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ENTERPRISE SINGAPORE CALLS FOR PUBLIC COMMENTS – 5 JANUARY 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:

Biomedical and Health – [antimicrobial and antiviral protection durability of surface disinfectants and coatings](#)

Environment and Resources – [greenhouse gases](#), [mobile waste and recycling containers](#) (6 standards), [suitability of non-metallic products for use in contact with water](#) (10 standards)

Food – [foods and food ingredients suitable for vegetarians or vegans](#)

Manufacturing – [security for industrial automation and control systems](#) (2 standards), [industrial communication networks](#)

Trade and Connectivity – [freight container equipment interchange receipt](#)

Closing date for comments: **6 March 2024** (except for the manufacturing standards that will close on **13 March 2024**).

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

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

B) Notification of 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 standards and contents that can be included into the following proposals:

Information Technology – [artificial intelligence use cases](#)

Manufacturing – [security for industrial automation and control systems](#)

Transportation – [railway power system](#), [railway signalling](#), [rolling stock](#)

The NWI are work-in-progress, and the drafts are not available at this juncture.

Closing date for comments: **6 February 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Singapore Standards and Technical References are reviewed to determine if they should be updated, confirmed or withdrawn (if they no longer serve the industry's needs) or classified as mature standards (no foreseeable changes; to be reviewed only upon request).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:

Building and Construction – [fire doors](#)

Chemical – [storage, land transportation and handling of LNG](#), [LNG bunkering](#) (4 standards)

Electrical and Electronic – [photovoltaic devices](#)

Manufacturing – [security for industrial automation and control systems](#), [industrial communication networks](#) (2 standards)

The reviews are ongoing, and the new versions/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: **6 February 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) Biomedical and Health

New

1. Specification on assessment of antimicrobial and antiviral protection durability of surface disinfectants and coatings

This standard establishes a method to assess the durability and effectiveness of different antimicrobial surface coatings under various surface treatments, which are reflective of the realistic environmental stressors on which such surfaces are often exposed to. The method used in this standard to assess antimicrobial effectiveness applies to bacterial, viral, and fungal microorganisms.

Potential users of the standard include scientific researchers, testing centres as well as antimicrobial coating manufacturers/suppliers.

(II) Environment and Resources

New

2. Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification (Identical adoption of ISO 14067:2018)

This standard specifies principles, requirements and guidelines for the quantification and reporting of the carbon footprint of a product (CFP), in a manner consistent with SS ISO 14040, "Environmental management – Life cycle assessment – Principles and framework" and SS ISO 14044, "Environmental management – Life cycle assessment – Requirements and guidelines". Requirements and guidelines for the quantification of a partial CFP are also specified.

Potential users of the standard include testing and certification bodies, training providers, institutes of higher learning and relevant government agencies.

Revision

3. Mobile waste and recycling containers

Part 1: Containers with 2 wheels with a capacity up to 400 l for comb lifting devices – Dimension and design (Revision of SS EN 840-1:2014) (Identical adoption of EN 840-1:2020)

Part 2: Containers with 4 wheels with a capacity up to 1300 l with flat lid(s), for trunnion and/or comb lifting devices – Dimension and design (Revision of SS EN 840-2:2014) (Identical adoption of EN 840-2:2020)

Part 3: Containers with 4 wheels with a capacity up to 1300 l with dome lid(s), for trunnion and/or comb lifting devices – Dimension and design (Revision of SS EN 840-3:2014) (Identical adoption of EN 840-3:2020)

Part 4: Containers with 4 wheels with a capacity up to 1700 l with flat lid(s), for wide trunnion or BG- and/or comb lifting devices – Dimension and design (Revision of SS EN 840-4:2014) (Identical adoption of EN 840-4:2020)

Parts 1 to 4 specify dimensions and design requirements for mobile waste and recycling containers with various capacities and functions.

Part 5: Performance requirements and test methods (Revision of SS EN 840-5:2014) (Identical adoption of EN 840-5:2020)

Part 5 provides the test methods for mobile waste and recycling containers according to SS EN 840 Parts 1 to 4. It also provides the levels to be reached during or after the tests. It is applicable to mobile waste and recycling containers with capacities up to 1700 l.

Part 6: Safety and health requirements (Revision of SS EN 840-6:2014) (Identical adoption of EN 840-6:2020)

Part 6 provides the essential safety, health and ergonomic requirements for mobile waste recycling containers according to SS EN 840 Parts 1 to 4, excluding hazardous waste containers.

Users of the standards include organisations that use, supply and distribute mobile recycling containers, licensed general waste collectors and relevant government agencies.

Confirmation with amendment

4. Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water

The following parts of SS 375 are proposed for confirmation with amendments to include editorial changes to align with the corresponding British Standard as well as updates to several normative references to reflect the latest editions or corresponding Singapore or ISO Standards, where applicable.

Part 1: Specification (SS 375-1:2015) (Modified adoption of BS 6920-1:2014)

Part 2.1: Methods of test – Samples for testing (SS 375-2.1:2015) (Identical adoption of BS 6920-2.1:2014)

Part 2.2.1: Methods of test – Odour and flavour of water – General method of test (SS 375-2.2.1:2015) (Identical adoption of BS 6920-2.2.1:2000+A3:2014)

Part 2.2.2: Methods of test – Odour and flavour of water – Method of testing odours and flavours imparted to water by multi-layered hoses and pipes (SS 375-2.2.2:2015) (Identical adoption of BS 6920-2.2.2:2000+A1:2014)

Part 2.2.3: Methods of test – Odour and flavour of water – Method of testing odours and flavours imparted to water by hoses for conveying water for food and drink preparation (SS 375-2.2.3:2015) (Identical adoption of BS 6920-2.2.3:2000+A2:2014)

Part 2.3: Methods of test – Appearance of water (SS 375-2.3:2015) (Identical adoption of BS 6920-2.3:2000+A1:2014)

Part 2.4: Methods of test – Growth of aquatic microorganisms test (SS 375-2.4:2015) (Identical adoption of BS 6920-2.4:2000+A1:2014)

Part 2.5: Methods of test – The extraction of substances that may be of concern to public health (SS 375-2.5:2015) (Identical adoption of BS 6920-2.5:2000+A1:2014)

Part 2.6: Methods of test – The extraction of metals (SS 375-2.6:2015) (Identical adoption of BS 6920-2.6:2000+A2:2014)

Part 3: High temperature tests (SS 375-3:2015) (Identical adoption of BS 6920-3:2000)

Users of the standards include manufacturers/suppliers of water pipes and fittings, test laboratories, associations, consultants and relevant government agencies.

([Click here](#) to download the amendments.)

(III) Food

New

5. Definitions and technical criteria for foods and food ingredients suitable for vegetarians or vegans and for labelling and claims (Identical adoption of ISO 23662:2021)

This standard specifies the definitions and technical criteria to be fulfilled for foods and food ingredients to be suitable for vegetarians (including ovo-lacto-, ovo- and lacto-vegetarians) or vegans as well as for food labelling and claims.

Potential users of the standard include food manufacturers, institutes of higher learning and relevant government agencies.

(IV) Manufacturing

The following are the outcomes of the review of the Singapore Standards adopting the IEC 62443 series of standards. For the review of the Technical References adopting this series, it is intended to develop a new TR (see B.1, item 2) and to confirm the rest (see B.2, items 5 and 6).

New

6. Security for industrial automation and control systems

Part 4-2: Technical security requirements for IACS components (Identical adoption of IEC 62443-4-2:2019)

This standard provides detailed technical control system component requirements associated with the seven foundational requirements described in IEC TS 62443-1-1 including defining the requirements for control system capability security levels and their components, SL-C(component).

Confirmation

7. Security for industrial automation and control systems

Part 4-1: Secure product development lifecycle requirements (SS IEC 62443-4-1:2018) (Identical adoption of IEC 62443-4-1:2018)

This standard specifies the process requirements for the secure development of products used in industrial automation and control systems (IACSs).

8. Industrial communication networks – Network and system security

Part 3-3: System security requirements and security levels (SS IEC 62443-3-3:2018)
(Identical adoption of IEC 62443-3-3:2013)

This standard provides detailed technical control system requirements associated with the seven foundational requirements described in IEC 62443-1-1, including defining the requirements for control system capability security levels, SL-C(control system).

Users of the manufacturing standards include system integrators, testing, inspection and certification bodies, professional institutions, companies, institutes of higher learning and training providers and relevant government agencies.

Comment period: 12 January to 13 March 2024

(V) Trade and Connectivity

New

9. Freight container equipment interchange receipt (Review of TR 39:2015)

This standard:

- a) stipulates the definitions and descriptions of the conditions of freight containers;
- b) provides guidelines on the conduct of visual survey of freight containers;
- c) recommends the relay and acknowledgement of the condition of the freight container at each handover point of the freight container through the container supply chain; and
- d) specifies all fields (optional or mandatory) used in the equipment interchange receipt to facilitate its digital interoperability.

It resulted from the review of TR 39 (pre-standard) of the same title. It is intended to elevate TR 39 into a Singapore Standard.

Users of the standard include logistics industry associations, and freight container logistics companies, shipping companies, port operators, container owners/operators, warehouse operators, truckers, hauliers, depot operators, etc.

Copies of the drafts and standards are available at:

Viewing from Singapore Standards eShop

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Viewing Singapore Standards and ISO Standards from Public Libraries

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 Work Item Proposals

B.1) Proposal for New Work Items

(I) Information Technology

1. Technical Reference – Artificial intelligence use cases

This standard provides a collection of curated and representative use cases of AI applications that have been developed, tested and deployed in various domains and sectors in Singapore.

Potential users of the standard include organisations that are developing or deploying AI solutions.

(II) Manufacturing

2. Security for industrial automation and control systems

Part 1-5: Scheme for IEC 62443 security profiles (Identical adoption of IEC TS 62443-1-5:2023)

This standard specifies a scheme for defining (selecting, writing, drafting, creating) IEC 62443 security profiles.

Potential users of the manufacturing standards include system integrators, testing, inspection and certification bodies, professional institutions, companies, institutes of higher learning and training providers and relevant government agencies.

(III) Transportation

3. Technical Reference – Terminology and abbreviations for railway power system

This standard provides definitions of terms and abbreviations used in works related to the power system in the Singapore's Rapid Transit System.

4. Technical Reference – Terminology and abbreviations for railway signalling

This standard is set out to provide the definitions of terms and abbreviations used in works related to the signalling system.

5. Technical Reference – Terminology and abbreviations for rolling stock

This standard provides definitions of terms and abbreviations for the rolling stock system and its parts.

The standards on railway power system, railway signalling and rolling stock are intended to provide a common base and language in communication among organisations.

Potential users of the transportation standards include rail transport operators, contractors, manufacturers, suppliers, tertiary institutions, training providers and relevant government agencies.

B.2) Proposal for the Review of Singapore Standards

(I) Building and Construction

1. Specification for fire doors (SS 332:2018+A1:2022)

This standard specifies the requirements for the construction and installation of fire-resistance doorsets used to protect openings in walls and partitions, which are required to resist the passage of fire.

Users of the standard include manufacturers, suppliers, architects, testing laboratories, and relevant government agencies.

(II) Chemical

2. Technical Reference – Code of practice for storage, land transportation and handling of LNG (TR 74:2020)

This standard sets out the design, operational requirements and recommendations for the inland handling, storage and land transportation of LNG.

The standard will be reviewed with the intention to confirm it with an amendment to ensure its relevance. The amendment includes an update to reflect LNG storage tank design models that are presently available in the market.

Users of the standard include organisations and their service providers in oil and gas, shipyard, and logistic companies, certification bodies and engineers.

3. Technical Reference – LNG bunkering (TR 56:2020)

Part 1: General introduction

This standard provides the terms and definitions for LNG bunkering and an introduction to the properties of LNG.

Part 2: Requirements for custody transfer

This standard specifies the custody transfer requirements for LNG bunkering including quality and quantity measurements. There are various modes of transfer in LNG bunkering such as shore-to-ship, truck-to-ship, ship-to-ship, and cassette bunkering.

Part 3: Procedures and safety distances

This standard covers the principles, requirements and procedures for LNG bunkering operations (shore-to-ship, truck-to-ship, ship-to-ship and cassette bunkering). It also provides recommendations for procedures, responsibilities and equipment required.

Part 4: Competency requirements for personnel

This standard covers competencies and knowledge required by LNG bunker personnel (management, operation, support and emergency) for four modes of LNG bunkering (shore-to-ship, truck-to-ship, ship-to-ship and cassette bunkering), to supply LNG fuel safely and efficiently to ships.

TR 56 Parts 1 to 4 will be reviewed with the intention of elevating them to Singapore Standards.

Users of the standards include stakeholders involved in the LNG bunker supply chain such as LNG bunker suppliers, bunker tanker owners/operators and LNG fuel receiving vessels, ship owners/operators, training institutions and relevant government agencies.

(III) Electrical and Electronic

4. Technical Reference – Photovoltaic devices – Part 1-2: Measurement of current-voltage characteristics of bifacial photovoltaic (PV) devices (TR IEC/TS 60904-1-2:2020) (Identical adoption of upcoming IEC TS 60904-1-2)

This standard describes procedures for the measurement of the current-voltage (I-V) characteristics of bifacial photovoltaic devices in natural or simulated sunlight. It is applicable to single PV cells, sub-assemblies of such cells or entire PV modules. This standard may also be applicable to PV devices designed for use under concentrated irradiation if they are measured without the optics for concentration, and irradiated using direct normal irradiance and a mismatch correction with respect to a direct normal reference spectrum is performed.

Users of the standard include testing and certification bodies, research institutes, solar manufacturers and solar companies.

NOTE – The document is currently under development by IEC and is projected to be published in January 2024.

(IV) Manufacturing

5. Security for industrial automation and control systems

Part 2-3: Patch management in the IACS environment (TR IEC/TR 62443-2-3:2018)
(Identical adoption of IEC TR 62443-2-3:2015)

This standard sets out requirements for asset owners and IACS product suppliers that have established and are now maintaining an IACS patch management program.

6. Industrial communication networks – Network and system security

Part 1-1: Terminology, concepts and models – Fundamentals and vocabulary (TR IEC/TS 62443-1-1:2018) (Identical adoption of IEC/TS 62443-1-1:2009)

This standard defines the terminology, concepts and models for IACS security.

Part 3-1: Security technologies for industrial automation and control systems (TR IEC/TR 62443-3-1:2018) (Identical adoption of TR 62443-3-1:2009)

This standard provides a current assessment of various cybersecurity tools, mitigation countermeasures and technologies that may effectively apply to the modern electronically based IACSs regulating and monitoring numerous industries and critical infrastructures.

TR IEC/TR 62443-2-3, TR IEC/TS 62443-1-1 and TR IEC/TR 62443-3-1 will be reviewed with the intention of confirming them.

Users of the manufacturing standards include system integrators, testing, inspection and certification bodies, professional institutions, companies, institutes of higher learning and training providers 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](#).