



## Form 4: New Work Item Proposal

Circulation date: 2017-11-21 Closing date for voting: 2018-02-13	Reference number: <a href="#">Click here to enter text.</a> (to be given by Central Secretariat)
Proposer (e.g. ISO member body or A liaison organization) ANSI	<b>ISO/TC</b> <a href="#">Click here to enter text.</a> <b>/SC</b> <a href="#">Click here to enter text.</a> <input checked="" type="checkbox"/> Proposal for a new PC
Secretariat ANSI	<b>N</b> <a href="#">Click here to enter text.</a>

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)

<b>Title of the proposed deliverable.</b> <b>English title:</b> Community scale resource oriented sanitation treatment systems <b>French title (if available):</b> <a href="#">Click here to enter text.</a>  <i>(In the case of an amendment, revision or a new part of an existing document, show the reference number and current title)</i>
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**Scope of the proposed deliverable.**

The international standard will define requirements and test methods to ensure safety, performance, and sustainability of community-scale resource-oriented fecal sludge treatment units that serve approximately 1,000 to 100,000 people. The standard will apply to treatment units that (a) primarily treat human excreta, (b) are able to operate in non-sewered and off-grid environments, and (c) are prefabricated. The standard will not apply to sanitation treatment units requiring sewer infrastructure or electric grid access. Additionally, treatment units to which the standard will apply exhibit resource recovery capability (e.g., energy, drinking water, fertilizer) and are capable of being energy independent or energy net positive.

The standard is intended to ensure the general performance, safety, and sustainability of such units. The standard will exclude installation, selection, and maintenance and operation of such units.

### **Purpose and justification of the proposal\***

According to the World Health Organization (WHO), an estimated 2.3 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.<sup>1</sup>

Where there is provision of sanitation facilities, often the fecal sludge is unsafely disposed – sludge directly to the environment; the bulk of this untreated fecal sludge is from on-site systems that are not being emptied and left to overflow or if emptied improperly disposed due to economics of transporting to distant centralized treatment facilities, nor recovery of beneficial treatment product. Essentially, current fecal sludge management approaches are often failing with direct impact on human health and safety due to environmental degradation as a result of unsafe disposal. The development of a standard leading to certified effective, efficient community scaled resource oriented sanitation treatment systems would be a material change to the service chain by having smaller, more localized treatment systems making it easier (logistically and economically) to serve poor communities.

While PC 305 aims to reinvent the toilet and promote an international performance standard on a consumer level house-hold scale, another critical step will be to reinvent fecal sludge treatment through the deployment of a stand-alone, industrial scale, community scaled resource oriented sanitation treatment system. In order to realize the full impact of these technologies and deploy them safely at a large scale, relevant safety and performance guidelines are needed for the commercial systems as well.

Some national standards and other guidelines have been developed that apply to certain aspects of the community scaled resource oriented sanitation treatment system, 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 the community scaled resource oriented sanitation treatment systems in total. Such an international standard would enhance efforts to widely manufacture, market and deploy the technology where it is needed most.

There are three ISO committees that currently involved in similar areas of standards development: ISO TC 224, Service activities relating to drinking water systems and wastewater systems, ISO TC 275, Sludge recovery, recycling, treatment and disposal and ISO TC 282, Water reuse. This proposed work is out of scope for these committees at this time.

The scope of ISO TC 224 focuses on management systems and service quality while this project will focus on the qualification of the design of the system and the performance treatment and processing technologies. The goal of the project is to define the technical parameters, target values and thresholds for this technology.

ISO TC 282 deals with water reuse, and water suitable for reuse is one beneficial product created by this technology. However, the work of TC 282 does not address treatment technology or the other beneficial products – biosolids, biogas or integrated conversion of product to electricity – created by the technology of this proposed project.

The work of TC 275 is complementary to the work of this project. TC 275 focuses on sludge characterization to facilitate informed decisions on the selection of treatment technologies and disposal. This project focuses on new and novel approaches for resource recovery oriented fecal sludge treatment and will have a strong focus on design, safety and performance qualification of resource recovery oriented treatment technologies.

Based on these considerations, and the fact that no ISO Committee currently exists to address the technology, ANSI and the Bill & Melinda Gates Foundation took the first step by proposing an International Workshop Agreement (IWA), currently in progress. Once developed, it is ANSI's intent that the IWA may serve as the basis for a new international standard developed by the proposed ISO project committee. Currently, partners and grantees of the Foundation consist of stakeholders from around the globe, including developing countries, participate in the 3-workshop IWA and ANSI intends to make a specific effort to continue to encourage participation from developing countries in the ISO activity.

*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](mailto: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).**

<sup>1</sup> World Health Organization (WHO), Sanitation Factsheet, <http://www.who.int/mediacentre/factsheets/fs392/en/>

**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 2018.

**A listing of relevant existing documents at the international, regional and national levels.**

- DIN EN 12566-3: Small wastewater treatment systems for up to 50PT – part 3: Packaged and/or site assembled domestic wastewater treatment plants
- EN 12255 - Wastewater treatment plants for more than 50 PT (16 parts).
- NSF/ANSI 41: Non-liquid saturated treatment systems
- NSF/ANSI 350, Onsite Residential and Commercial Water Reuse Treatment Systems
- NSF/ANSI 40: Residential wastewater 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
- ISO/CD 30500: Sustained non-sewered sanitation systems
- ISO Guide 65: 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
- WHO Guidelines for the safe use of wastewater, excreta and grey water
- EPA Method for microbiological analysis of sewage sludges, 1993
- APHA Methods for the Examination of Water and Wastewater
- EPA Guidelines for water reuse (2012)

Please fill out the relevant parts of the table below to identify relevant affected stakeholder categories and how they will each benefit from or be impacted by the proposed deliverable(s).

	<b>Benefits/impacts</b>	<b>Examples of organizations/companies to be contacted</b>
<b>Industry and commerce – large industry</b>	Provide a transparent and common basis for competition that guides innovation and is a way to attest product quality	Click here to enter text.
<b>Industry and commerce – SMEs</b>	Provide a transparent and common basis for competition that guides innovation and is a way to attest product quality	Janicki Industries, Biomass Controls, Delvic Sanitation Initiative, LIXIL Corporation
<b>Government</b>	Improved public sanitation	Click here to enter text.
<b>Consumers</b>	Certainty that minimal health and safety criteria are met and that performance results care comparable	Click here to enter text.
<b>Labour</b>	Certainty that minimal health and safety criteria are met and that performance results care comparable	Click here to enter text.
<b>Academic and research bodies</b>	Click here to enter text.	Delft University of Technology, North Carolina State University Duke University
<b>Standards application businesses</b>	Certification opportunity to improve business case for all technology/product suppliers	Click here to enter text.
<b>Non-governmental organizations</b>	Certainty that minimal health and safety criteria are met and that performance results care comparable	Public health and clean water NGOs, World Bank
<b>Other (please specify)</b>	Click here to enter text.	Click here to enter text.

**Liaisons:**

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, Service activities related to drinking water systems and wastewater systems  
 ISO TC 275, Sludge recovery, recycling, treatment and disposal  
 ISO TC 282, Water reuse  
 ISO PC 305, Sustainable non-sewered sanitation systems

**Joint/parallel work:**

**Possible joint/parallel work with:**

- IEC (please specify committee ID)  
Click here to enter text.
- CEN (please specify committee ID)  
Click here to enter text.
- Other (please specify)  
Click here to enter text.

<p><b>A listing of relevant countries which are not already P-members of the committee.</b>  India, Senegal, South Africa, Uganda: all countries that require community scale resource oriented sanitation treatment systems.</p> <p>Note: The committee secretary shall distribute this NWIP to the countries listed above to see if they wish to participate in this work</p>	
<p><b>Proposed Project Leader</b> (name and e-mail address)  Click here to enter text.</p>	<p><b>Name of the Proposer</b>  (include contact information)  Steven Cornish, ANSI  Scornish@ansi.org</p>
<p><b>This proposal will be developed by:</b></p> <p><input type="checkbox"/> An existing Working Group (please specify which one: <a href="#">Click here to enter text.</a>)</p> <p><input checked="" type="checkbox"/> A new Working Group (title: <a href="#">Click here to enter text.</a>)  (Note: establishment of a new WG must be approved by committee resolution)</p> <p><input type="checkbox"/> The TC/SC directly</p> <p><input type="checkbox"/> To be determined</p>	
<p><b>Supplementary information relating to the proposal</b></p> <p><input checked="" type="checkbox"/> This proposal relates to a new ISO document;</p> <p><input type="checkbox"/> This proposal relates to the adoption as an active project of an item currently registered as a Preliminary Work Item;</p> <p><input type="checkbox"/> This proposal relates to the re-establishment of a cancelled project as an active project.</p> <p>Other:  <a href="#">Click here to enter text.</a></p>	
<p><input checked="" type="checkbox"/> 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.</p>	
<p>Additional information/questions  <a href="#">Click here to enter text.</a></p>	

<u>Inventor(s)</u>	<u>Institution - Assignee (if applicable)</u>	<u>Patent (Application) Number</u>	<u>Patent (Application) Title</u>	<u>Countries</u>
Peter Janicki	Bill & Melinda Gates Foundation	US20160138433 & WO2016077241	Multi-functional fecal waste and garbage processor and associated methods	US & International (respectively)
John Schneider, Matt Fraga, Eric Dithrich, Jeffrey R. Hallowell	Assigned to ClearStak LLC	US 8,812,162, Australia 2011323160, EU 11782744.4	Intelligently-Controlled Catalytic Converter for Biofuel-Fired Boiler	USA, Australia, EU
Jeffrey R. Hallowell	Assigned to ClearStak LLC	US 9,709,267, EU 13731576.8	Safety Device for Catalytic Converter	USA, EU
John Schneider, Matt Fraga, Eric Dithrich, Jeffrey R. Hallowell	Assigned to ClearStak LLC	US 9,513,005	Intelligent Oxygen Level Controller for Biofuel-Fired Burner	USA
Jeffrey R. Hallowell, Jessica M. Peterson, Kelli A. O'Brien	Jessica and Kelli assigned to ClearStak LLC	US Pending 14/485,719, EU 14777979.7	Fuel Feed and Air Feed Controller for Biofuel-Fired Furnace	USA, EU
Jeffrey R. Hallowell, Benjamin Hallowell	Ben assigned to ClearStak LLC	US 2015/0259603, EP 15760997.5	Combined Heat, Power, and Biochar with Ventilator	USA, EU
Jeffrey R. Hallowell		US Allowed 14/886,516, EP 15851933.0	Combined Catalytic Converter and Cyclonic Separator for Biofuel-Fired	USA, EU



John Schneider,  
Matt Fraga,  
Eric Dithrich,  
Jeffrey R. Hallowell

Assigned to Biomass Controls LLC US 2017/0108217

Intelligent Oxygen Level Controller  
for Biofuel-Fired Burner

USA

Jeffrey R. Hallowell

US 15/622,606

Safety Device for Catalytic  
Converters

USA

## Contents

Introduction .....	Error! Bookmark not defined.
<b>1 Scope</b> .....	Error! Bookmark not defined.
<b>2 Normative references</b> .....	Error! Bookmark not defined.
<b>3 Terms, definitions, and abbreviations</b> .....	Error! Bookmark not defined.
<b>3.1 General</b> .....	Error! Bookmark not defined.
<b>3.2 Input, energy balance, and resource recovery</b> .....	Error! Bookmark not defined.
<b>3.3 Performance</b> .....	Error! Bookmark not defined.
<b>3.4 Operation requirements</b> .....	Error! Bookmark not defined.
<b>3.5 Maintenance requirements</b> .....	Error! Bookmark not defined.
<b>3.6 Outputs</b> .....	Error! Bookmark not defined.
<b>3.7 Test sequence and procedures</b> .....	Error! Bookmark not defined.
<b>4 General requirements</b> .....	Error! Bookmark not defined.
<b>4.1 Industrial design and manufacture</b> .....	Error! Bookmark not defined.
<b>4.2 Hazard and operability study and risk assessment</b> .....	Error! Bookmark not defined.
<b>4.3 Ambient operation conditions</b> .....	Error! Bookmark not defined.
<b>4.4 Expected technical lifetime</b> .....	Error! Bookmark not defined.
<b>4.5 Treatment unit input</b> .....	Error! Bookmark not defined.
<b>5 Energy balance and resource recovery</b> .....	Error! Bookmark not defined.
<b>5.1 General</b> .....	Error! Bookmark not defined.
<b>5.2 Energy balance</b> .....	Error! Bookmark not defined.
<b>5.3 Resource recovery</b> .....	Error! Bookmark not defined.
<b>6 Performance requirements</b> .....	Error! Bookmark not defined.
<b>6.1 Process availability</b> .....	Error! Bookmark not defined.
<b>6.2 Process reliability</b> .....	Error! Bookmark not defined.
<b>7 Safety and functional requirements</b> .....	Error! Bookmark not defined.
<b>7.1 Process control</b> .....	Error! Bookmark not defined.
<b>7.2 Process redundancy</b> .....	Error! Bookmark not defined.
<b>7.3 Material fire resistance and lightning protection</b> .....	Error! Bookmark not defined.
<b>7.4 Sources of electrical energy</b> .....	Error! Bookmark not defined.
<b>7.5 Structures and supporting elements</b> .....	Error! Bookmark not defined.
<b>7.6 Sanitary requirements</b> .....	Error! Bookmark not defined.
<b>7.7 Mechanical requirements</b> .....	Error! Bookmark not defined.
<b>7.8 Energy radiation</b> .....	Error! Bookmark not defined.
<b>7.9 Electric and electrical components</b> .....	Error! Bookmark not defined.
<b>8 Operation requirements</b> .....	Error! Bookmark not defined.
<b>8.1 Anthropometric design</b> .....	Error! Bookmark not defined.
<b>8.2 Lighting</b> .....	Error! Bookmark not defined.
<b>8.3 System ergonomic design</b> .....	Error! Bookmark not defined.
<b>9 Maintenance Requirements</b> .....	Error! Bookmark not defined.
<b>9.1 Adjustability and maintainability</b> .....	Error! Bookmark not defined.
<b>9.2 Access to adjustment, and maintenance points</b> .....	Error! Bookmark not defined.
<b>9.3 Requirements for adjustment and maintenance activities</b> .....	Error! Bookmark not defined.
<b>9.4 Spare parts</b> .....	Error! Bookmark not defined.
<b>9.5 Tools and devices</b> .....	Error! Bookmark not defined.

<b>10</b>	<b>Outputs</b> .....	Error! Bookmark not defined.
	<b>10.1 Principle</b> .....	Error! Bookmark not defined.
	<b>10.2 Solid</b> .....	Error! Bookmark not defined.
	<b>10.3 Effluent</b> .....	Error! Bookmark not defined.
	<b>10.4 Air emission requirements for thermal treatment units</b> .....	Error! Bookmark not defined.
	<b>10.5 Odor</b> .....	Error! Bookmark not defined.
	<b>10.6 Noise</b> .....	Error! Bookmark not defined.
<b>11</b>	<b>Test sequence and procedures</b> .....	Error! Bookmark not defined.
	<b>11.1 Testing sequence and duration</b> .....	Error! Bookmark not defined.
	<b>11.2 Requirements for field testing</b> .....	Error! Bookmark not defined.
	<b>11.3 Solid – Heavy Metals – Recommended test methods</b> .....	Error! Bookmark not defined.
	<b>11.4 Effluent test methods</b> .....	Error! Bookmark not defined.
	<b>11.5 Additional requirements for thermal treatment units</b> .....	Error! Bookmark not defined.
	<b>11.6 Air emissions – measurement and testing</b> .....	Error! Bookmark not defined.
	<b>11.7 Ambient air emissions measurement requirements</b> .....	Error! Bookmark not defined.
	<b>11.8 Occupational exposure, hazardous gas, explosive gas, and odor measurement requirements</b> .....	Error! Bookmark not defined.
	<b>11.9 Odor threshold – measurement requirements</b> .....	Error! Bookmark not defined.
	<b>11.10 Noise emissions measurement requirements</b> .....	Error! Bookmark not defined.
	<b>11.11 Occupational exposure noise emissions measurement requirements</b> .....	Error! Bookmark not defined.
	<b>11.12 Hazardous gas test methods</b> .....	Error! Bookmark not defined.
<b>12</b>	<b>Product literature</b> .....	Error! Bookmark not defined.
	<b>12.1 General</b> .....	Error! Bookmark not defined.
	<b>12.2 Performance claims</b> .....	Error! Bookmark not defined.
	<b>12.3 Unit boundaries</b> .....	Error! Bookmark not defined.
	<b>12.4 Energy independence assessment</b> .....	Error! Bookmark not defined.
	<b>12.5 Maintenance &amp; operator documentation</b> .....	Error! Bookmark not defined.
	<b>Annex A (Informative) – Input specification templates</b> .....	Error! Bookmark not defined.
	<b>Annex B (Informative) - Typical Fecal Sludge Characteristics</b> .....	Error! Bookmark not defined.
	<b>Annex C (Informative) – Additional input specifications</b> .....	Error! Bookmark not defined.
	<b>C.1 Input specifications for thermal processes</b> .....	Error! Bookmark not defined.
	<b>C.2 Input specification for biological processes</b> .....	Error! Bookmark not defined.
	<b>Annex D (Normative) – Test methods and additional testing requirements</b> ..	Error! Bookmark not defined.
	<b>D.1 Certification bodies</b> .....	Error! Bookmark not defined.
	<b>D.2 Solid output and effluent test method</b> .....	Error! Bookmark not defined.
	<b>D.3 Air emissions test method for treatment units using combustion technologies</b> .....	Error! Bookmark not defined.
	<b>D.4 Hazardous gas occupational exposure limit</b> .....	Error! Bookmark not defined.
	<b>D.5 Explosive gas occupational exposure limit</b> .....	Error! Bookmark not defined.
	<b>D.6 Odor emissions test method</b> .....	Error! Bookmark not defined.
	<b>D.7 Odor occupational exposure limit test methods</b> .....	Error! Bookmark not defined.
	<b>D.8 Noise emission test methods</b> .....	Error! Bookmark not defined.
	<b>D.9 Noise occupational exposure limit test methods</b> .....	Error! Bookmark not defined.
	<b>Annex E (Normative) – Risk-based approach</b> .....	Error! Bookmark not defined.
	<b>Bibliography</b> .....	Error! Bookmark not defined.