



# Price Discovery in Workplace Safety

By Michael A. Anthony, P.E., and Clint Lord

*A University of Michigan research project will inform the next revision of an important safety standard. The result will benefit the entire education industry.*

The International Safety Equipment Association's "ANSI Standard for Eyewash and Emergency Showers Z358" is among its suite of voluntary consensus standards undergoing a five-year revision of its requirements for installation, performance, operations, maintenance, and testing. APPA's Standards and Codes Council is engaged the development of the 2014 revision, because Z358 will affect total owning cost of classrooms, laboratories, hospitals, skilled trade shops, custodial closets, and other locations.

Estimates of the number of these installations in our industry are on the order of 1 to 10 million—some plumbed, some self-contained (See Figure 1.) They must be within 10 seconds travel distance, and provide water within 1 second that is between 60 to 100 degrees Fahrenheit for 15 minutes.

OSHA reports 2,000 eye injuries every day, but the data is not granular enough to discriminate among the causes. At the

University of Michigan, for example, there are 3,000 installations across 35 million square feet. In its 800-bed hospital system alone there are 580 eyewash stations. (Arizona State University's opinion on this requirement is described in the sidebar.)

The requirement for *weekly* testing of this technology has also revealed differences among stakeholders in our industry:

1. The degree to which stakeholders within our industry differ in approaches to workplace safety.
2. The fine line between suppliers of this technology meeting demand, and

creating demand through government regulation

## NO SURPRISE HERE

The increase in the cost of maintaining our facilities, and the gathering pace of off-shoring research and development projects to nations where workplace safety assumptions are different, is not surprising.

Neither is it surprising that two industries—which together make up 24 percent of the U.S. Gross Domestic Product—should have stakeholders that disagree. However, few of the advocacy achievements by APPA's Standards and Codes



FIGURE 1

## An Opinion on ISEA Z358

As universities continue to grow in enrollment and specialized programs, the safety of students, employees, and faculty remains paramount. Many safety standards lack substantial supportive literature and research. One of these standards is ISEA Z358.1, Emergency Eyewash and Shower Equipment. The requirement for testing is every 7 days and is greater than what is needed. This requirement puts an undue burden on the resources of the universities and institutions complying with the requirement.

Arizona State University has more than doubled the amount of research it conducts on its campuses and is looking to expand even further in the near future. Most of the research facilities will have an emergency eyewash or shower installed in each the labs, making the total number of stations that need testing grow exponentially. Having the resources available to meet the testing requirements of ISEA Z358.1 will require the university to hire additional staff, utilize educational personnel, or contract the testing in order to maintain compliance.

There are many options that would help reduce the current strain on resources in the university environment while enabling the institutions that are currently falling short of the standard to come within compliance. Opportunities to reduce this strain on campus could include moving to monthly testing, testing at the beginning of each academic quarter, or requiring flushing after any loss of water service to the facility.

*Clint Lord, Director of Facilities, Arizona State University*

Council since 2002 came to a unanimous agreement. Evidence to that are:

1. The expansion of arc-fault circuit interrupters into dormitories.
2. The relaxation of the fire pump no-flow testing interval
3. The defeat of the ASHRAE 90.1 requirement for 50 percent of all power outlets to be connected to timers.

#### WHICH CAME FIRST?

The National Technology Transfer and Advancement Act of 1996 is the parent legislation for technical innovation and regulation in the U.S. A natural and legal byproduct of the law is that 501(c)(3) nonprofit organizations such as the International Safety Equipment Association (ISEA) can influence legislation in other ways. Use of lobbying is a legal and enduring feature of American legislative processes and free speech.

The occupational health and workplace safety services market in the U.S. is \$5.5 billion, and will grow at 4.7 percent going forward, which is three times the growth of the U.S. economy. Is this growth driven by increased hazards, or is the growth the result of assertive advocacy for more regulation?

The U.S. standards system welcomes competing interests and encourages them to work out their differences in an open and transparent process mediated by the American National Standards Institute. A similar process can be used to work through differences within our own industry.

#### THE FM AS CHIEF RISK OFFICER

The facilities manager must be sensitive to the safety professional's expertise, frequently hard-won from experience with tragic accidents. On the other hand, the safety professionals must present ideas to reconcile the competing requirements of economy and safety. This technology provides necessary relief to *one person*. Electrical generators, fire pumps, transfer switches, mass notification and fire alarm systems, however, affect *many more* people. Shouldn't the

facilities manager allocate grim resources to mitigating hazards most likely to occur and affect the most people?

All difficult questions involve matters of degree. We all differ by measures of our own tolerance for risk, and all our life choices are informed by that tolerance. But what about the risk to the balance sheet? That is one of the reasons the University of Michigan Plant Operations is funding a research project through its School of Public Health, which will gather new data that can be used during the Z358 revision.

As has been discussed in previous columns of Code Talkers, the influence of the public nonprofit "user-interest" in the American national standards process—one of the largest purchasers of infrastructure—is virtually non-existent. We do have data, however, that can enlighten innovation and regulation of this

important safety technology.

The Standards and Codes Council has taken special efforts to understand all dimensions of industry thinking about this technology. It hopes to deliver the same advocacy success in this standard as the advocacy achievement in the fire pump no-flow test. To do this; however, the education facilities industry needs to disrupt itself and move into new spaces. ☞

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