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Class II biological safety cabinets are the most widely used safety devices for protection against biological hazards. When combined with recommended good working practices, they provide a safe working environment for biosafety levels (BL) 1, 2, and 3. The construction, testing, and certification of class II biological safety cabinets are detailed in NSF International's Standard 49, entitled, "Class II (Laminar Flow) Biohazard Cabinetry." It is a consensus standard prepared by a committee composed of cabinet manufacturers, users, certifiers, and public interest representative and adopted by the NSF Board of Trustees. It is anticipated that NSF Standard 49 will be adopted by the American National Standards Institute (ANSI) and by the International Standards Institute (ISO).

NSF 49 was first issued in June 1976. The standard development process was initiated at the request of the National Institutes of Health (NIH) to formalize (1) cabinet designs that had previously been developed by NIH (Type A cabinets) and the National Cancer Institute (Type B cabinets), (2) test protocols and (3) acceptance criteria. NSF 49 has been revised, as prescribed, at roughly 5-year intervals and currently is under study for the next revision. In general the successive revisions are gradually converting the document from a construction (how to build it) to a performance (what it must do) standard in order to provide the widest possible scope for designers and manufacturers to incorporate innovative designs, improved materials, and more efficient construction methods into their NSF-certified cabinets. This has been effective and the process continues.

It has been recommended from the start that field certification of NSF-certified cabinets be conducted immediately after initial installation, after a cabinet has been moved, following repairs that require removal of access panels, and at least annually to verify that the cabinet continues to operate as it did in the testing laboratory at NSF when it was certified.

In the latest revision of NSF 49-1992 field test procedures and acceptance criteria are identified explicitly for the first time. They appear as "Annex F, Field Tests," accompanied by this notation, "This Annex is not part of Standard 49 but is provided for information only." This may suggest that NSF has taken a trip to Wonderland with Alice, but in fact, it was a stratagem devised by NSF to obtain approval of the 1992 revisions in the face of a badly fractured standards committee. Most of the field certifier representatives on the committee adamantly opposed making Annex F mandatory because of their unwillingness to conduct cabinet leak tests "when [a] cabinet is newly installed, relocated, or after maintenance procedures that require removal of [interior access] panels." The reasons given were (1) Type B cabinets have negative pressure contaminated ducts and plenums and hence cabinet leaks are not a problem (no reason was provided for not field testing Type A cabinets that do have positive pressure contaminated ducts and plenums) (2) competitors were not doing it and hence they would be at a cost disadvantage if they insisted on doing cabinet leak tests in addition to the ventilation and filter leak test procedures. In rebuttal it was pointed out (1) negative pressure Type B cabinets as well as positive pressure Type A cabinets will both emit formaldehyde during decontamination when the cabinets are not leak tight (2) were Annex F to be adopted as a mandatory part of NSF 49, every cabinet certifier would have to perform this safety check at the designated times and there would be a level playing field for everyone.

Why is this an important matter for the entire community that depends on Class II cabinets for maintaining safe operations? Because NSF 49 is in the process of undergoing its mandatory 5-year review and is open for public comment on this as well as on any other part. It is not only important for the users of this equipment to understand how and why it functions as a safety device but also to appreciate the importance of the field certification process as an important safety check and to insist that it be conducted in all its phases by well-trained, experienced, and conscientious technicians. I must report that I continue to hear (sometimes under oath) about slack field certification procedures and what I perceive to be safety lapses by some field
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certification personnel. Therefore, I say to all biosafety cabinet users, be on your guard. Learn about the field certification procedures in NSF 49. Observe your field certification technicians closely while they are at work. Ask lots of questions and insist on clear, rational answers. Field certification is not a ritual, every user's health and safety are at stake.

The writer wishes to be fair to readers by identifying himself as a member of past NSF 49 standard preparation committees and the principal author of Annex F.

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CORRECTION:

JABSA regrets the omission of the name of one of the three Nobel Laureates who have addressed ABSA. The Editorial on page 6 in Volume 2, Number 4, 1997 stated that two Nobel Laureates have addressed ABSA. However, at the 28th Annual Meeting in 1985 in La Jolla, California, the 10th Arnold G. Wedum Memorial Lecture was delivered by Nobel Laureate Dr. Renato Dulbecco who discussed "Risk of Containment of Viruses." Thus, three Nobel Laureates have addressed the Association to date, rather than two. The JABSA appreciates Richard Kruse's observation of this oversight.

CORRECTION:

JABSA regrets omitting the name of one of the authors of the article entitled, "Handling of Large Experimental Animals Infected with a Risk Group 4 Virus" which was published in Volume 2, Number 4, 1997. The authors are affiliated with the Australian Animal Health Laboratory in Geelong, Victoria, Australia. The full list of authors is:

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