MEETING OF THE
TECHNICAL COMMITTEE ON
RESPIRATORY PROTECTION EQUIPMENT

NFPA 1989, 1852 First Draft Meeting

August 9-10, 2016

Quincy, MA

AGENDA

Tuesday, August 9, 2016, Start Time 9:00 a.m.

1. Self-introduction of members and guests
2. NFPA Staff Liaison report – Dave Trebisacci
3. Chairman's opening remarks – Dan Rossos
4. Approval of the Minutes of the March 7-9, 2016 meeting Dallas, TX (attached)
5. NFPA 1989 – Review of Public Input (attached), First Revisions
6. NFPA 1852 – Review of Public Input (attached), First Revisions
7. Old business
8. New business
9. Upcoming Meetings
10. Adjourn at close of business, Wednesday, August 10, 2016
AGENDA ITEM 1; SELF-INTRODUCTION OF MEMBERS AND GUESTS

Chairman Rossos called the Committee to order at 09:00 on 7 March 2016. Chairman Rossos welcomed Committee members and guests and asked them to introduce themselves.

Members Present:

- Dan Rossos, Chairman Oregon Dept. of Public Safety Stds. & Training
- Steven H. Weinstein, Secretary Honeywell Safety Products
- David Trebisacci, Staff Liaison NFPA
- Chris Anaya California State Firefighters Association
- David Bernzweig Columbus (OH) Firefighters
- Robert Sell Draeger Safety
- David Hodson Draeger Safety UK Ltd.
- Stephen T. Miles NIOSH FFFIPP
- Robin Gainey International Association of Fire Fighters
- Clint Mayhue Avon Protection
- William Mundy Fire Department City of New York
- Thomas Richardson Fire Department City of New York
- Brian Cox Clovis Fire Department
- Ryan Brubaker Clovis Fire Department
- A. Ira Harkness U.S. Department of the Navy
- Stephen Sanders Safety Equipment Institute (SEI)
- Jason Allen Intertek Testing Services
- Judge Morgan Tyco/Scott Safety
- Jay Tarley NIOSH
- Marco Tekelenburg Mine Safety Appliances Company
- Gregory Vrablik Honeywell Safety Products
- Mark Trudgeon Luxfer Gas Cylinders
- Rodney Colbert Fairfax County Fire & Rescue
- Craig Colton 3M (rep. ISEA)
- Clint Kaller Los Angeles County F.D.
- Bryan Profit Portland Fire & Rescue
- Michael Szymanski Virginia Beach F.D.
- Kenton Warner KDW Consulting, LLC
- Beth Lancaster U.S. Department of Defense
- Thomas Mooney International Association of Fire Fighters
- Michael Swofford Interspiro, Inc.
The following guests were present:

Matthew Shannon  
Darin Thompson  
Luke Hollmann  
Jeff Peterson  
Andrew Ellison  
Matt Taylor  
Kevin Lentz  
Justin Smith  
Deborah Gaudet  
Julian Almaguer  
Steve Burchette  
Al Yanagisawa  
Jeff Stull  
Tyler Griffith  
Jacob Norrby

Tyco/Scott Safety  
Tyco/Scott Safety  
Ultra Electronics—USSI  
NIOSH/NPPTL  
Exponent  
Avon Protection  
Trace Analytics  
Grace Industries, Inc.  
Trace Analytics  
Virginia Beach F.D.  
Dallas Fire-Rescue  
Burleson F.D.  
Los Angeles County F.D.  
International Personal Protection, Inc.  
Sturges Manufacturing  
Interspiro, Inc.

AGENDA ITEM 2; NFPA STAFF LIAISON REPORT

David Trebisacci provided the staff liaison report and asked attendees to sign in on the appropriate Member or Guest sign-in sheet. He reviewed the following: NFPA 1981, 1852, 1989 and 1984 cycle dates, resolving Public Inputs (PI), the balloting process, potential reorganization of standards associated with the PPE project, and legal issues associated with the NFPA standards process.

AGENDA ITEM 3; CHAIRMAN’S REMARKS

Chairman Rossos announced the schedule for the day. He asked Judge Morgan to speak about Beverly Gulledge’s departure from Scott Safety. He also mentioned that former TC Chairman Ray Reed will be visiting the TC on March 7.

AGENDA ITEM 4; APPROVAL OF THE MINUTES OF THE 24-25 JULY 2015 MEETING IN SACRAMENTO (CA)

Chairman Rossos asked the TC to review the Minutes of the Sacramento (CA) meeting.

MOTION BY BOB SELL, SECOND BY ROBIN GAINES

To approve the Minutes of the 24–25 July 2015 meeting in Sacramento, CA.

MOTION CARRIED.

AGENDA ITEM 5; TIC RESPIRATOR DISCUSSION (SCBAs AND PAPRs VS. TICs)

Jason Allen and Jeff Stull made a presentation to the TC about respirator chemical permeation testing.
AGENDA ITEM 6; NFPA 1981 – REVIEW OF PUBLIC INPUT, FIRST REVISIONS

The TC acted to resolve the public inputs submitted for NFPA 1981. David Trebisacci recorded the TC’s actions.

AGENDA ITEM 7; NFPA 1989 AND NFPA 1852 – PRE-FIRST DRAFT DISCUSSIONS

Chairman Rossos discussed the formation of Task Groups for the First Draft Meeting for NFPA 1989 and NFPA 1852. The TC did not feel it was necessary to form such Task Groups.

Public input is open now for NFPA 1989 and NFPA 1852 and closes on June 29.

AGENDA ITEM 8; OLD BUSINESS

There was no old business.

AGENDA ITEM 9; NEW BUSINESS

Jeff Peterson from NIOSH asked the TC if it was interested in writing a letter to NIOSH regarding initiating a study to determine what physiological effects on the body would be created if the SCBA weight limit were changed. Chairman Rossos appointed a group to draft the letter.

Chairman Rossos added Bryan Profit to the Task Group on Thermal Performance.

AGENDA ITEM 10; UPCOMING MEETINGS

The next TC meeting is tentatively scheduled for August 9-10, 2016, location TBD (most likely on the East Coast). The meeting after that is tentatively scheduled for January 17-18, 2017, location TBD (most likely on the West Coast).

AGENDA ITEM 11; ADJOURNMENT

MOTION BY CLINT KALLER; SECOND BY ROBIN GAINLEY
To adjourn.

MOTION CARRIED.

Chairman Rossos adjourned the meeting at 12:10 on 9 March 2016.

Respectfully submitted,

Steven H. Weinstein, Secretary
Technical Committee on Respiratory Protection Equipment
CRYOGENIC (LIQUID) SCBA
This standard shall specify requirements for cryogenic liquid air SCBA.

Statement of Problem and Substantiation for Public Input

NFPA 1852 does not make provision for, or address "Cryogenic Liquid Air" SCBA. It is hereby suggested that the standard be revised to include Liquid Air Breathing Apparatuses.

Submitter Information Verification

Submitter NFPA User ID: edblalock@bcscryo.com
Submitter Full Name: ED BLALOCK
Organization: BCS LIFE SUPPORT LLC
Telephone: 
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Wed Jun 29 11:25:06 EDT 2016

Copyright Assignment

I, ED BLALOCK, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

☐ By checking this box I affirm that I am ED BLALOCK, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
Public Input No. 7-NFPA 1852-2015 [Section No. 2.3.1]

2.3.1 U.S. Government Publications.


Statement of Problem and Substantiation for Public Input

Referenced current GPO name, and address.

Related Public Inputs for This Document

<table>
<thead>
<tr>
<th>Related Input</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Input No. 1-NFPA 1852-2015 [Chapter D]</td>
<td>Referenced current SDO names, addresses, standard names, numbers, and editions.</td>
</tr>
</tbody>
</table>

Submitter Information Verification

Submitter NFPA User ID: chippewaathletics07@gmail.com
Submitter Full Name: Aaron Adamczyk
Organization: [Not Specified]
Telephone: 
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Thu Nov 05 22:45:24 EST 2015

Copyright Assignment

I, Aaron Adamczyk, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am Aaron Adamczyk, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
Public Input No. 1-NFPA 1852-2015 [Chapter D]

Annex D  Informational References

D.1  Referenced Publications.

The documents or portions thereof listed in this annex are referenced within the informational sections of this standard and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

D.1.1  NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.


D.1.2  Other Publications.

D.1.2.1  ANSI Publications.

American National Standards Institute Inc., 11 West 42nd Street, 13th floor, New York, NY 10036.


D.1.2.2  U.S. Government Publications.


D.2  Informational References.

The following documents or portions thereof are listed here as informational resources only. They are not a part of the requirements of this document.

D.2.1  CGA Publications.


D.2.2  DOT Special Permits.

Associate Administrator for Department of Transportation, Washington, DC 20590, Attention: DHM-31.
Statement of Problem and Substantiation for Public Input

Referenced current SDO names, addresses, standard names, numbers, and editions.

Related Public Inputs for This Document

<table>
<thead>
<tr>
<th>Related Input</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Input No. 7-NFPA 1852-2015 [Section No. 2.3.1]</td>
<td></td>
</tr>
</tbody>
</table>

Submitter Information Verification

Submitter NFPA User ID: chippewaathletics07@gmail.com
Submitter Full Name: Aaron Adamczyk
Organization: [ Not Specified ]
Telephone:    
Street Address: 
City:        
State:       
Zip:         
Submittal Date: Tue Jul 28 01:59:42 EDT 2015

Copyright Assignment

I, Aaron Adamczyk, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

☐ By checking this box I affirm that I am Aaron Adamczyk, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
This standard shall apply to atmosphere-supplying respirators that provide the breathing air supply from a compressed breathing gas source, or cryogenic air source, that is independent of the ambient atmosphere.

Statement of Problem and Substantiation for Public Input

NFPA 1989 does not make provision for, or address "Cryogenic Liquid Air" as a source for breathing air. It is hereby suggested that the standard be revised to include Liquid Air manufacture, storage, sampling, and analysis methodology.

Submitter Information Verification

Submitter NFPA User ID: edblalock@bcscryo.com
Submitter Full Name: ED BLALOCK
Organization: BCS LIFE SUPPORT LLC
Telephone:
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 28 23:05:39 EDT 2016

Copyright Assignment

I, ED BLALOCK, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am ED BLALOCK, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
1.3.1.2
This standard shall apply to all compressed normal atmospheric air and all compressed synthetic breathing air, and cryogenic liquid air, regardless of the source of the breathing air.

Statement of Problem and Substantiation for Public Input

This standard makes no provisions for, and does not address "Cryogenic Liquid Air". It is hereby suggested that NFPA 1989 be revised to address cryogenic air quality, storage, sampling and analysis methodology.

Submitter Information Verification

Submitter NFPA User ID: edblalock@bcscryo.com
Submitter Full Name: ED BLALOCK
Organization: BCS LIFE SUPPORT LLC
Telephone: 
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Wed Jun 29 08:38:22 EDT 2016

Copyright Assignment

I, ED BLALOCK, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am ED BLALOCK, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
Chapter 2   Referenced Publications

2.1   General.
The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

2.2   NFPA Publications.
National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

2.3   Other Publications.

2.3.1   ASTM Publications.
ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.
ASTM D 2986, Standard Practice for Evaluation of Air Assay Media by the Monodisperse DOP (Diocetyl Phthalate) Smoke Test, 1995.  (Withdrawn)

2.3.2   ISO Publications.
International Organization for Standardization, 1 Ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, ISO Central Secretariat, BIBC II, 8, Chemin de Blandonnet, CP 401, 1214 Vernier, Geneva, Switzerland.

2.3.3   Other Publications.

2.4   References for Extracts in Mandatory Sections. (Reserved)

Statement of Problem and Substantiation for Public Input

Referenced current SDO addresses, and standard editions.

Submitter Information Verification

Submitter NFPA User ID: chippewaathletics07@gmail.com
Submitter Full Name: Aaron Adamczyk
Organization: [ Not Specified ]
Telephone:
Street Address:
City:
State:
Zip:
Submittal Date: Fri Jun 19 04:15:19 EDT 2015
<table>
<thead>
<tr>
<th>Copyright Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>I, Aaron Adamczyk, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.</td>
</tr>
<tr>
<td>By checking this box I affirm that I am Aaron Adamczyk, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.</td>
</tr>
</tbody>
</table>
Public Input No. 11-NFPA 1989-2016 [ New Section after 3.3.3 ]

Cryogenic Liquid Air Storage
ASME or DOT Cryogenic storage vessels (Dewars) with a capacity of 50 liters or greater.

Statement of Problem and Substantiation for Public Input

NFPA 1989 does not make provision for, or address "Cryogenic Liquid Air" as a source for breathing air. It is hereby suggested that the standard be revised to include Liquid Air manufacture, storage, sampling, and analysis methodology.

Submitter Information Verification

Submitter NFPA User ID: edblalock@bcscryo.com
Submitter Full Name: ED BLALOCK
Organization: BCS LIFE SUPPORT LLC
Telephone:
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 29 09:06:09 EDT 2016

Copyright Assignment

I, ED BLALOCK, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am ED BLALOCK, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
Public Input No. 12-NFPA 1989-2016 [ New Section after 3.3.7 ]

CRYOGENIC BREATHING AIR SYSTEM
A system for the manufacture, storage, and delivery of liquid air to Cryogenic SCBAs.

Statement of Problem and Substantiation for Public Input

NFPA 1989 does not make provision for, or address "Cryogenic Liquid Air" as a source for breathing air. It is hereby suggested that the standard be revised to include Liquid Air manufacture, storage, sampling, and analysis methodology.

Submitter Information Verification

Submitter NFPA User ID: edblalock@bcscryo.com
Submitter Full Name: ED BLALOCK
Organization: BCS LIFE SUPPORT LLC
Telephone:
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 29 09:23:08 EDT 2016

Copyright Assignment

I, ED BLALOCK, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am ED BLALOCK, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
LIQUID AIR
A cryogenic mixture that is delivered to a cryogenic SCBA that, once vaporized, delivers breathable air to the user.

Statement of Problem and Substantiation for Public Input

NFPA 1989 does not make provision for, or address "Cryogenic Liquid Air" as a source for breathing air. It is hereby suggested that the standard be revised to include Liquid Air manufacture, storage, sampling, and analysis methodology.

Submitter Information Verification

Submitter NFPA User ID: edblalock@bcscryo.com
Submitter Full Name: ED BLALOCK
Organization: BCS LIFE SUPPORT LLC
Telephone: 
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Wed Jun 29 09:31:01 EDT 2016

Copyright Assignment

I, ED BLALOCK, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am ED BLALOCK, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
5.3.1
The organization shall document whether the breathing air is derived from normal atmospheric air, manufactured synthetic air, or cryogenic liquid air.

Statement of Problem and Substantiation for Public Input

NFPA 1989 does not make provision for, or address "Cryogenic Liquid Air" as a source for breathing air. It is hereby suggested that the standard be revised to include Liquid Air manufacture, storage, sampling, and analysis methodology.

Submitter Information Verification

Submitter NFPA User ID: edblalock@bcscryo.com
Submitter Full Name: ED BLALOCK
Organization: BCS LIFE SUPPORT LLC
Telephone: Street Address:
City: State:
Zip:
Submittal Date: Wed Jun 29 09:42:32 EDT 2016

Copyright Assignment

I, ED BLALOCK, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am ED BLALOCK, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
ELEVATED OXYGEN CONTENT AIR FOR SPECIAL USE
There may be special applications and equipment that may require oxygen content greater than 23.5% such as NITROX.

Statement of Problem and Substantiation for Public Input

NFPA 1989 does not make provision for, or address "Cryogenic Liquid Air" as a source for breathing air. It is hereby suggested that the standard be revised to include Liquid Air manufacture, storage, sampling, and analysis methodology.

Submitter Information Verification

Submitter NFPA User ID: edblalock@bcscryo.com
Submitter Full Name: ED BLALOCK
Organization: BCS LIFE SUPPORT LLC
Telephone:
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 29 10:08:28 EDT 2016

Copyright Assignment

I, ED BLALOCK, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am ED BLALOCK, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
The quarterly breathing air sample shall be obtained directly at the point of air transfer from the breathing air system. The point of air transfer shall be any CGA 346/347 or SCBA-specific connection where breathing air cylinders are filled. Cryogenic (Liquid) samples will be obtained at the point specified by the systems operating instructions.

Statement of Problem and Substantiation for Public Input

NFPA 1989 does not make provision for, or address "Cryogenic Liquid Air" as a source for breathing air. It is hereby suggested that the standard be revised to include Liquid Air manufacture, storage, sampling, and analysis methodology.

Submitter Information Verification

Submitter NFPA User ID: edblalock@bcscryo.com
Submitter Full Name: ED BLALOCK
Organization: BCS LIFE SUPPORT LLC
Telephone:
Street Address:
City:
State:
Zip:

Copyright Assignment

I, ED BLALOCK, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am ED BLALOCK, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
5.6.1 Breathing air shall be tested for oxygen content as specified in Section 6.1, Oxygen Content Test, and shall have an oxygen content not less than 19.5 percent and not greater than 23.5 percent by volume, except for specialty gas requirements for elevated O2 content.

Statement of Problem and Substantiation for Public Input

NFPA 1989 does not make provision for, or address "Cryogenic Liquid Air" as a source for breathing air. It is hereby suggested that the standard be revised to include Liquid Air manufacture, storage, sampling, and analysis methodology.

Submitter Information Verification

Submitter NFPA User ID: edblalock@bcscryo.com
Submitter Full Name: ED BLALOCK
Organization: BCS LIFE SUPPORT LLC
Telephone: 
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Wed Jun 29 10:27:12 EDT 2016

Copyright Assignment

I, ED BLALOCK, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am ED BLALOCK, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
5.7.2.2
The quality assurance sign shall also state the following, and all letters and numbers shall be at least 12 mm (½ in.) in height:

"COMPRESSED AIR SOURCE IDENTIFICATION — NEXT SAMPLE DUE ON OR BEFORE [date]"

or

"CRYOGENIC (LIQUID) AIR SOURCE IDENTIFICATION — NEXT SAMPLE DUE ON OR BEFORE [date]"

Statement of Problem and Substantiation for Public Input

NFPA 1989 does not make provision for, or address "Cryogenic Liquid Air" as a source for breathing air. It is hereby suggested that the standard be revised to include Liquid Air manufacture, storage, sampling, and analysis methodology.

Submitter Information Verification

Submitter NFPA User ID: edblalock@bcscryo.com
Submitter Full Name: ED BLALOCK
Organization: BCS LIFE SUPPORT LLC
Telephone:
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 29 10:32:03 EDT 2016

Copyright Assignment

I, ED BLALOCK, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am ED BLALOCK, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
6.9 Sound Level Test

6.9.1 Sound level shall be measured using a sound level meter from eight test points around the compressor: front, back, left, right, along with a test at each corner of the compressor.

6.9.2 db level readings during the test will be conducted at 1 meter off the ground and 3 meters from the compressor at each of the points identified above.

6.9.3 All 8 data points shall be averaged together to come up with average db level per unit.

6.9.4 This information shall be published and made publicly available.

Statement of Problem and Substantiation for Public Input

Test procedures for measuring db levels of compressors.

Submitter Information Verification

Submitter NFPA User ID: jburnheimer@tycoint.com
Submitter Full Name: Josh Burnheimer
Organization: [ Not Specified ]
Telephone: 
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Tue Jun 28 15:13:07 EDT 2016

Copyright Assignment

I, Josh Burnheimer, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am Josh Burnheimer, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
General Piping and Installation
(from NFPA 1901 24.2.7.1)

7.2.5.1 All pneumatic fittings, tubing, and hose shall be rated for the maximum allowable working pressure that could be encountered, with a test safety factor of not less than 4:1.

(From NFPA 1901 24.4.5.2)

7.2.5.2 The mechanical separator and the purifier housings shall be designed for a 4:1 safety factor at their maximum allowable working pressure

Statement of Problem and Substantiation for Public Input

All compressor components should maintain a 4:1 safety factor as stated in NFPA 1901.

Submitter Information Verification

Submitter NFPA User ID: jburnheimer@tycoint.com
Submitter Full Name: Josh Burnheimer
Organization: Scott Safety
Telephone: 
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Tue Jun 28 14:45:09 EDT 2016

Copyright Assignment

I, Josh Burnheimer, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

☐ By checking this box I affirm that I am Josh Burnheimer, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
**7.2.6 Sound Level**

7.2.6.1 All compressor manufacturers shall disclose accurate average operating sound level in db.

7.2.6.2 Standardized sound levels test shall be conducted in accordance with section 6.9 of NFPA 1989.

**Statement of Problem and Substantiation for Public Input**

Due to the recent events involving lawsuits due to hearing loss, manufacturers should be required to provide accurate db levels for each of their compressors using a standard testing method for comparison. This allows the users to understand some of the the risks associated with breathing air compressors as it relates to high levels of sound.

**Submitter Information Verification**

Submitter NFPA User ID: jburnheimer@tycoint.com
Submitter Full Name: Josh Burnheimer
Organization:
Telephone:
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 28 15:02:48 EDT 2016

**Copyright Assignment**

I, Josh Burnheimer, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am Josh Burnheimer, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
7.4.4.1 *

These records shall include, but not be limited to, the fill date, identification of the person performing the fill, cylinder serial number, breathing air source, final cylinder pressure, and most recent hydrostatic test date.

Statement of Problem and Substantiation for Public Input

Submitter Information Verification

Submitter NFPA User ID: jburnheimer@tycoint.com
Submitter Full Name: Josh Burnheimer
Organization: [ Not Specified ]
Telephone: 
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Tue Jun 28 14:35:14 EDT 2016

Copyright Assignment

I, Josh Burnheimer, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

[By checking this box I affirm that I am Josh Burnheimer, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature]
7.4.5 Automatic Electronic Data Collection i.e. RFID

7.4.5.1 Cylinder fill data should be captured by automatic, electronic means such as RFID, attached or embedded on the breathing air cylinder.

7.4.5.2 Electronic data collection for cylinder data shall capture at a minimum those items outlined in 7.4.4.1.

7.4.5.3 Electronic cylinder data record keeping shall be tamper-proof, preventing editing by the organization once it has been captured.

7.4.5.4 Electronic cylinder ID tag shall be positioned in a location that guarantees interoperability among manufacturers.

7.4.5.5 Cylinder data tags must use a frequency for interoperability among various manufacturers’ electronic data collection systems.

Statement of Problem and Substantiation for Public Input

It is well known that firefighters do not use cylinder logs every time a cylinder is filled, as required by NFPA 1989. RFID cylinder tracking can automate that process and store all of the information for easy access should it ever be needed for an investigation or other purposes. Additionally, electronic cylinder tracking will prevent a cylinder from being filled out of hydro or beyond its useful life. This technology can keep firefighters safer by removing many of the manual requirements currently in place.

Submitter Information Verification

Submitter NFPA User ID: jburnheimer@tycoint.com
Submitter Full Name: Josh Burnheimer
Organization: [ Not Specified ]
Telephone:
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 28 15:23:08 EDT 2016

Copyright Assignment

I, Josh Burnheimer, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

By checking this box I affirm that I am Josh Burnheimer, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.
Public Input No. 8-NFPA 1989-2016 [ New Section after 7.4.4.2 ]

7.5 Cylinder Fill Stations

I want to propose that we transfer some of Chapter 24 of NFPA 1901 to NFPA 1989, as not all breathing air systems are mobile, and 1901 only covers mobile apparatus. As it stands now, there is no NFPA standard that covers stationary cylinder fill stations as part of a compressor system in a fire station or elsewhere.

Currently, NFPA 1901 standard “defines the requirements for new automotive fire apparatus and trailers designed to be used under emergency conditions to transport personnel and equipment and to support the suppression of fires and mitigation of other hazardous situations. It addresses “general requirements that apply to all types of fire apparatus as well as specific chapters for a wide range of vehicle types from pumper to aerial fire apparatus to special service apparatus, such as rescue vehicles and haz-mat vehicles, as well as quint and mobile foam apparatus.”

NFPA 1989 establishes criteria for a safe supply of breathing air to protect fire and emergency services personnel during confined space, fire fighting, rescue, hazardous materials incidents, CBRN terrorism incidents, and other types of operations where respiratory hazards can or do exist. The standard “specifies requirements for the breathing air quality component of the respiratory protection program and criteria for compressed breathing air systems.”

Based on the above definition excerpts taken from the NFPA website, the criteria for cylinder fill stations should reside in NFPA 1989. As most compressor systems are stationary, it make more sense to set the standards in NFPA 1989 and have NFPA 1901 reference the breathing air standard when compressor systems are installed on mobile vehicles. As it stands now, there are little to no requirements for a cylinder fill station in the breathing air standard, therefore providing little to no oversight and safety standards for stationary cylinder fill stations.

At a minimum, I would propose moving Sections 24.9 (SCBA or SCUBA Cylinder Fill Station) and 24.9.6 (Testing and Certification) from NFPA 1901 to NFPA 1989, as these cover the safety requirements and testing procedures for cylinder fill stations to contain a ruptured cylinder.

Statement of Problem and Substantiation for Public Input

There is no NFPA standard to cover cylinder fill stations and rupture containment for stationary compressor systems. As it stands now, NFPA 1901 only provides standards and test procedures for mobile fill stations on apparatus. This information should be housed in NFPA 1989, not NFPA 1901.

Submitter Information Verification

Submitter NFPA User ID: jburnheimer@tycoint.com
Submitter Full Name: Josh Burnheimer
Organization: Scott Safety
Telephone:
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 28 16:45:38 EDT 2016
I, Josh Burnheimer, hereby irrevocably grant and assign to the National Fire Protection Association (NFPA) all and full rights in copyright in this Public Input (including both the Proposed Change and the Statement of Problem and Substantiation). I understand and intend that I acquire no rights, including rights as a joint author, in any publication of the NFPA in which this Public Input in this or another similar or derivative form is used. I hereby warrant that I am the author of this Public Input and that I have full power and authority to enter into this copyright assignment.

☑ By checking this box I affirm that I am Josh Burnheimer, and I agree to be legally bound by the above Copyright Assignment and the terms and conditions contained therein. I understand and intend that, by checking this box, I am creating an electronic signature that will, upon my submission of this form, have the same legal force and effect as a handwritten signature.