Convention No. 185 and the ILO SID-0002 Standard. The suppliers of these products are referred to below as "the qualified biometric vendors". This testing has shown the need to improve the clarity and accuracy of the Standard, on matters of detail only. The proposed revisions are set out below in summary form. The precise changes proposed for the Standard are available (in English) at: <http://www.ilo.org/public/english/dialogue/sector/sectors/mariti/security.htm>.
2. Most of the revisions are to correct minor grammatical or contextual errors in the original document or to provide additional explanations to add clarity. These changes will not affect the layout of the SID document or the contents of the two-dimensional bar code or fingerprint template. Guidance was added to the text on how to implement the biometric template and additional emphasis was placed on the quality of the two-dimensional bar code. This was based on information obtained during the biometric technology tests, and the guidance was provided to all of the participating biometric vendors during this test in order to improve interoperability. The guidance was necessary because of the relative immaturity of the International Organization for Standardization's (ISO) fingerprint minutiae standard (19794-2) that was incorporated into ILO SID-0002 and the unfamiliarity of biometric vendors with that standard. It is expected that ISO will eventually adopt most of this guidance into an amended version of the standard. Incorporating the guidance into SID-0002 eliminates the need for a separate biometric implementation guidance document. In a few cases there were slight errors in the original

<sup>1</sup> GB.289/7, Appendix II.

<sup>2</sup> GB.292/16/2 and GB.292/16/2(Add.).

text of SID-0002 and some of these corrections will require changes to the structure of the biometric template. These changes are specified below. It should be noted that all three of the qualified biometric vendors have reviewed this document and no objections to these changes were made.

## Summary of changes

- (1) References to standards that do not affect the form of the biometric template have been updated to reflect the current versions.
- (2) Various definitions have been added or modified to provide additional clarity. This includes a better explanation of byte-order (big endian versus little endian), a better explanation of SSE time, and an definition of “null padded”, which is what was originally intended by the reference to “null terminated” in Annex A.
- (3) Specific references to the fact that the SID is intended to contain two fingers denoted as a primary finger (usually right index) and secondary finger (usually left index) have been added. For example:

5.1.1. Provide on-screen prompts to both the SID-issuing agent and the seafarer to support enrolment of a primary and secondary finger including procedural prompts, quality assessment and finger placement feedback.

- (4) Support has been added for a specific structure of the two-finger template if one or more of the seafarer’s fingerprints could not be enrolled at the time of SID issuance. This will allow member States to provide better support for seafarers with disabilities (such as burned or scarred fingertips) without changing the structure of the template. For example:

5.1.1. If a seafarer is only able to enrol a single finger, even after all available fingers have been tried, then the enrolled finger shall be designated as the primary finger and the secondary finger in the two-finger template described in Annex B of this report shall be assigned the characteristics of an “unenrolled finger”. If no fingers can be enrolled, then both the primary and secondary fingers in the two-finger template shall be assigned the characteristics of an “unenrolled finger”.

- (5) The requirement for FBI EFTS/F certification in section 5.1.3 has been removed. This was an oversight in the original document since it would have made the biometric technology extremely expensive. None of the products tested in any of the ILO biometric technology tests were EFTS/F certified, so the vendors were clearly not expecting to support this.
- (6) The minutiae truncation process formerly specified in 5.1.4 has been removed and replaced with an improved truncation process specified in Annex B. This reflects knowledge obtained during the biometric technology test and has been approved by all three qualified biometric vendors.
- (7) In section 5.3.1, the wording has been changed to make it clear that the seafarer is to be considered verified if either the primary or the secondary finger matches the corresponding template stored in their SID within three attempts. Previously, some of the wording could have been interpreted to indicate that both fingers had to match, which defeated the purpose of enrolling two fingers so that a secondary would be available if the primary was damaged.
- (8) In Annex A, the table has been redesigned to make it easier to understand and some footnotes were added to clarify certain points.

- (9) In Annex A, the SSE date used for the seafarer's date of birth has been changed from an unsigned to a signed 32-bit integer. This is a technical change that all implementers should comply with. It was absolutely necessary because the unsigned integer could not represent dates of birth prior to 1 January 1970. This corrected an error in the original document.
  - (10) In Annex B, in the biometric template, BioAPI\_BIR\_PURPOSE must now be set to a value of BioAPI\_PURPOSE\_VERIFY (0x01) instead of BioAPI\_PURPOSE\_IDENTIFY (0x02). This is a very minor technical correction and is unlikely to cause problems.
  - (11) In Annex B, the comments associated with image size and resolution fields now specify the actual units required by ISO 19794-2.
  - (12) In Annex B, the maximum size of finger minutiae data for each fingerprint record has been corrected from 240 to 260 bytes. This was a typographical error in the original text.
  - (13) More detail has been added in the table in Annex B to describe the structure of the minutiae data itself. This is found in Annex C, but was added here for simplicity and completeness of the table.
  - (14) In Annex B, the description of the secondary fingerprint record is now simply "Same format as primary fingerprint record". There were originally some errors in the secondary fingerprint record description, so the impression type in the secondary fingerprint is now 4 bits instead of 1 byte which means the first 4 bits of the byte containing the view number and impression type must be set to 0.
  - (15) A detailed description of the format for an "unenrolled" finger has been added to Annex B. This simply involves selecting specific values for certain parameters within the normal fingerprint record structure.
  - (16) Annex D, defining the standardized finger image, and all references to it, have been removed because the only elements being used from Annex D were repeated in full in the body of the text, and having an additional technical annex containing an entire ISO draft standard was confusing. Annex C has been retained, since it defines the minutiae template and is thus essential to understanding the SID.
3. The proposed changes of detail are mainly necessary to assist in ensuring global interoperability of biometric products, which it is hoped will be available from several sources. However, since one or two of them could possibly affect products which have already been completed on the basis of the current wording, the position of Members could be safeguarded.
4. ***The Governing Body may wish to approve the changes summarized above to Standard ILO SID-0002, Finger minutiae-based biometric profile for seafarers' identity documents, on the understanding that biometric products conforming to the Standard as now worded will be considered as compliant with the Standard for a period of two years from the date of approval of the present changes.***

Geneva, 12 October 2005.

*Point for decision:* Paragraph 4.