Working Party on the Intermodal Transport and Logistics

Fifty-first session
Geneva, 19-20 March 2009

2009-03-13

Agenda item 4

New developments in intermodal transport and logistics

Activities of the International Organization for Standardization (ISO)

Update from ISO on current work

SUMMARY

1 Introduction

The purpose of this document is to provide information on pertinent ISO work and activities which might be used in relation with the international transport and trade. It covers ISO work and new ISO activities concerning:

- Terminology (§2)
- Identification of freight containers (§3)
- Freight container door end security (§4
- Mechanical seals for freight containers (§5)
- Electronic seals for freight containers (§6)
- Supply chain applications of Radio Frequency Identification Devices (RFID) (§7)
- Security management for the supply chain (§8)
- Pertinent list of Management Systems Standards (MSSs) (§9)
- Anti-counterfeiting tools (§10)
- Fraud countermeasures and controls (§11)
- Social responsibility (§12)
- Societal security (§13)

2 Terminology

The third edition of the following international standard from technical committee ISO/TC51 "*Pallets for unit load method of materials handling*" has been published on 2008-10-14. The reference is:

- ISO 445:2008 "Pallets for materials handling -- Vocabulary"

The technical committee ISO/TC104 "*Freight containers*" is revising its standard ISO 830:1999. The following draft international standard will be submitted shortly for ISO member body enquiry:

- ISO/DIS 830 "Freight containers --Vocabulary"

The following international standard from technical committee ISO/TC122 "Packaging" has been published on 2007-06-28. The reference is:

- ISO 21067:2007 "Packaging -- Vocabulary"

The sub-committee ISO/IEC JTC 1/SC 31 "Automatic identification and data capture techniques" has approved on 2008-05-03 a new multi-part international standard ISO/IEC 19762, *Information technology, Automatic identification and data capture techniques — Harmonized vocabulary.* These standards are now published. The references are:

- ISO/IEC 19762-1:2008 "Information technology, Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary — Part 1: General terms relating to AIDC"

- ISO/IEC 19762-2:2008 "Information technology, Automatic Identification and data capture (AIDC) techniques — Harmonized vocabulary — Part 2: Optically readable media (ORM)"

- ISO/IEC 19762-3:2008 "Information technology, Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary — Part 3: Radio frequency identification (RFID)"

- ISO/IEC 19762-4:2008 "Information technology, Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary — Part 4: General terms relating to radio communications"

- ISO/IEC 19762-5:2008 "Information technology, Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary — Part 5: Locating systems"

3 Identification of freight containers

The identification of containers is currently made on the basis of the following ISO standards. The registration is made by the Bureau International des Conteneurs (BIC)

- ISO 6346:1995 "Freight containers -- Coding identification and marking"

Concerning the automatic identification, the current ISO standard is:

- ISO 10374:1991 "Freight containers -- RF automatic identification"

A new standard on RF automatic identification of freight containers is under preparation. At a meeting of Sub-committee ISO/TC104/SC4 which was held in Busan (Republic of Korea) on 9 May 2007, it was felt that considerable work needs to be done to achieving a consensual ISO standard based on new technology. To exclude any misunderstanding and in order to clearly differentiate the future container tag ("license plate tag") from the tag specified in ISO 10374:1991, it was agreed to allot a new ISO standard number. The first draft has been introduced during the 15th meeting of ISO/TC104/SC4 in Hamburg, Germany last year.

That draft was approved by ISO/TC104/SC4 members and has then been published as a Technical Specification on 30 January 2009:

- **ISO/TS 10891:2009 "Freight containers -- RF automatic identification"**

4 Freight container door end security

The technical committee ISO/TC104 "Freight containers" has examined the design of the door end of the container from the aspect of improving security and making undetected entry into the container more difficult. The current activity in this regard is focused on current

industry provisions for sealing freight containers and the apparent ease in which knowledgeable individuals can defeat these provisions. The ISO/TC104 has therefore considered including sealing provisions into the standards and in particular, moving location of these provisions to a more secure location such as the locking rod cam and keeper.

The following international standard has been issued:

- ISO 1496-1.1990/Amd 5: 2006 "Series 1 freight containers--Specification and testing--Part 1 General cargo containers for general purposes --Amendment 5 Door end security".

Moreover, some additional considerations relating to the door end security have been adopted and were incorporated in ISO/TR 15070: 1996 on structural test criteria for freight containers. They are now issued as a second Amendment:

- ISO/TR 15070:1996/Amendment 2:2007 "Series 1 freight containers --Rationale for structural test criteria -- Amendment 2 Design consideration"

5 Mechanical seals for freight containers

First step of the ISO/TC104 work was completed in 2004 and PAS (Publicly Available Specification) 17712 on mechanical seals for freight containers was published. This PAS set the standard for mechanical seals, including high security seals, for use in transportation.

Further work has been undertaken to publish a second edition of this ISO/PAS and to convert it to a full ISO standard. One important addition that has been made as part of this new edition and conversion process is a new annex that details quality control procedures for seal manufacturers to ensure seals produced meet the standard and that they are properly controlled during manufacture and distribution to prevent theft, copying or other fraudulent use of the seals or seal numbers.

The second edition of ISO/PAS 17712 has been published in July 2006.

An ISO/DIS 17712 (identical to the second edition of the ISO/PAS) was submitted for ISO member body enquiry in December 2006. That last enquiry was aimed at transforming the ISO/PAS 17712 into a full ISO standard (ISO 17712). The enquiry terminated on 2007-05-03. Comments received were reviewed by ISO/TC104/WG8 before last meeting of ISO/TC104 held in Busan on 10 May 2007. It was decided to make a few technical improvements as proposed by member bodies and to re-circulate the draft for a two-month enquiry.

The second ISO/DIS 17712 was submitted to ISO member bodies on 2008-02-04. During the enquiry there were consultations with the EU Working Group on Customs Seal Policy. There was an agreement between that Working Group and ISO/TC104 representatives to make a few improvements in the draft. The ISO/DIS 17712.2 has been unanimously approved. There was however some additional comments from the EU experts. To accommodate these comments which would help Competent Authorities to agree and refer to it, it has been decided to prepare a third ISO/DIS 17712 which will be submitted for ISO member body enquiry in March 2009.

The final standard ISO 17712 would be published in the second quarter of 2009.

6 Electronic seals for containers

The following standards are now published

- ISO18185-1:2007 "Freight containers – Electronic seals – Part 1:Radio-frequency communication protocol"
- ISO18185-2:2007 "Freight containers -- Electronic seals -- Part 2: Application requirements
- ISO 18185-3:2006 "Freight containers -- Electronic seals -- Part 3: Environmental characteristics"
- ISO 18185-4:2007 "Freight containers -- Electronic seals -- Part 4: Data protection"
- ISO 18185-5: 2007 "Freight containers -- Electronic seals -- Part 5: Physical layer"

One important issue that has been agreed amongst the experts and included in their work is that all electronic seals will meet the requirements laid down in ISO/PAS 17712 for mechanical seals.

7 Supply chain applications of Radio Frequency Identification Devices (RFIDs)

Recognizing their overlying areas of responsibility, the technical committees ISO/TC 104"Freight containers" and ISO/TC122"Packaging" established a joint working group to look specifically at the application of radio frequency identification technology (RFID) to transportation issues. The following standards are now published or will be published shortly:

- ISO 17363:2007 - "Supply chain applications of RFID - Freight containers"
- ISO/FDIS 17364 - "Supply chain applications of RFID - Returnable transport Items (to be submitted as ISO/FDIS for the ISO member body formal vote)
- ISO/FDIS 17365 - "Supply chain applications of RFID - Transport units" (to be submitted as ISO/FDIS for the ISO member body formal vote)
- ISO/PRF 17366 - "Supply chain applications of RFID - Product packaging" (to be published shortly)
- ISO/PRF 17367 - "Supply chain applications of RFID - Product tagging" (to be published shortly)

8 Security management for the supply chain

At the end of 2001, the technical committee ISO/TC8 "*Ships and marine technology*" undertook the preparation of a management system for ensuring better security in the supply chain. Several ISO/PASs have now been transformed into international standards. At present the following international standards are published or being published shortly:

- ISO 28000:2007 "Specification for security management systems for the supply chain"
- ISO 28001:2007 " Security management systems for the supply chain—Best practices for implementing supply chain security—Assessments and plans"

- ISO 28003:2007 “Security management for the supply chain—Requirement for audit and certification of supply chain management security systems”
- ISO 28004:2007 “security management for the supply chain—Guidelines for the implementation of ISO 28000” (to be published in October 2007)
- ISO 20858:2007 ”Ship and marine technology—Maritime port facility security assessments and security plan development” (Published in November 2007)

In addition, the following draft international standards will be submitted shortly to an ISO Member Body enquiry:

- **ISO/WD 28002 Resilience in security of the supply chain**
- **ISO/DIS 28005 Ships and marine technology - Computer applications - Electronic port clearance**

The above standardization work is dealt with in close collaboration with the International Maritime organization (IMO), the International Labour Office (ILO) and the World Customs Organization (WCO).

The use of the ISO 28000 series is progressing. That ISO 28000 series is completing and compatible with Governmental and International Customs Agency security initiatives, including:

- **the World Customs Organization (WCO) Supply Chain Security and Facilitation of Global Trade initiative;**
- **the World Customs Organization (WCO) Framework of standards to Secure and Facilitate Global Trade;**
- **the EU Customs Security Program – Authorized Economic Operator (AEO);**
- **and the US Customs and Border Protection initiative – Customs Trade Partnership against Terrorism (C-TPAT).**

9 Pertinent management systems standards

The list of current management systems covers the following areas:

- Quality (ISO 9000 series) (work from ISO/TC176 "Quality management and quality assurance")
- Environment (ISO 14000 series) (work from ISO/TC207 "Environmental management")
- Information technology service (ISO/IEC 20000) (work from ISO-IEC/JTC1 "Information technology")
- Food safety (ISO 22000 series) (work from ISO/TC34 "Food products")
- Information security management (ISO 27000 series) (work from ISO-IEC/JTC1 "Information technology")
- Security for the supply chain (ISO 28000 series) (developed and coordinated for ISO by ISO/TC8 " Ships and marine technology"

Additional Management Systems Standards are published and under preparation concerning the dismantling of ships. The work is carried out by the technical committee

ISO/TC8 "*Ships and marine technology*" in liaison with IMO, UNEP/Basel Convention and ILO:

- **Ship recycling management systems (ISO 30000 series)-**

Lastly, management standards are envisaged for the future, e.g. on health and occupational safety, on road-traffic safety (ISO39001), etc… Other MSSs might be envisaged in certain areas.

10 Anti-counterfeiting tools

Upon the proposal of the ISO member body for France (AFNOR), a proposal for the setting up of a new ISO Project Committee on "Performance requirements for purpose-built anti-counterfeiting tools" was submitted to all ISO member bodies for review and approval. The enquiry closed on 29 September 2008. The result was favorable and a new ISO/PC is being established with AFNOR as Secretariat

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The first ISO/PC246 meeting is been held in Paris on 17 and 18 Mars 2009.

11 Fraud countermeasures and control

Upon the proposal of the ISO member body for USA (ANSI), a proposal for the setting up of a new ISO Technical Committee on "Fraud countermeasures and controls" was submitted to all ISO member bodies on 7 October 2008 for review and approval. The enquiry ended on 10 January 2009.

Reference of this proposal is ISO/TS/P 206 "Fraud countermeasures and control". The UN/ECE/WP30 and UNICRI offices have been made aware of this recent initiative. The WCO Administrative Committee for Customs Convention on Containers, 1972 was informed on occasion of its last session which took place in Brussels on 5 and 6 November 2008

This initiative has been approved by ISO member bodies and a specialized ISO technical committee should establish shortly.

12 Social responsibility

The work carried out on social responsibility is progressing. A committee draft has been prepared by the ISO Technical Management Board (ISO/TMB) in liaison with interested organizations:

- Social responsibility (ISO/CD 26000)

This committee draft was under enquiry until 12 March 2009 and comments will now be reviewed by the ISO/TMB

13 Societal security

The recently established ISO technical committee 223 "Societal security" deals with international standardization in the area of societal security, aimed at increasing crisis management and business continuity capabilities, i.e. through improved technical, human, organizational, and functional interoperability as well as shared situational awareness, amongst all interested parties.

> The committee used an all-hazards approach covering all necessary activities in the key phases of crisis management and business continuity.

A first ISO publicly available specification has been published:

- ISO/PAS 22399:2007 "Societal security - Guidelines for incident preparedness and operational continuity management."

14 Conclusions

Members of the ECE/TRANS/WP24 Working Party are invited to take note of the above update and if so wish to submit comments. It is moreover recommended that committee members will contact the ISO member body in their country for expressing views on drafts on interest to them

Particular attention is drawn on the work related to the electronic identification of containers.

The attention of ECE/TRANS/WP30 Working Party on Customs Questions affecting Transport has been drawn on current work of interest to them on occasion of its February 2009 meeting.

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