



7½ Threads

When everything is the same, life seems dull. “Variety,” as the quote by William Cowper goes, “is the spice of life.” Or is it?

This past June in Las Vegas, Nev., AWWA’s Annual Conference & Exposition (ACE18) was co-located with the Conference and Expo of the National Fire Protection Association (NFPA). It was not the first time the two associations had worked together. In fact, we have been working together as far back as 1905, when fire hydrant couplings were standardized.

Most of us don’t think about how standards improve our lives and create great efficiencies. When was the last time you needed to charge your mobile device and could not find a charger that was compatible? If all chargers were the same—standardized—it would be easy to find one.

The story of why and how the NFPA and AWWA came to work together on fire hydrant couplings is very interesting and, quite frankly, it saves lives. Before 1905, fire hose couplings and fire hydrant connections were unique to the manufacturer of fire hoses and hydrants. This was a strategic way for the manufacturers to differentiate their products, but it also resulted in risks for communities.

The community risks became clear during the Great Baltimore Fire of 1904 (Seck & Evans 2004). As this historic fire grew, over 1,200 firefighters arrived from places like Washington, New York, Philadelphia and Annapolis to help their Baltimore colleagues put the fire out. They found that while some fire hoses fit the Baltimore hydrants, others did not. Because standardized firefighting equipment was not the norm, those whose hoses did not fit Baltimore’s hydrants were helpless in assisting. Imagine their frustration. Imagine the frustration of homeowners and business owners who lost their property because of the lack of standardization.

The risks of manufacturer-specific couplings and hydrants became clear. As a result, the NFPA began the process of establishing a national standard to solve the problem, including standardizing the threads for hoses and hydrants.

As the 1905 NFPA standard for fire hydrant couplings was taking shape, there was a keen awareness of both the mechanical requirements of the standard and the economic impact it might have on communities. From a mechanical standpoint, the strength and efficiency of six threads per inch was preferred for a 2½-inch coupling (Department of Commerce 1917). However, most cities were not using a thread count of six per inch. NFPA and AWWA committees held a meeting in New York City on Apr. 24, 1905, to discuss the thread count issue and decided to develop the national standard using the more common 7½ threads per

inch because it would meet the mechanical requirements and reduce the economic impact for communities implementing the standard.

Despite the importance of the fire hydrant coupling standard and the responsible step taken by NFPA and AWWA, communities were slow to adopt the standard. Even as recently as 2004, a report by the National Institute of Standards and Technology (NIST) showed that only 18 of the 48 most populated cities in the United States have both small hose and pumper connections on fire hydrants that comply with the NFPA standard and that five major cities have no standard connections on their hydrants.

The reality that major cities have not fully adopted the standard, a century after the Baltimore fire, highlights the idea that NFPA and AWWA were correct in considering the economic impact communities would face when replacing their equipment. It is also interesting to note that most of the major cities without standard connections have six threads per inch on their hydrants, which was the preferred mechanical design at the time the 1905 standard was developed. And firefighting equipment now includes adaptors, which provides firefighters with a work-around when their equipment is not compatible with that of other communities.

Standards may seem dull, but, they really are a game changer. The efficiency, economic value, and purchasing confidence they provide are vast. AWWA has been developing standards for the water sector since 1882, when its first standards committee was formed. We are proud that thousands of utilities of all sizes and manufacturers of water-sector equipment and processes have adopted AWWA standards thereby creating significant benefits and efficiencies to the water sector and those it serves. So, maybe standards are not the “spice of life,” but life certainly is better because of them.

<https://doi.org/10.1002/awwa.1150>

REFERENCES

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