



# *Improving All-Hazards Response*

**IAB**

**InterAgency Board for Equipment  
Standardization and Interoperability**

The IAB's mission is to establish and coordinate local, state, and federal standardization, interoperability, compatibility, and responder health and safety to prepare for, train and respond to, mitigate, and recover from any incident by identifying requirements for an all-hazards incident response with a special emphasis on Chemical, Biological, Radiological, Nuclear or Explosive (CBRNE) issues.

# Out of Many, One

The InterAgency Board for Equipment Standardization and Interoperability (IAB) is a user-working group supported by voluntary participation from various state, local, and federal government and private organizations.



## History

The IAB was sanctioned in 1998 by the U.S. Attorney General and founded by the Department of Defense's Consequence Management Program Integration Office and the Department of Justice's Federal Bureau of Investigation Weapons of Mass Destruction Countermeasures Unit.

## Federal Agency Coordinating Committee (FACC)

The FACC provides the interface between the IAB Chair and Vice Chair and the sponsoring federal government agencies to coordinate the interests and initiatives of the federal and first responder communities.

The FACC is comprised of the federal agencies which provide financial support to the IAB. These agencies are: Department of Defense, Joint Program Executive Office for Chemical and Biological Defense; Department of Homeland Security (DHS), United States Customs and Border Protection; DHS, Science and Technology Directorate; DHS, Federal Emergency Management Agency, National Preparedness Directorate; National Institute for Occupational Safety and Health/National Personal Protective Technology Laboratory; and National Institute of Standards and Technology, Office of Law Enforcement Standards. Other federal agencies are encouraged to consider sponsorship.

## Scope

The IAB supports state, local, and federal responders' efforts in homeland security through the following activities:

- Provides independent operational viewpoint to federal agencies.
- Facilitates integration with state, local, and federal response communities to promote proper selection and use of the best available equipment and procedures to optimize safety, interoperability, and efficiency.
- Develops, maintains, and updates the Standardized Equipment List (SEL).
- Shares knowledge, expertise, and technology related to all-hazards incidents with special emphasis on CBRNE.
- Establishes significant relationships with initiatives including the Responder Knowledge Base (RKB).
- Identifies and prioritizes research and development (R&D), compatibility and interoperability, and standards requirements within the First Responder community.

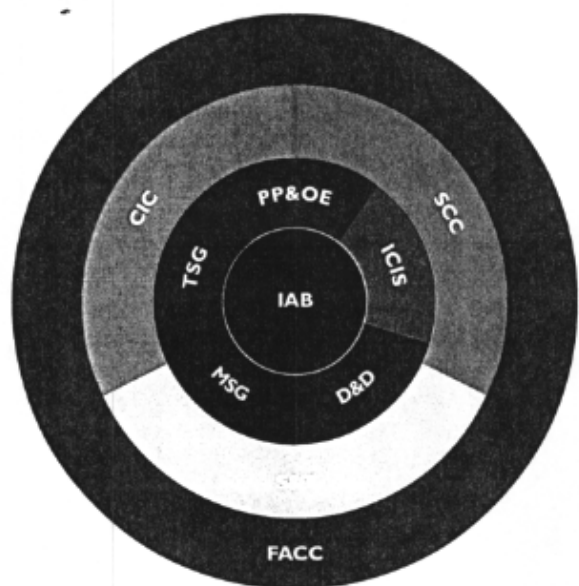
## Organizational Structure

The IAB, chaired by a state or local first responder, is divided into Committees and SubGroups that focus on specific mission areas. SubGroups are



**“The IAB commitment to the safety and health of the response community through standardization and interoperability of equipment and training remains as strong as ever. We will continue to provide information to the response community and a multidisciplinary voice of responder priorities to the federal partners.”**

*- Robert Ingram | Chair, InterAgency Board  
Branch Chief, WMD and Disaster Preparedness  
Center for Terrorism and Disaster Preparedness,  
Fire Department, City of New York*



- The InterAgency Board (IAB)
- Federal Agency Coordinating Committee (FACC)
- Standards Coordination Committee (SCC)
- Science & Technology (S&T) Committee
- Compatibility & Interoperability Committee (CIC)
- Personal Protective & Operational Equipment (PP&OE) SubGroup
- Interoperable Communications & Information Systems (ICIS) SubGroup
- Detection & Decontamination (D&D) SubGroup
- Medical SubGroup (MSG)
- Training SubGroup (TSG)

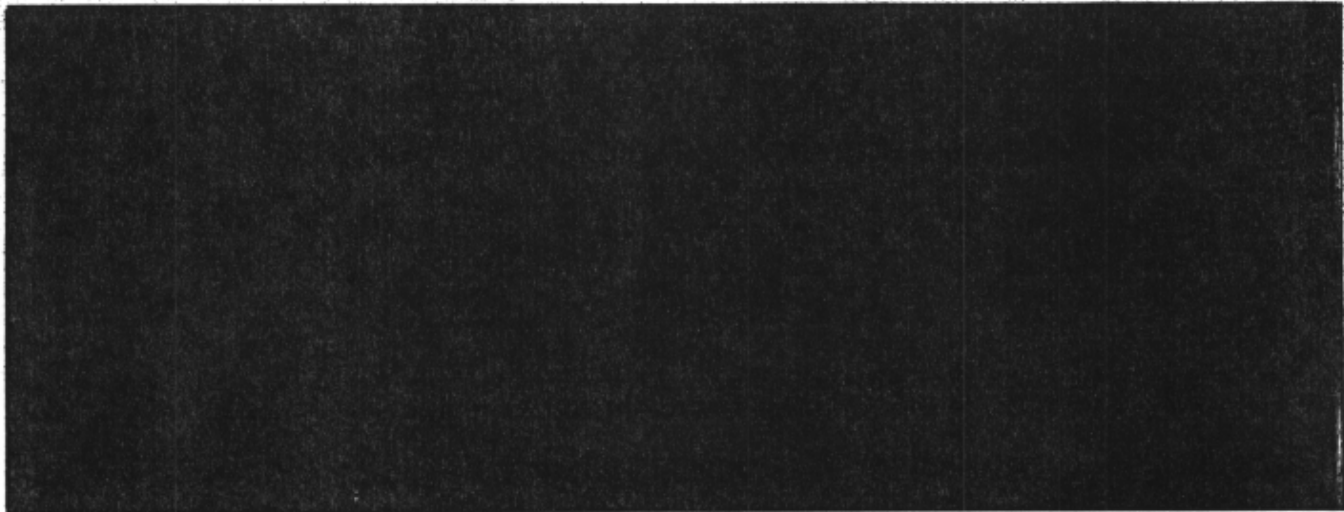
co-chaired by a first responder and a federal representative and are responsible for maintaining their respective section of the Standardized Equipment List. SubGroups also prepare an annual report of activities. An electronic copy of the annual report can be found at [www.iab.gov](http://www.iab.gov).

### Membership

IAB membership represents state, local, and federal first responders. The membership encompasses experienced responders from the fire, law enforcement, emergency medical, public health, public utilities, military, federal, emergency management, research, search and rescue, standards development, and homeland security communities.

### Standardized Equipment List (SEL)

The SEL is a generic list of equipment and supplies recommended by the IAB to state, local, and federal organizations in preparing for and responding to all-hazards incident responses. Vetted by the user community, the SEL promotes interoperability and standardization across the response community by offering a standard reference and common set of terminology. The SEL is continually updated and does not identify specific products or manufacturers.



To access the SEL:

- Visit [www.iab.gov](http://www.iab.gov) for a hard copy or PDF version
- Visit [www.rkb.us](http://www.rkb.us) for the interactive version

### **IAB Partnership with the Responder Knowledge Base (RKB)**

The Responder Knowledge Base provides:

- A trusted, integrated, on-line source of information on products, standards, certifications, grants, and other equipment related information to emergency responders, purchasers, and planners.
- Access to the IAB Standardized Equipment List (SEL) and the DHS Authorized Equipment List (AEL), including an integrated display that combines key information from the two lists.
- Rapid cross-references via "Knowledge Links" to connect commercial products to key information such as standards, available grants, and operational suitability tests.

Visit the RKB at [www.rkb.us](http://www.rkb.us)

### **Contact Information**

**InterAgency Board (IAB)**  
[www.iab.gov](http://www.iab.gov)

**IAB Program Office**  
[IAB@battelle.org](mailto:IAB@battelle.org)

**Responder Knowledge Base (RKB)**  
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Rec'd  
7/30/08

**InterAgency Board (IAB)  
Position on NIOSH Docket #139**

*regarding*

**Department of Defense (DoD)  
Request for an Additional Configuration  
to the Standard 40mm Thread Connection**

## **I. Executive Summary**

During the June 10<sup>th</sup>-12<sup>th</sup>, 2008 InterAgency Board (IAB) Meeting in Colorado Springs, Colorado, the IAB was informed of a request to certify an alternative filter cartridge by the military [via a National Institute of Occupational Safety and Health (NIOSH) presentation] for use on an approved Air-Purifying Respirator (APR) Chemical, Biological, Radiological and Nuclear (CBRN).

The consensus opinion of the IAB committees and subgroups is that the safety and operational enhancement claims of the new bayonet lug are not sufficient to subordinate equipment interoperability with respect to air-purifying respiratory canister threads.

Interoperability is paramount to the IAB and of course, the first responder community that the IAB serves. Based on the information given, the IAB takes issue with this pending NIOSH APR filter canister modification which adds a bayonet lug CBRN-approved filter that would not be interoperable with the tens of thousands of civilian air-purifying respirators already in service and designed to use 40mm thread filter canisters. Therefore, the consensus opinion is not to recommend this course of action by the military and NIOSH.



## **II. Introduction**

During the June 10<sup>th</sup>-12<sup>th</sup>, 2008 InterAgency Board (IAB) Meeting in Colorado Springs, Colorado, the IAB was informed of a request to certify an alternative filter cartridge by the military [via a National Institute of Occupational Safety and Health (NIOSH) presentation] for use on an approved Air-Purifying Respirator (APR) Chemical, Biological, Radiological and Nuclear (CBRN). The alternative filter canister consists of a connection interface in the form of a bayonet lug configuration. This new CBRN-approved configuration would be in addition to the already approved and adopted 40mm CBRN APR thread for the M50 Joint Service General Protective Mask (JSGPM).

IAB subgroups and committees considered the information presented by this Department of Defense (DoD) request made to NIOSH, which was to add an additional APR with a bayonet lug configuration (M50 JSGPM) that directly conflicts with the interoperability achieved by adoption of the present 40mm thread standard for the CBRN APR certification standards.

A representative from each IAB subgroup and committee met in a separate breakout session to discuss concerns and potential implications of the pending NIOSH-approved APR CBRN bayonet lug configuration. Consensus was reached regarding the draft of a position paper highlighting the points discussed in that breakout session as well as the negative effects on equipment interoperability and specifically the 40mm CBRN-approved APR filter canister thread versus the pending bayonet lug CBRN-approved APR filter.

## **III. IAB Mission Statement and Purpose**

The InterAgency Board's mission statement focuses on interoperability. The IAB for Equipment Standardization and Interoperability is designed to establish and coordinate local, state, and federal standardization interoperability, compatibility, and responder health and safety to prepare for, train and respond to, mitigate, and recover from any incident by identifying requirements for an all-hazards incident response with a special emphasis on Chemical, Biological, Radiological, Nuclear or Explosive (CBRNE) issues. The IAB was founded in October 1998.

## **IV. Background of the 40mm Standard**

Because of their experiences in responding to the terrorist events of 2001, emergency responders identified the need for the interoperability of canisters and face pieces as a respirator user issue that NIOSH needed to address. Working with the partnerships from Federal government agencies, the private sector, and user groups, NIOSH expedited development and publication of new testing and certification standards for voluntary use by emergency responders in CBRN terrorist attacks. Since the Standard was established in 2003, multiple models of CBRN

APRs from multiple manufacturers have been certified to the Statement of Standard. (Information from the Federal Register, [www.thefederalregister.com/d.p/2008-06-18-E8-13721](http://www.thefederalregister.com/d.p/2008-06-18-E8-13721), last visited June 20, 2008).

## V. Consensus

The consensus opinion of the IAB committees and subgroups is that the safety and operational enhancement claims of the new bayonet lug are not sufficient to subordinate equipment interoperability with respect to air-purifying respiratory canister threads.

Interoperability is paramount to the IAB and of course, the first responder community that the IAB serves. Based on the information given, the IAB takes issue with this pending NIOSH APR filter canister modification which adds a bayonet lug CBRN-approved filter that would not be interoperable with the tens of thousands of civilian air-purifying respirators already in service and designed to use 40mm thread filter canisters. Therefore, the consensus opinion is not to recommend this course of action by the military and NIOSH.

## VI. Discussion

This breakout group valued the improvements in existing technologies and liked certain design features of the mask; however, the group's primary concern remained with the lack of interoperability with the NIOSH-approved masks currently in service across the civilian emergency services spectrum.

The newly functional features include a sleek design with a smaller face piece, which allows for a better sight picture and improved peripheral vision, especially for law enforcement personnel. The low profile canisters were placed "out of the way" for weapon's sighting and use. The mask's design also afforded a better weight distribution, and the bayonet fitting had multiple seal points.

### ***A. Interoperability is inherent to the IAB mission and the first responder community that the IAB represents.***

Balancing the APR bayonet lug configuration benefits against the need to not quash potential development and progression with functional equipment, the IAB's primary mission remains interoperability. A modification such as this one would contradict and invalidate the previous efforts to reach one viable standard of the 40mm thread for APR equipment in the United States. This potential lack of interoperability with current existing emergency services respirators is profound.

In the proposed configuration, one can not use the 40mm canisters, which are the current standard, in the field with this new mask, or use the bayonet filters designed for this mask with those in use by civilian emergency services. With only one



manufacturer and a "monopoly" on the patented bayonet design, it limits the ability to develop future interoperability through attrition. Also, modifying certification requirements may encourage other manufacturers to conduct research and development that is not consistent with the NIOSH standards for new product differentiation, which could further degrade interoperability. It seems that no possibility exists for "backward" compatibility with existing technologies. Hence, changing the certification requirements will likely violate the principles of interoperability.

Interoperability should exist in the civilian and military worlds, especially if military assets and resources are to seamlessly integrate into civilian operations and provide support during a domestic incident. This message was reinforced during a separate presentation at the June 2008 IAB meeting. Major General Guy Swan, III, the USNORTHCOM regional commander, remarked that we should all be working towards interoperability and interagency collaboration within NORTHCOM. This proposed modification of APR standards is in opposition to the NORTHCOM mission of seamlessly integrating into the civilian command structure during periods of national emergencies necessitating military aid to local jurisdictions.

***B. Based on the information available, the IAB does not recommend this modification be adopted.***

The primary concern for responders (and everyone) is life safety, and this additional APR filter type would interfere with that objective and ultimately, equipment interoperability. A paucity of data occurs to enumerate the benefits and the risks. The bayonet lug configuration has technical advantages in terms of sealing quickly and field level durability, but concerns exist about the limited bed depth, air flow patterns, and the resulting degradation of filtration during maximum inhalation rates. A claim was made that one could change the filter in the hot zone as the bayonet fitting locks when the filter attachment is removed, yet this attribute raised more concerns than acquiescence.

The first responder community and their affiliated governmental agencies are all facing tighter budgets and a decreased federal funding stream. A cost issue also arises as a non-NIOSH certified respirator is not eligible for purchase with grant money. Replacing existing masks with another type of mask currently is not cost-effective. Even if this standard modification does proceed, the responder communities could not afford to immediately replace their current masks.

The IAB recognizes the importance of form, fit and functionality progress, yet the previous efforts of having one standard and interoperable equipment must not be compromised, especially in the current world of limited financial resources.

***C. Potential Options or Alternatives to this Request***

The breakout session discussed some potential options or other considerations to allow this mask design to proceed forward. We ran out of time to pursue these

options further; however, these options are included to document the discussion and to provide the DoD and the manufacturer with viable, alternative considerations.

- 1. Re-engineer the mask to overcome the interoperability issue of the 40mm thread so that the unit can obtain NIOSH approval.**
- 2. Have the manufacturer design the adaptor that allows the 40mm thread on the bayonet fitting, and package the adaptor with the mask so separate components do not exist.**
- 3. DoD should consider fielding the M53 mask within the United States to DoD, civilian government security and response personnel, which does offer canister interoperability capability. This would require DoD submitting the M53 to NIOSH for CBRN APR evaluation.**
- 4. The rule, 29 CFR § 1910, allows a DoD exemption.**
- 5. Grant a waiver for the bayonet lug configuration or incorporate an option that applies only to DoD response elements.**
- 6. The IAB and its various subgroups need to anticipate advances in technology that benefits the responder community.**

## **VII. Conclusion**

The respirator may offer some useful benefits to the civilian responder and military community; however, more data and information is needed to verify the claims. In its current configuration and with the lack of interoperability with the current equipment in use in the field, the IAB cannot support the potential addition of a new connection for APR CBRN-approved filter canisters. The interoperability issue created with a conflicting standard (40mm versus bayonet lug) should be resolved by the manufacturer.

The motto of the IAB is *Out of Many, One*, not *Out of Many, Two*; a standard and a modified standard do not further the goal of interoperability. Based on the information given, the IAB respectfully asserts that such a standard modification will have negative impacts on the safety, effectiveness, and operational integration of emergency responders and military personnel that may be tasked to work together in defense of the United States of America.