

Joint Committee on Biosafety Cabinetry
49i103r1 Straw Ballot
September 22, 2017

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Purpose

The purpose of this ballot is to affirm updated language in Section 5 regarding Types B and C1 Alarm Status in Standard 49.

Background

Issue paper BSC-2017-04 highlighted the need for updating the current language regarding the Alarm Status for Types B and C1 BSCs. Specifically, the issue proponent contends that the last sentence of sections 5.23 and 5.25 be stricken for the following reasons:

1. Both Type B and Type C1 BSCs are increasingly interfaced to building exhaust control systems, such that switching on the cabinet's blowers will signal the exhaust system to open a control valve or start a remote blower. In these cases, the exhaust system will not have achieved proper airflows before the cabinet goes into an immediate alarm, refusing to start.
2. This would make the alarm responses consistent whether the BSC is starting up, or already in stable operation, the latter presenting a higher probability of working with a biological or chemical hazard.

During the 2017 JC Face to Face meeting, this issue was presented, discussed and motioned to straw ballot with the entire JC without further adjustment prior.

An **affirmative (yes) vote** on this straw ballot means you agree with the revised language as submitted.

A **negative (no) vote** on this straw ballot means you disagree with the revised language as submitted. A negative vote must include an explanation of why you disagree with the revised draft.

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[Note – the changes are illustrated below using ~~strikeout~~ for proposed removal of existing text and grey highlights to indicate the proposed new text. ONLY the highlighted text and ~~strikeout~~ text is within the scope of this ballot. Rationale Statements are in RED and only used to add clarity; these statements will NOT be in the finished publication]

NSF/ANSI International Standard for Biosafety Cabinetry —

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

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5 Design and construction

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5.25.3 Type B exhaust alarm

Type B cabinets shall be exhausted by a remote fan. Once the cabinet is set or certified in its acceptable airflow range, audible and visual alarms shall activate within 15 seconds of exhaust volume loss exceeding 20%. The internal cabinet fan(s) shall be interlocked to shut off at the same time the alarms are activated. ~~Type B cabinets shall not initiate cabinet blower startup until sensors determine appropriate exhaust flow.~~

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5.25.5 Type C1 exhaust alarm

Once the cabinet and canopy is set or certified in its acceptable airflow range, audible and visual alarms shall be required to indicate within 15 s a loss of capture of room air using a visible medium to verify at the canopy air intake(s).

- when the Type C1 is connected to a canopy that directs the BSC's exhaust air into the room during an exhaust system failure, the cabinet fan(s) must remain in operation for a maximum of 5 minutes when the alarm is activated.
- when the Type C1 is connected to a canopy that directs the BSC's exhaust air into the exhaust duct during an exhaust system failure:
 - the cabinet downflow and exhaust blowers must shut down within 15 s of loss of capture of the visible medium, or;
 - the default shut down time of 15 s may be lengthened to a maximum of 5 minutes if:
 - a risk assessment indicates the BSC, the work being done in it, and the exhaust system it is connected to is appropriate, as outlined in Annex E, Section E.3, and
 - the BSC is connected to an exhaust duct that has been verified to meet or exceed Seal Class A, (a leakage of less than 3.0 CFM per 100 ft² of duct surface area at 1.0 inch w.g. (0.091

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m³/min per 10.0 m² of duct surface area at 250 Pa) as described in HVAC Air Duct Leakage Test Procedures - 2012¹, and

— the cabinet provides the user an indication of the remaining time until the BSC blowers shut off.

~~When Type C1 BSCs are connected to an exhaust system and there is insufficient exhaust volume, the BSCs shall not initiate downflow or exhaust blower startup.~~

***Rationale:** Standard 49 already allows canopy-connected Type A, Type B and connected Type C1 BSCs 15 seconds to respond to insufficient exhaust while they are in use; it would therefore be more consistent to allow this same time frame when the BSC is initially starting up.*

¹ Sheet Metal and Air Conditioning Contractors National Association, 4201 Lafayette Center Drive Chantilly, Virginia 20151-1219 <www.smacna.org>