TO: Joint Committee on Biosafety Cabinetry
FROM: Robert W. Powitz, Chairperson of the Joint Committee
DATE: October 16, 2019
SUBJECT: Proposed revision to NSF/ANSI 49 – Biosafety Cabinetry: Design, Construction, Performance and Field Certification (49i130r2)

Revision 2 of NSF/ANSI 49 issue 140 is being forwarded to the Joint Committee for balloting. Please review the changes proposed to this standard and submit your ballot by November 6, 2019 via the NSF Online Workspace <www.standards.nsf.org>.

When adding comments, please identify the section number/name for your comment and add all comments under one comment number where possible. If you need additional space, please upload a word or pdf version of your comments online via the browse function.

**Purpose**
The purpose of this ballot is to affirm revised language regarding the definition of *Work Area* in Standard 49.

**Background**
Issue paper BSC-2018-13 highlighted the need to update the definition of the term *Work Area*. The proponent contends there are several areas in the Standard where the term doesn’t make complete sense because a plane has no thickness. Additionally, the definition does not include the area between the downflow diffuser and the so-called plane.

This issue was presented to the full JC during the 2018 Face to Face meeting in June 2018, where the group discussed and decided to create a new Task Group (TG) to further discuss the proponent’s language. To help prepare for further discussion with the TG, the proponent’s language was sent to the BSC JC as a straw ballot for further feedback.

The ballot resulted in several negative comments which the issue proponent used to rewrite the proposal. The revised language was extensively discussed during the September 16, 2019 Task Group teleconference, at which time the group decided to share with the Task Group as a straw ballot to solicit further comments. This ballot resulted in a 6 : 0 : 0 (Yes : No : Abstain) vote with no further suggestions.

This revision 2 ballot is now offered to the Joint Committee for your consideration.

**Public Health Impact**
The proposed changes have no negative impact on public health.
If you have any questions about the technical content of the ballot, you may contact me in care of:

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Chairperson, Joint Committee  
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3 Definitions

3.35 work area: The horizontal plane inside the cabinet extending from sidewall to sidewall and from back wall to the inside of the sash at a point approximately 2 inches (50 mm) above the lower level of the sash.

3.35.1 total work area: The area inside the cabinet between the sidewalls, rear wall, inside of the sash, bottom of the downflow diffuser, and top of the work tray.

3.35.2 usable work area: The space within the total work area where the user can perform work.

Rationale: The term “work area” is used 102 times in Standard 49. The language presented above includes suggested changes to the definition in Standard 49 to represent the two types of ‘work area’ generally described in the Standard. Below are a few examples where the current definition is ambiguous and potentially problematic. The language following this statement is not suggested to be changed, only the 2 previously presented statements. Once these terms are sorted out, the issue proponent will go through the Standard and update the terms appropriately.
3.26 **sash**: A fixed or sliding window located at the front of the biosafety cabinet, that forms a barrier between the operator and the **work area**.

*Why this is problematic:* The work area only extends 2” above the bottom of the sash, there is no need for a sash above this.

5.19 **Doors and covers**

Doors and covers shall fit properly and close completely. Horizontal sliding doors shall not be used for the **work area**.

*Why this is problematic:* The work area stops approximately 2” above the bottom of the sash, horizontal sliding doors may be used, provided they are at least 2” above the bottom of the sash.

5.26.2 **Electrical wiring, switches, etc.**

Replaceable electrical components shall not be located in contaminated air plenums, except for fan motors, sealed nonporous or jacketed wiring, and necessary airflow sensors. All wiring penetrations of contaminated spaces shall be sealed in accordance with 6.2. Circuit overload protection shall be provided for all receptacles. Switches shall be mounted outside the **work area**. A wiring diagram showing connection of all electrical components shall be permanently attached to the unit in an accessible location outside of air plenum systems. A statement providing starting current, running power, and circuit requirements shall be provided with the installation instructions.

*Why this is problematic:* As long as the manufacturer keeps the switches at least 2” above the bottom of the sash, anything is acceptable.

A.10.3.4 **Sash seal test**

Smoke shall be passed up the inside of the sash 2 inches (50 mm) from the sides and along the top of the **work area**.

*Why this is problematic:* The intent of the sash seal test is to cover the entire perimeter of the sash. If the proposal to change the work area definition is accepted, the language suggested in A.10.3.4 regarding the Sash Seal Test should also be updated as presented on page 1.