



Interchanging SCBA Cylinders

Dear Reader:

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We hope this information will be useful to you; reference to it will assist you with many of the questions that will arise in your tenure with municipal government. However, the *Tennessee Code Annotated* and other relevant laws or regulations should always be consulted before any action is taken based upon the contents of this document.

Please feel free to contact us if you have questions or comments regarding this information or any other MTAS website material.

Sincerely,

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Many composite self-contained breathing apparatus (SCBA) cylinders have a maximum service life of 15 years, and fire departments may be tempted to extend the service life of their air packs by replacing expired cylinders with a generic cylinder or a cylinder of a different brand than their SCBA. Fire departments may also desire to increase the number of spare air cylinders on hand by using a generic brand cylinder or a brand that is different than their SCBA. While it is physically possible to use a different brand of compressed breathing air cylinders with a department's SCBA, this should be done only in emergency situations.

All brands of SCBA air packs and compressed breathing air cylinders use connectors that meet Compressed Gas Association (CGA) standards for the given working pressure of the SCBA, so it is physically possible to interchange air cylinders between SCBA brands. However, a department should refer to the warranty for its brand of SCBA as interchanging cylinders may void the warranty.

The National Institute for Occupational Safety and Health (NIOSH) certifies SCBAs as a complete unit, and the certification applies only if one uses the cylinders designed for use with that pack. While it is possible to use other brands or generic cylinders, when such cylinders are being used the SCBA is not considered to be NIOSH compliant, and NIOSH certification is required by law. Also, NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*, requires NIOSH certification, so NFPA does not support the interchange of cylinders.

OSHA regulations state the following, which does not allow routine interchangeability.

29 C.F.R. § 1910.134(i)(9)

The employer shall use only the respirator manufacturer's NIOSH-approved breathing-gas containers, marked and maintained in accordance with the Quality Assurance provisions of the NIOSH approval for the SCBA as issued in accordance with the NIOSH respirator-certification standard at 42 C.F.R. § pt. 84.

However, OSHA recognized that unforeseen situations and mutual aid situations occur, and OSHA has two sections in the regulations to address this. Section of 29 CFR 1910.156 applies to fire brigades, industrial fire departments and private or contractual type fire departments.

29 C.F.R. § 1910.120(q)(3)(x)

When deemed necessary for meeting the tasks at hand, approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet U.S. Department of Transportation and National Institute for Occupational Safety and Health criteria.

29 C.F.R. § 1910.156(f)(1)(iv)

Approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet DOT and NIOSH criteria.

These rules recognize the possibility for mutual aid between different fire departments with different brand SCBA, and that a fire brigade or industrial fire department would interface with the local municipal fire department that responded to a fire in the plant or building, and since it is possible that the SCBAs could be from different manufacturers, this rule allowed the interchange of cylinders for the mutual aid response. It is obvious from these three rules that while OSHA does recognize that incidents will occur where the exchange of SCBA cylinders may be needed for safety, it is not OSHA's intent to encourage the regular and routine interchange of different brand SCBA cylinders, or the replacement of expired SCBA cylinders with a different brand cylinder, or the supplementing of the number of spare SCBA cylinders with other brand cylinders. OSHA addressed this issue in 1997 and updated their position in 2005 in this interpretive bulletin of the OSHA standards: https://www.osha.gov/pls/oshaweb/owadispl.show_document?p_table=INTERPRETATIONS&p_id=23479 [1]

In summary, while it is physically possible to interchange SCBA air cylinders, fire departments should use the manufacturer's cylinders with their SCBA, and interchange cylinders only when absolutely

necessary, such as on a mutual aid response. This keeps the fire department in compliance with OSHA regulations and maintains the NIOSH certification on the SCBA. Even on a mutual aid call or in an emergency, interchanging air cylinders may void the warranty on the SCBA, and the SCBA is not considered NIOSH compliant while the other cylinder is attached.

Links:

[1] https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=23479

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