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ENTERPRISE SINGAPORE CALLS FOR PUBLIC COMMENTS – 3 MAY 2024

Under the National Standardisation Programme, the public comment period is an important stage of standards development. Members of the public are invited to provide feedback on draft Singapore Standards for publication and work item proposals for development and review of Singapore Standards and Technical References. The establishment of Singapore Standards is done in accordance with the World Trade Organisation's requirements for the development of national standards.

A) Notification of Draft Singapore Standards for Publication

Members of the public are invited to comment on the following Singapore Standards:

Building and Construction – [facility management](#), [energy efficiency for building services and equipment](#)

Chemical – [bunker mass flow metering](#) (2 standards), [mineral solvents for paints and other purposes](#)

Safety and Quality – [fusion welding of metallic materials](#), [conformity assessment](#) (2 standards)

Closing date for comments: **4 July 2024** (except for the standard on energy efficiency for building services and equipment that closes on **15 July 2024**)

For more information on viewing the document, [click here](#).

Please submit comments to: standards@enterprisesg.gov.sg.

B) Notification of the Work Item Proposals

B.1 Proposal for New Work Items

New Work Items (NWIs) are approved proposals to develop new Singapore Standards, or pre-standards like Technical References and Workshop Agreements.

Members of the public are invited to comment on the scope of the new standard and contents that can be included into the following proposal:

Manufacturing – [interoperability between robotics middleware and autonomous mobile robot \(AMR\) fleet manager](#)

The Nwi is work-in-progress, and the draft is not available at this juncture.

Closing date for comments: **4 June 2024**

B.2 Proposal for the Review of Singapore Standards

Published Singapore Standards and Technical References are reviewed to determine if they should be updated, confirmed or withdrawn (if they no longer serve the industry's needs) or classified as mature standards (no foreseeable changes; to be reviewed only upon request).

Members of the public are invited to comment on the following standards to be reviewed:

Manufacturing – [data exchange between robots, lifts and automated doorways to enable autonomous operations](#)

Information Technology – [tiered cybersecurity standards for enterprises](#)

Safety and Quality – [welded low carbon steel cylinders](#), [conformity assessment](#) (2 standards)

The reviews are ongoing, and the new version/drafts are not available at this juncture. Users can refer to the current standards to provide feedback. [Click here](#) to view or purchase the standards.

Closing date for comments: **4 June 2024**

Members of the public are invited to join as standards partners, co-opted members or resource members subject to the approval of relevant committees and working groups.

To comment or to join in the development of these standards, please write to standards@enterprisesg.gov.sg.

A) Notification of Draft Singapore Standards for Publication

(I) Building and Construction

New

1. Facility management – Management systems – Requirements with guidance for use (Identical adoption of ISO 41001:2018 including its amendment)

This standard specifies the requirements for a facility management (FM) system when an organisation:

- needs to demonstrate effective and efficient delivery of FM that supports the objectives of the demand organisation;
- aims to consistently meet the needs of interested parties and applicable requirements;
- aims to be sustainable in a globally-competitive environment.

Potential users of the standard include building owners, facility managers, service providers and relevant government agencies.

Revision

2. Code of practice for energy-efficiency standard for building services and equipment (Revision of SS 530:2014+A1:2018)

This standard provides minimum energy-efficiency requirements for new installation and replacement of systems and equipment in buildings, and replacement of components of systems and equipment in buildings.

The changes in this revision include:

- updating the efficiency requirements for air-conditioning equipment, water heaters, building transformers and motors;
- updating of equipment categories;
- updating lighting power density requirements and typology for spaces;
- new methods to determine efficiency for water chilling packages and lighting power density; and
- phasing out gas-fired storage water heaters.

Users of the standard include engineers, architects, building owners, manufacturers, facility managers, and relevant government agencies.

Comment period: 13 May to 15 July 2024 (pending approval from the Technical Committee)

(II) **Chemical**

Revision

3. Code of practice for bunker mass flow metering (Revision of SS 648:2019)

The revision of this standard resulted in the development of the following two parts.

Part 1: Meter selection and acceptance tests

This standard specifies the process leading to the approval of the Coriolis mass flow meter (MFM) system that is installed on bunker tankers for the transfer of bunkers to receiving vessels. It covers metering system selection, installation and acceptance test requirements before the MFM system can be used for bunker custody transfer. Annexes on acceptance tests with single tanker transfer have been added.

Part 2: Technical requirements and procedures

This standard sets out the post-approval requirements and procedures for the transfer of bunkers to receiving vessels by bunker tanker using Coriolis MFM system. It covers the metrology and system integrity requirements, metering procedures during bunker delivery and dispute handling. Bunker quality specifications including sampling process of bunkering are also covered in this document.

The key changes include the following:

- An additional annex on process flow for updating or upgrading of MFM system;
- Extension of the application of standard to cover bunkering of marine biofuel;
- Additional content on mass flow metering data transmission from MFM system including data logger, edge device and data integrity;
- Additional content on the use of electronic format documents; and
- Merging of annexes on dispute resolution.

Users of the standards include suppliers of Coriolis mass flow meters, bunker suppliers, bunker surveyors, bunker tanker operators, shipowners/buyers, bunker industry associations and relevant government agencies.

Mature standard

4. Mineral solvents (white spirit and related hydrocarbon solvents) for paints and other purposes (SS 88:1978(2016))

This standard covers mineral solvents having an aromatic content below 25% (v/v) and of 25% to 50% (v/v) for use in paints and varnishes and for other purposes.

It is proposed to classify SS 88 as a mature standard as there are no foreseeable changes to the standard. Hence, it will not be reviewed until a request is put forth to do so.

Users of the standard include paint manufacturers/suppliers, test laboratories, contractors, applicators, architectural associations, consultants, facilities/property managers, building surveyors and relevant government agencies.

(III) **Safety and Quality**

New

5. **Quality requirements for fusion welding of metallic materials – Part 6: Guidelines on implementing the SS ISO 3834 series** (Identical adoption of ISO 3834-6:2024)

This standard gives guidelines for the implementation of requirements given in the other parts of the SS ISO 3834 series. It is intended to help users select the appropriate part of the SS ISO 3834 series. It does not provide additional requirements to those in SS ISO 3834-1 to SS ISO 3834-5.

Potential users of this standard include testing, inspection and certification (TIC) bodies, industry associations, professional institutions, academic institutions, building contractors, steel fabricators/manufacturers, suppliers, buyers, service providers, welders, training providers and relevant government agencies.

Confirmation

6. **Conformity assessment – Requirements for bodies providing audit and certification of management systems**

Part 1: Requirements (SS ISO/IEC 17021-1:2015) (Identical adoption of ISO/IEC 17021-1:2015, confirmed by ISO in 2020)

This standard contains principles and requirements for the competence, consistency and impartiality of bodies providing audit and certification of all types of management systems.

Certification bodies operating to this standard do not need to offer all types of management system certification.

Certification of management systems is a third-party conformity assessment activity and bodies performing this activity are therefore considered third-party conformity assessment bodies.

Part 3: Competence requirements for auditing and certification of quality management systems (SS ISO/IEC 17021-3:2017) (Identical adoption of ISO/IEC 17021-3:2017, confirmed by ISO in 2021)

This standard specifies additional competence requirements for personnel involved in the audit and certification process for quality management system and complements the existing requirements of SS ISO/IEC 17021-1:2015.

Users of the standards include TIC bodies and relevant government agencies.

Copies of the drafts and standards are available at:

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All Public Libraries' multimedia stations and on personal internet/mobile devices (e.g. mobile phones, notebooks, tablets) at all Public Libraries via NLB databases "Singapore and ISO Standards Collection" (refer to <https://www.nlb.gov.sg/main/visit-us> for address and viewing hours)

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NOTE – The viewing period of the drafts and standards will expire on the closing of the public comment period and will no longer be available after this date.

B) Notification of the Work Item Proposals

B.1 Proposal for New Work Items

Manufacturing

Technical Reference – Specification for interoperability between robotics middleware and autonomous mobile robot (AMR) fleet manager

This standard defines a set of standardised data exchanges, variables, parameters and commands between the centralised control for multi-fleet AMRs, AMRs and/or AMR fleet managers.

It excludes the algorithms, logic designs of middleware solution (e.g. traffic deconflicting, resource allocation mechanism) and the modifications of physical built environment infrastructure to enhance AMR interoperability (e.g. specifications to width of pathways and constricted channels).

Potential users of the standard include companies using robots, research institutions, and relevant government agencies.

B.2 Proposal for the Review of Singapore Standards

(I) Manufacturing

1. Technical Reference – Data exchange between robots, lifts and automated doorways to enable autonomous operations (TR 93:2021)

This standard specifies the compliance requirements when integrating robots with lifts and automated doors. It defines the minimum set of data exchanges, as well as the hardware requirements for robot-lift integration of both digital and discrete lift control systems.

The types of lifts that building owners can integrate with the robots can vary. Common parameters for consideration include the following:

- Designate or mixed usage – passenger, cargo or mixed-used lift;
- Number of doors – single door or dual door (front and back door); and
- Site of digital lift controller – within the building it serves or in Internet cloud.

For robot-automated door systems, the types of power operated doors suitable for integration include both swing and sliding doors, as long as they are able to be opened or closed by an automatic door operator. Low-voltage power-assisted doors are not covered.

The standard will be reviewed with the intention to update it.

Users of the standard include companies using robots, industry associations, professional institutions, institutes of higher learning, research institutions, TIC bodies and relevant government agencies.

(II) Information Technology

2. Technical Reference – Tiered cyber security standards for enterprises (TR 106:2022)

This standard provides a framework to guide enterprises in managing information security based on their respective business risk levels. It aims to improve the cybersecurity posture of businesses and their supply chains, thereby enhancing security assurance for their clients.

TR 106 will be reviewed with the intention of elevating it to a Singapore Standard, by strengthening cyber defence to address threats due to new shifts in the digital landscape.

Users of the standard include companies concerned with cyber security, certification bodies and relevant government agencies.

(III) Safety and Quality

3. Specification for welded low carbon steel cylinders for storage and transportation of compressed liquefied gases (SS 99:1998(2011)) (Modified adoption of ISO 4706:1989)

This standard gives minimum requirements for certain aspects concerning material, design, construction and workmanship, procedure and test at manufacture of refillable welded steel gas cylinders of a test pressure not greater than 75 bar), and of water capacities from 1 litre up to and including 150 litres for compressed liquefied gases, exposed to ambient temperatures.

The standard will be reviewed with the intention to update it.

Users of the standard include suppliers, TIC bodies and relevant government agencies.

4. Technical Reference – Conformity assessment – Requirements for bodies providing audit and certification of management systems – Part 5: Competence requirements for auditing and certification of asset management systems (TR ISO/IEC TS 17021-5:2017) (Identical adoption of ISO/IEC TS 17021-5:2014, confirmed by ISO in 2021)

This standard complements the existing requirements of SS ISO/IEC 17021-1:2015. It specifies additional competence requirements for personnel involved in the certification process for asset management systems.

5. Technical Reference – Conformity assessment – Guidelines for determining the duration of management system certification audits (TR ISO/IEC TS 17023:2017) (Identical adoption of ISO/IEC TS 17023:2013, confirmed by ISO in 2023)

This standard sets out provisions for determining the duration of management system certification audits, to the bodies providing audit and certification of management systems and to those that develop and maintain certification schemes.

The standards on conformity assessment will be reviewed with the intention to confirm them.

Users of the standards include TIC bodies and relevant government agencies.

Submit Comments

Frequently asked questions about public comment on Singapore Standards:

1. What is the public comment on Singapore Standards?

Singapore Standards are established based on an open system which is also in accordance with the requirements of the World Trade Organisation. These documents are issued as part of a consultation process before any standards are introduced or reviewed. The public comment period is an important stage in the development of Singapore Standards. This mechanism helps industry, companies and other stakeholders to be aware of forthcoming changes to Singapore Standards and provides them with an opportunity to influence, before their publication, the standards that have been developed by their industry and for their industry.

2. How does public comment on Singapore Standards benefit me?

This mechanism:

- ensures that your views are considered and gives you the opportunity to influence the content of the standards in your area of expertise and in your industry;
- enables you to be familiar with the content of the standards before they are published and you stand to gain a competitive advantage with this prior knowledge of the standards.

3. Why do I have to pay for the standards which are proposed for review or withdrawal?

These standards are available for **free viewing** at Toppan Leefung Pte Ltd and all Public Libraries. However, the normal price of the standard will be charged for those who wish to purchase a copy. At the stage where we propose to review or withdraw the standards, the standards are still current and in use. We seek comments for these standards so as to:

- provide an opportunity for the industry to provide inputs for the review of the standard that would make the standard suitable for the industry's use,
- provide feedback on the continued need for the standard so that it will not be withdrawn.

4. Why are comments only accepted through the new public comment form provided by Enterprise Singapore?

We have developed a new public comment form which will enable users to submit their comments in a standardised and structured manner. The Working Group (WG) that will be reviewing the comments will have a better understanding of what the commenter has proposed, the rationale for the changes and where these changes will be made in the standard. This will assist the WG in addressing the comments more effectively.

5. What happens after I have submitted my comments?

The comments will be channelled to the relevant WGs for consideration and you will be informed of the outcome of the committee's decision. You may be invited to meet the WG if clarification is required on your feedback.

6. Can I view drafts after the public comment period?

Drafts will not be available after the public comment period.

7. How do I request for the development of a new standard?

You can propose the development of a new standard [here](#).