TO: Joint Committee on Biosafety Cabinetry  
FROM: Robert W. Powitz, Chair of the Joint Committee  
DATE: July 22, 2020  
SUBJECT: Proposed revision to NSF/ANSI 49 – Biosafety Cabinetry: Design, Construction, Performance and Field Certification (49i157r1)

Revision 1 of NSF/ANSI 49, issue 157 is being forwarded to the Joint Committee for consideration. Please review the proposal and submit your ballot by August 5, 2020 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 in Standard 49 Annex N-1 5 regarding the recovery of biological test control plates.

Background  
Standard 49 contains the following language at the beginning of the biological tests in Annex N-1:

Cabinets meeting these test requirements shall then meet airflow characteristics as measured in Sections N-1.8 and N-1.9.

Sections N-1.8 and N-1.9 cover the Inflow and Downflow velocity tests and the proponent contends it is confusing. The language appears to by saying that if one achieves passing results for the biological tests, one must also meet the requirements for inflow and downflow.

This language does not appear to add anything important, only ambiguity. Standard 49 already requires setting airflows to nominal at the beginning of each biological test section, although the velocity tolerance specified at the beginning of N-1 and for many of the other performance tests is not included.

The intent of this language is to clear up the ambiguity.

If you have any questions about the technical content of the ballot, you may contact me in care of:

Robert W. Powitz  
Chair, Joint Committee on Biosafety Cabinetry  
c/o Allan Rose  
Joint Committee Secretariat  
NSF International  
Tel: (734) 827-3817  
Email: arose@nsf.org
NSF/ANSI Standard for Biosafety Cabinetry

Biosafety Cabinetry: Design, Construction, Performance, and Field Certification

Normative Annex 1
(formerly Annex A)

Performance tests

N-1.6 Personnel, product, and cross-contamination protection (biological) tests

N-1.6.1 Purpose

These tests determine whether aerosols will be contained within the cabinet, outside contaminants will not enter the cabinet work area, and aerosol contamination of other equipment in the cabinet will be minimized. The cabinet shall be operated at the airflow velocities indicated in the specific test methods with removable equipment installed. The cabinet shall be turned on at least 30 minutes before the start of any test and operated continuously throughout all test methods. Cabinets meeting these test requirements shall then meet airflow characteristics as measured in Sections N-1.8 and N-1.9.

N-1.6.3 Personnel protection test (system challenged with $1 \times 10^8$ to $8 \times 10^8$ B. subtilis spores in 5 minutes).

N-1.6.3.1 Method

a) Set the cabinet at the nominal set point airflow velocities. The cabinet shall be operated at the nominal set point velocities within ± 3 ft/min (± 0.015 m/s).
N-1.6.4 Product protection test (system challenged by $1 \times 10^6$ to $8 \times 10^6$ B. subtilis spores in 5 minutes.)

N-1.6.4.1 Method

a) Set the cabinet at the nominal set point airflow velocities. The cabinet shall be operated at the nominal set point velocities within $\pm 3$ ft/min ($\pm 0.015$ m/s).

N-1.6.5 Cross-contamination test (system challenged by $1 \times 10^4$ to $8 \times 10^4$ B. subtilis spores for 5 minutes.)

N-1.6.5.1 Method

N.1.6.5.1.1 Set the cabinet at the nominal set point airflow velocities. The cabinet shall be operated at the nominal set point velocities within $\pm 3$ ft/min ($\pm 0.015$ m/s). Tests are completed from one side wall and the center or from both side walls, depending on BSC nominal width. The center test is completed on cabinets with a BSC nominal width greater than 3 feet. Both side walls are tested on cabinets with a BSC nominal width of 3 feet or less.

Rationale: Proposed language makes the requirements to balance the cabinet consistent with the language in the noise and vibration sections, most importantly, adding in the 3 fpm tolerance.