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Leveling the Playing Field for SCBA Cylinders

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Background: *Structural Composites Industries, A Worthington Cylinders Company, is the world's first producer of Department of Transportation (DOT)-approved composite cylinders for municipal, commercial, military, marine and aerospace applications. With millions of cylinders in operation today, Structural Composites Industries (SCI) has a safety record second to none. In addition, SCI is the only ISO9001 - AS9100 certified Self Contained Breathing Apparatus (SCBA) cylinder manufacturer in the USA.*

Introduction

Firefighters rely on self-contained breathing apparatus (SCBA) units to provide breathing air when fighting fires and in other emergencies. SCBA units, including cylinders, are tested as a single product by a Federal Code – 42 CFR Part 84 – by the National Institute for Occupational Safety and Health (NIOSH), the federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness. The NIOSH approval process is accepted by the Occupational Safety and Health Administrations (OSHA), National Fire Protection Association (NFPA) and Canadian Standards Association (CSA). And while NIOSH relies on the DOT approval for cylinder manufacturing, NIOSH does not assess or approve the cylinders individually. That means that fire departments often choose not to purchase replacement cylinders directly from the cylinders' manufacturers. They pay inflated prices by buying replacement cylinders from respirator manufacturers.

The principal beneficiaries of the current NIOSH approval process are the respirator

manufacturers, who are artificially protected from competition. The victims of the standard are:

- Fire departments that pay an inflated mark-up price to respirator manufacturers and are prevented from utilizing their product and industry-specific knowledge of SCBA equipment to make more effective purchasing decisions.

- Municipalities and taxpayers become victims as they unknowingly subsidize respirator manufacturers' profits in the name of a safety regulation.

- Cylinder manufacturers that are unfairly prevented from competing for business by a "safety" regulation that arbitrarily limits who can sell cylinders to the knowledgeable end user.

We believe that NIOSH should immediately modify 42 CFR Part 84 to allow for separate, stand-alone approval of cylinders. Maintaining the current packaged standard adds excessive user costs and does not demonstrate any added value or safety measures to users.

Through March 31, 2011, NIOSH is requesting comment for updating standard 42 CFR, Part 84. As a cylinder manufacturer, SCI strongly urges you to comment. We also urge NIOSH to consider approval of individual SCBA cylinders. Doing so will level the playing field, allowing cylinder manufacturers to make direct sales to fire departments while enhancing the buying power of fire companies and municipalities without fear of sanctions.

The Recession and Municipal Budgets

As the U.S. economy continues to feel the effects of the recession, state and municipal budgets nationwide continue to struggle to make ends meet. A *January 21 article*[1] from The Center on Budget and Policy Priorities states: "A survey of state fiscal conditions suggests that: 2012 is shaping up as states' most difficult budget year on record. Thus far some 44 states and the District of Columbia are projecting budget shortfalls totaling $125 billion for fiscal year 2012. While states are anticipating significant shortfalls in the coming year, their options for addressing those shortfalls are dwindling."

A recent *New York Times article*[2] cites the budgetary plight of municipalities, specifically Hamtramck, Mich., a Detroit suburb. The city is asking the state to allow it to declare bankruptcy, according to the article. It goes on to say that 60 percent of the city's general fund is comprised of pay for its police and firefighting forces, and alludes to discussions between the city and safety forces that have urged police and fire personnel to accept pay cuts and layoffs. Municipalities nationwide struggle to find ways to stretch budgets, and just about everything must be replaced eventually; equipment breaks, wears out, or is just too old to serve a useful purpose.

Yet the NIOSH approval process for SCBA units punishes cash-strapped fire departments.

Some Regulations Can Keep Costs Artificially High

Firefighting SCBA units, at their core, are comprised of a high pressure tank, or cylinder, filled with filtered, compressed air; a pressure regulator; and a face mask. Extra, fully filled cylinders are carried on emergency vehicles and can be interchanged as firefighters' air supplies run low during an emergency.

To be considered for use in an SCBA application, the cylinders must be DOT-CFFC approved, which involves thorough design, manufacturing, pressure and quality assurance testing. The cylinders are typically made of aluminum, steel or lightweight composite materials and have a shelf life, on average, of 15 years, eventually requiring replacement due to damage, wear or age. The cylinders are manufactured by a range of companies and sold to respirator manufacturers that package the cylinder with their proprietary respirators.

For the most part, the cylinders are generic. Except for minor geometry differences, there are no proprietary designs required by individual respirator manufacturers. Cylinders from one manufacturer may be replaced with those of another, similar to replacing one brand of batteries with another in an electronic device, or one brand of tires being exchanged for another on a vehicle. The cylinder's job is to contain highly pressurized breathing air. For SBCA units in use in North America, outlet and inlet standards are prescribed by the Compressed Gas Association (CGA) and the American National Standards Institute (ANSI), respectively. Using cylinders interchangeably does not affect the unit's fit, form or function. As much as the respirator manufacturers would like fire departments to believe otherwise, as long as the cylinders are DOT-approved – regardless

of whether they are currently used as part of a respirator manufacturer's packaged SCBA product – they will provide safe operation to firefighters or other end users. OSHA has provided for such interoperability of cylinders in emergency situations, thus proving the fact that a DOT-approved cylinder will operate safely in virtually any SCBA application.

So when a fire department needs to purchase replacement cylinders, it stands to reason that the purchase should be able to be made from any manufacturer of cylinders whose products carry DOT approval – saving taxpayer dollars – rather than buying the same cylinder from a respirator manufacturer at a huge markup, with zero value added.

But that's largely not the case, and it costs fire companies and taxpayers nationwide operating budget dollars every year – dollars that could be better spent on keeping the department fully staffed or on new life-saving equipment in a difficult budget environment.

Federal Standard Inhibits Direct Purchase

SCBA units are tested as a single product (which include the cylinder) by NIOSH per 42 CFR Part 84. But because cylinders are not NIOSH-approved independent of the respirator, they cannot be labeled as such until they are assembled as a NIOSH-approved unit by respirator manufacturer, or repackaged and sold through the same manufacturer as a stand-alone "replacement" part. Respirator manufacturers hold NIOSH approvals for nearly every U.S.-made cylinder. That same cylinder – sold directly from a cylinder manufacturer to a fire department rather than through a respirator manufacturer – is deemed non-compliant (non-NIOSH approved), as it cannot carry a respirator manufacturer's part numbers. And, typically, if a fire company purchases directly from a cylinder manufacturer rather than through a respirator manufacturer, the respirator manufacturer claims to void the product's warranty. A respirator manufacturer may argue that safety is compromised with a non-NIOSH approved cylinder, but any failure that could be found would have been on a cylinder that had at some point received NIOSH approval. The rigorous DOT requirements are responsible for reducing potential failure, recalls or specific issues to cylinders.

Respirator manufacturers argue that without the cylinder as part of the NIOSH approval process, quality control issues as required in subpart E of 42 CFR Part 84 may be compromised. The fact is that strict requirements are placed on cylinder manufacturers to maintain their DOT approvals and special permits. For example, all cylinders are subject to tests and evaluations performed by resident, third-party inspectors during the manufacturing process. The inspector's mark is permanently affixed to the cylinder at the time of satisfactory completion of the manufacturing process. Nowhere else is the cylinder subjected to such a high quality control requirement than at the factory where it was made.

At the heart of the matter is cost. A cylinder purchased through a respirator manufacturer carries a healthy markup, even though the respirator manufacturer does nothing to add value to that cylinder once it arrives from the cylinder manufacturer. The cylinder is marked up excessively as a result of the monopoly that arises from the NIOSH-approved product as opposed to a DOT-approved cylinder – these markups can be anywhere in excess of 300 percent to 800 percent. But if the purchase could be made directly from the cylinder manufacturer, cost savings to the end user could be dramatic. This "restrictive" practice also harms cylinder manufacturers whose products are not in current use by respirator manufacturers, but whose products have been used in the past and NIOSH-approved. These cylinders meet the DOT requirements, but their potential direct sales to fire departments have been severely hampered.

In his *State of the Union Address*[3] on January 25, President Obama stated that he has asked for a review to prevent such practices in government:

"To reduce barriers to growth and investment, I've ordered a review of government regulations. When we find rules that put an unnecessary burden on businesses, we will fix them. But I will not hesitate to create or enforce common-sense safeguards to protect the American people."

In addition, New Jersey Governor Chris Christie implemented *Executive Order No. 3*[4], which creates a Red Tape Review panel to evaluate proposed and pending state rules, and previous Governors' Executive Orders, to assess their effects on New Jersey's economy and to determine whether their burdens on businesses and workers outweigh their intended benefits. These actions show the need to review regulator practices that have negative effects on state and municipal governments.

Direct Purchasing Can – and Does – Occur; However ...

Naturally, some direct purchasing does exist as fire companies seek to control costs. Customers (fire companies, municipalities and, ultimately, taxpayers) may see a tremendous value opportunity in purchasing SCBA cylinders directly from cylinder manufacturers, but in 23 U.S. states that have their own OSHA plans, regulations could make it difficult for first responders and municipalities to use cylinders that do not carry a separate NIOSH approval. Legal opinions indicate that 29 U.S. states and territories do not have plans, and as a result are not prohibited. Volunteer fire departments may also be exempt from such fines. Many departments, seeing a tremendous value in direct purchase, have made the decision that there is no liability or legal issue to worry about.

However, the loss of product warranty, along with the strong sanctions by operating contrary to established standards, prevents many companies from making direct cylinder purchases. So as respirator manufacturers continue to drive down cylinder costs – which have essentially become commodities – their customers, fearing sanctions, pay an exponentially higher price for replacement cylinders from respirator manufacturers today than ever before.

It's a vicious circle; the NIOSH approval process simply responds to an OSHA requirement that the respirator is tested and approved by NIOSH. NIOSH will only approve full systems, not individual components. And respirator manufacturers tell customers that if they don't purchase certified systems, they are not in compliance with OSHA and therefore subject to penalties and the weight of OSHA – plus the customers have effectively voided their respirator warranties.

Leveling the Playing Field

We applaud the fact that NIOSH is requesting comment for updating standard 42 CFR Part 84. It is truly the opportunity to level the playing field for fire departments (and the taxpayers and municipalities they serve) as well as cylinder manufacturers.

We have been told asking for NIOSH approval for stand-alone cylinders could open a "Pandora's box," requiring each system component to be tested individually and standards would have to be developed for such, taking time and adding expense. We welcome such an approval process. Cylinders are already manufactured to a DOT approval to which no other system component is held. There is no reason that all components of SCBA units should not meet individual standards as well as a packaged standard.

A separate standard for cylinders causes no harm; it helps to certify the safety that is inherent in the DOT-approved cylinders by yet another third party, providing buyers confidence in safety – and providing much needed monetary relief for fire departments and municipalities nationwide.

[1] Center of Budget & Priority Policy, http://www.cbpp.org/cms/?fa=view&id=711, January 21, 2011

[2] "Michigan Town is Left Pleading for Bankruptcy," Monica Davey, The New York Times, http://www.nytimes.com/2010/12/28/us/28city.html?_r=1&scp=11&sq=Economy's%20effect%20on%20municipalities&st=cse, December 27, 2010

[3] "Remarks by the President in State of the Union Address," http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address, January 25, 2011

[4] "State of New Jersey Executive Order No. 3," http://www.state.nj.us/infobank/circular/eocc3.pdf, January 20, 2010