TO THE ISO MEMBER BODIES

NWIP ‘Sustainable non sewered sanitation systems’ submitted by ANSI (USA)

Dear Sir or Madam,

Please find attached a proposal for a new Project Committee on Sustainable non-sewered sanitation systems proposed by ANSI (USA).

We would like to take this opportunity to inform you that ANSI previously submitted a proposal to develop an International Workshop Agreement (IWA) on this subject (approved by the TMB via Resolution 4/2016). ANSI is planning to hold the IWA workshop in late June 2016. It is ANSI’s intention to begin the process of converting this IWA into an ISO standard as soon as possible after its publication. ANSI has therefore submitted this NWIP now, so that a Project Committee can be set up by the time the IWA is published (target date of August 2016).

The rationale for the process is to ensure the IWA is available for the marketplace as soon as possible, in order to address the human health concerns, to stimulate innovation and the market for manufacturers of such systems, and to learn from user experience of the ISO IWA in order to support its conversion into an ISO standard.

If you have any questions, please contact us at tmb@iso.org.

Yours faithfully,

Sophie Clivio
Secretary to the Technical Management Board

Encl: NWIP proposal form 4, patent information and draft outline
**Form 4: New Work Item Proposal**

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<th>Circulation date:</th>
<th>Reference number: Click here to enter text. (to be given by Central Secretariat)</th>
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<td>2016-01-26</td>
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<tr>
<td>Closing date for voting:</td>
<td>ISO/TC Click here to enter text. /SC Click here to enter text.</td>
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<tr>
<td>2016-04-26</td>
<td>☒ Proposal for a new PC</td>
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**Proposer**

- ANSI

**Secretariat**

- ANSI

A proposal for a new work item within the scope of an existing committee shall be submitted to the secretariat of that committee with a copy to the Central Secretariat and, in the case of a subcommittee, a copy to the secretariat of the parent technical committee. Proposals not within the scope of an existing committee shall be submitted to the secretariat of the ISO Technical Management Board.

The proposer of a new work item may be a member body of ISO, the secretariat itself, another technical committee or subcommittee, an organization in liaison, the Technical Management Board or one of the advisory groups, or the Secretary-General.

The proposal will be circulated to the P-members of the technical committee or subcommittee for voting, and to the O-members for information.

**IMPORTANT NOTE:** Proposals without adequate justification risk rejection or referral to originator.

Guidelines for proposing and justifying a new work item are contained in Annex C of the ISO/IEC Directives, Part 1.

☐ The proposer has considered the guidance given in the Annex C during the preparation of the NWIP.

**Proposal** (to be completed by the proposer)

<table>
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<td><strong>English title:</strong></td>
<td>Sustainable non-sewered sanitation systems</td>
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<tr>
<td><strong>French title (if available):</strong></td>
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*(In the case of an amendment, revision or a new part of an existing document, show the reference number and current title)*
The international standard will define criteria to qualify sanitation systems sufficiently, especially in terms of safety, functionality, reliability, maintainability, usability, and that the discharge (treated effluent) are compliant with leading practices. The aim of the standard is to ensure safety aspects related to the operation of the sanitation systems in the intended areas of use and that the treated discharged products pose no user, operator health or environment risks. The standard is applicable to individual and community sanitation systems which are self-contained, meet defined discharge requirements, and aim for sustainability regardless of the on-site treatment technology.

Purpose and justification of the proposal*

According to the World Health Organization (WHO), an estimated 2.5 billion people have no access to safe, clean toilets and 1 billion are forced to defecate in the open. The devastating consequences of these practices include an estimated 1 million preventable deaths per year, primarily from dysentery-like diarrheal diseases.¹

In March 2013 the UN issued a global call to action for the comprehensive elimination of the practice of open defecation by 2025. According to the UN, countries where open defecation is most common have the highest levels of child death and disease, as a result of ingesting human fecal matter that has entered the food or water supply.² A lack of safe, private toilets is also associated with the highest overall levels of malnutrition, poverty, and disparity between rich and poor, and makes women and girls vulnerable to violence.³ Universal toilet access is the only acceptable goal, and it is achievable.

Sustainable non-sewered sanitation systems are a practical solution to address sanitation-related death and disease. These reinvented toilets, or “next-generation” toilets remove pathogens completely on-site but do not require a sewer or water connection or electricity, ideally cost less than 5 cents per user per day, and are designed to achieve point-of-use reuse to meet individuals’ health and safety needs, environmental concern and the targeted sustainability aspect.

Some national standards and other guidelines have been developed that apply to certain elements of reinvented toilets, or to separate but related technology. However, no international standard has been found to contain the commonly accepted criteria by which to measure the performance of “reinvented toilets”. Such an international standard would enhance efforts to widely manufacture, market and deploy the technology where it is needed most.

Based on these considerations, and the fact that no ISO Technical Committee currently exists to address reinvented toilets, ANSI and the Bill and Melinda Gates Foundation took the first step by proposing the development of an International Workshop Agreement (IWA), currently in progress. Partners and grantees of the Foundation consist of stakeholders from around the globe, including developing countries, and a specific effort will be made to encourage participation from developing countries in the ISO activity. Once developed, the IWA may serve as the basis for a new international standard developed by the proposed ISO project committee. The IWA and the NWIP will overlap, but this will allow the expedited establishment of the project committee to be ready to begin work on the ISO standard when the IWA is completed and published. Having the IWA published is desirable to allow relevant products to be developed, tested and marketed while the ISO standard is being finalized.

Consider the following: Is there a verified market need for the proposal? What problem does this standard solve? What value will the document bring to end-users? See Annex C of the ISO/IEC Directives part 1 for more information.

See the following guidance on justification statements on ISO Connect: https://connect.iso.org/pages/viewpage.action?pageId=27590861

### Preparatory work (at a minimum an outline should be included with the proposal)

- ☐ A draft is attached  ☒ An outline is attached  □ An existing document to serve as initial basis

The proposer or the proposer's organization is prepared to undertake the preparatory work required:

- ☒ Yes  □ No

### If a draft is attached to this proposal:

Please select from one of the following options (note that if no option is selected, the default will be the first option):

- □ Draft document will be registered as new project in the committee's work programme (stage 20.00)
- ☒ Draft document can be registered as a Working Draft (WD – stage 20.20)
- □ Draft document can be registered as a Committee Draft (CD – stage 30.00)
- □ Draft document can be registered as a Draft International Standard (DIS – stage 40.00)

### Is this a Management Systems Standard (MSS)?

- □ Yes  ☒ No

**NOTE:** if Yes, the NWIP along with the Justification study (see Annex SL of the Consolidated ISO Supplement) must be sent to the MSS Task Force secretariat (tmb@iso.org) for approval before the NWIP ballot can be launched.

### Indication(s) of the preferred type or types of deliverable(s) to be produced under the proposal.

- ☒ International Standard  □ Technical Specification
- □ Publicly Available Specification  □ Technical Report

### Proposed development track

- ☒ 1 (24 months)  □ 2 (36 months - default)  □ 3 (48 months)

**Note:** Good project management is essential to meeting deadlines. A committee may be granted only one extension of up to 9 months for the total project duration (to be approved by the ISO/TMB).

### Known patented items (see ISO/IEC Directives, Part 1 for important guidance)

- ☒ Yes  □ No

If "Yes", provide full information as annex

### Co-ordination of work:

To the best of your knowledge, has this or a similar proposal been submitted to another standards development organization?

- □ Yes  ☒ No

If "Yes", please specify which one(s):

Click here to enter text.

### A statement from the proposer as to how the proposed work may relate to or impact on existing work, especially existing ISO and IEC deliverables. The proposer should explain how the work differs from apparently similar work, or explain how duplication and conflict will be minimized.

The proposed standard will build on the ISO IWA on the same subject, to be published in 2016 (proposed).
### A listing of relevant existing documents at the international, regional and national levels.

The to-be-published ISO IWA will serve as a base document for the international standard. In addition, ANSI has identified the following documents that may be of relevance, in whole or in part, to the project:

- **AS/NZS 1546.2**: On-site domestic wastewater treatment units; Part 2: Waterless composting toilets
- **EN 12566-3**: Small wastewater treatment systems for up to 50PT – part 3: Packaged and/or site assembled domestic wastewater treatment plants
- **EN 16194:2012 Mobile non-sewer-connected toilet cabins. Requirements of services and products relating to the deployment of cabins and sanitary products**
- **NSF/ANSI 41**: Non-liquid saturated treatment systems
- **NSF/ANSI 40**: Residential wastewater treatment systems
- **NSF/ANSI 350, Onsite Residential and Commercial Water Reuse Treatment Systems**
- **ISO 24511**: activities related to drinking water and wastewater services – Guidelines for the management of wastewater utilities and for the assessment of wastewater services
- **ISO/DIS 24521**: Activities relating to drinking water and wastewater services -- Guidelines for the management of basic onsite domestic wastewater services
- **EN 997**: WC pans and WC suites with integral trap
- **ASME A112.19.2/CSA B45.1**, Ceramic Plumbing Fixtures
- **WHO Guidelines for the safe use of wastewater, excreta and grey water**
- **ISO Guide 64 Guide for the inclusion of environmental aspects in product standards**
- **ISO Guide 82: Guidelines for addressing sustainability in standards**
- **ISO Guide 51: Safety aspects – Guidelines for their inclusion in standards**
- **ISO Directives, Part 2: Rules for the structure and drafting of International Standards**

### A simple and concise statement identifying and describing relevant affected stakeholder categories (including small and medium sized enterprises) and how they will each benefit from or be impacted by the proposed deliverable(s)

While there are several relevant standards there is no integrated single standard applicable to sustainable non-sewered sanitation systems. This lack of a standard hinders the innovation process by developers/manufacturers, market acceptance by purchasing bodies to support broad commercial adoption and allows risks to exist for end-users through lack of access to technology or deployment of poor-fit technologies. A standard would benefit stakeholder groups in different ways. For developers/manufacturers a standard provides a transparent and common basis for competition that guides innovation and is a way to attest their product quality. For purchasing bodies and end-users it provide certainty that minimal health & safety criteria are met and that performance results are comparable. Additionally, market adoption and investment in the sector would be fostered through a maturation and improved attractiveness of the targeted market. This opening of the market provides opportunities for small and medium sized enterprises to act as local licensees, distributors, operators or as developers and marketers of own products. A single certification would open access to numerous countries improving the business case for all technology / product suppliers. Finally, improved market efficiency is achieved as product information will be available and comparable thereby lowering transaction costs.
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<th><strong>Liaisons:</strong></th>
<th><strong>Joint/parallel work:</strong></th>
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<tbody>
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<td>A listing of relevant external international organizations or internal parties (other ISO and/or IEC committees) to be engaged as liaisons in the development of the deliverable(s). ISO TC 224 ISO TC 282</td>
<td><strong>Possible joint/parallel work with:</strong></td>
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<td>☐ IEC (please specify committee ID) Click here to enter text.</td>
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<td>☐ CEN (please specify committee ID) Click here to enter text.</td>
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<tr>
<td></td>
<td>☐ Other (please specify) Click here to enter text.</td>
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**A listing of relevant countries which are not already P-members of the committee.**
India; Senegal; Singapore; South Africa; United States of America; all countries that require solutions for sustainable non-sewered sanitation.

Note: The committee secretary shall distribute this NWIP to the countries listed above to see if they wish to participate in this work.

<table>
<thead>
<tr>
<th><strong>Proposed Project Leader</strong> (name and e-mail address)</th>
<th><strong>Name of the Proposer</strong> (include contact information)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click here to enter text.</td>
<td>Steven Cornish, ANSI <a href="mailto:scornish@ansi.org">scornish@ansi.org</a></td>
</tr>
</tbody>
</table>

**This proposal will be developed by:**
- ☐ An existing Working Group (please specify which one) Click here to enter text.
- ☐ A new Working Group (title) Click here to enter text.
(Note: establishment of a new WG must be approved by committee resolution)
- ☐ The TC/SC directly
- ☐ To be determined

**Supplementary information relating to the proposal**
- ☒ This proposal relates to a new ISO document;
- ☐ This proposal relates to the adoption as an active project of an item currently registered as a Preliminary Work Item;
- ☐ This proposal relates to the re-establishment of a cancelled project as an active project.
Other:
Click here to enter text.

☐ Annex(es) are included with this proposal (give details)
Annex 1 provides information on relevant patents. Annex 2 provides a draft outline for the proposed ISO standard.
<table>
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<th>Inventor(s)</th>
<th>Institution - Assignee (if applicable)</th>
<th>Patent (Application) Number</th>
<th>Patent (Application) Title</th>
<th>Countries</th>
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<tr>
<td>Asian Institute of Technology</td>
<td>Asian Institute of Technology</td>
<td>1501000026, 1401004209</td>
<td>Wormhole separator</td>
<td>China, European, Indian, United States</td>
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<td>University of the West of England (UWE), Bristol</td>
<td>United Kingdom Patent Application No. 1501570.4</td>
<td>3rd and 4th pins for modulation, control and sensing</td>
<td>United Kingdom</td>
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<tr>
<td>Daniel Yeh, Robert Bair, Onur Ozcan, George Dick, Jorge Calabria, Matthew Woodham</td>
<td>Janicki</td>
<td>62/088,285 - Filing Date: December 5, 2014</td>
<td>Toilet Systems and Methods</td>
<td>US</td>
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<tr>
<td>University of South Florida</td>
<td>US Provisional Patent Application No. 61/947,664, filed March 5, 2015</td>
<td>Concentrically-Baffled Reactor (CBR) for Water or Wastewater Treatment</td>
<td>US</td>
<td></td>
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<tr>
<td>University of South Florida</td>
<td>California Institute of Technology</td>
<td>WO2014058825</td>
<td>Self-contained, PV-powered domestic toilet and wastewater treatment system</td>
<td>International</td>
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[Link to Patentscope search](https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2014058825&recNum=2&maxRec=2&office=&prevFilter=&sortOption=Pub+Date+Desc&queryString=FP%3A%28pv+powered+toilet+california%29&tab=PCT+Biblio)
SELF-CONTAINED, PV-POWERED DOMESTIC TOILET AND WASTEWATER TREATMENT SYSTEM

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