Backflow Valve Update # 6

June 27, 2010

The full series of *Backflow Valve Updates* is available at www.backflowvideos.org

This *Update* [1] is devoted to two items. First is a discussion of whether the Department of Environmental Protection (DEP) and water purveyors have the authority under Florida Statute 120.52(8)(f) to impose more expensive backflow devices on citizens rather than the less costly alternative that substantially accomplishes the statutory objectives to detect and prevent backflow. The second item in this Update # 6 praises Broward County for installing backflow valves on all 7,800 of its fire hydrants.

The less costly alternative is mandated by the Florida Statutes.

February's Update # 2 pointed out that the DEP's July 1, 2009 draft revision [2] violated Florida Statutes, Section 120.52(8)(f) in that:

> "A proposed or existing rule is an invalid exercise of delegated legislative authority if the rule imposes regulatory costs on the regulated **person**, county, or city which could be reduced by the adoption of less costly alternatives that substantially accomplish the statutory objectives."

You'll recall that Update # 2 noted that the wholesale cost of a water meter plus an RP [3] is about the same as an AMR [4] plus a Dual-check backflow valve.

---

[1] The DEP is aware of the contents of this *Update* and any corrections that they supplied have been incorporated. My discussion is not intended to detract from the effort by DEP to revise their out-of-date regulations. As "just a citizen", I do not speak for the DEP.

[2] The most recent revision of 62-550 & 62-555 is from July 1, 2009, almost a year ago, and can be found at www.suncitydave.info/DEP-Draft-3.pdf

[3] To conserve space in this *Update*, the acronym "PR" is used to represent Reduced Pressure Zone backflow valves (known as RPs & RPZs) and Double-check valves, both of which provide direct access to the public water supply by terrorists, pranksters and disgruntled people.

[4] AMR's (Automatic Meter Reading water meters) record the amount of forward **and backflow** every 15 minutes, or oftener, and transmit the data to a passing vehicle or central antenna, i.e. they report any backflow incidents either instantaneously or within 30 days, depending on the utility's protocol. AMRs are typically warranted for at least ten years. Empirical testing by Palm Beach County has shown that Dual-check valves still protect against backflow even after ten or more years. In other words: "Set it and forget it!"

However, the RP installation will then have an additional annual testing and maintenance cost of between $60 to $840 [5], year-after-year-after-year! On the other hand, in an AMR/Dual-check installation, the AMR is guaranteed for at least 10 years and may only require a $10 Dual-check valve every few years! An AMR/Dual-check installation will also save the utility the direct and overhead cost of meter readers [6] and will detect customers who may be watering outside of their allotted times during droughts.

And most importantly, an AMR/Dual-check valve combo is the only device that actually conforms with the requirements of being able to "detect" and "prevent" backflow. An RP can't even detect if it's broken and allowing backflow. It just sits there in a failed condition much of the time. [7]

After the above discussion in Update # 2, it was brought to my attention that the DEP's July 1, 2009 draft revision uses the phrase "as stringent as" or "more stringent than" three times to let utilities range beyond the regulations. In particular, on page 12 of the draft:

> "(b) CWSs [Community Water Systems] may establish and implement written cross-connection control programs **with more elements, or more stringent requirements**, than those described in paragraph 62-555.360(5)(a), F.A.C. Paragraph 62-24 555.360(5)(a), F.A.C., establishes minimum requirements for written cross-connection control programs and does not prohibit CWSs from establishing and implementing programs **with more elements or more stringent requirements**."

Because of Florida Statute 120.52(8)(f), the Department of Environmental Protection **does not** have the authority to allow a utility to authorize an alternate backflow device or requirements that are more costly.

Likewise, and because of that same statute, a utility **does not** have the authority to specify to a "regulated person" an alternate backflow device or requirements that are more costly.

---

[5] These figures are from the University of Florida's TREEO Center.

[6] The cost to manually read a meter drops from about 54¢ per meter to about 4¢ per meter with an AMR.

[7] The DEP's John Sowerby, in a 3/29/2005 email, wrote:

> "Mechanical backflow preventers have internal seals, springs, and check valves that are subject to fouling, corrosion, wear, or fatigue. Depositing water and tuberculation build-up, as well as foreign material such as sand grains, can foul check valves or can clog sensing lines in **reduced-pressure principle [RP] backflow preventers**."

Sadly, trade associations and individuals whose sole interest is the money to be made from installing and annually testing RPs may suggest that RPs are the only way to go.

But the fact is that in an age when technology (AMRs) has outpaced the law, it's time for the law to catch up. And Florida Statute 120.52(8)(f) mandates that to happen!

If the true goal is no more backflow, then an AMR/Dual-check combo is the only way to go - not the very fragile, very vulnerable and very expensive RP valve.

Praises to Broward County!

The following item from the June 9, 2010 *Broward County Sun Sentinel* caught my eye:

> **Broward County protects water supply from terrorists**
>
> By Brittany Wallman
>
> Terrorists will not be able to pump poison into the county water supply.
>
> Broward County water officials feared the thousands of fire hydrants across the county presented a terrorist opportunity. The county spent $3.5 million having anti-terrorist valves installed on about 7,800 hydrants in the 18 cities, the airport and the port, served by the county water utility, said Director Alan Garcia.
>
> Garcia called the job "a good insurance policy" against terrorist attack. Prior to installation of the valves, a terrorist had only to overcome water pressure and could back-pump toxins into the water supply.
>
> The work was done using revenue from water-sewer users. Commissioners on Tuesday closed the job, which came in under budget. [8]

Since water purveyors are liable for the water quality in their drinking water system [9] and are also responsible for "water sector security" [10], Broward County has acted responsibly to provide safe drinking water by recognizing that a terrorist, disgruntled person or

[8] http://articles.sun-sentinel.com/2010-06-09/news/fl-terror-hydrants-didbox-20100608_1_airport-noise-zone-water-supply-terrorist

[9] www.epa.gov/safewater/pws/index.html

[10] cfpub.epa.gov/safewater/watersecurity/bioterrorism.cfm

prankster can bypass any ordinance, regulation or law and easily backflow deadly chemicals or bio-toxins directly into the public water supply via fire hydrants. [11]

Similarly, a terrorist, disgruntled person or prankster can easily backflow deadly chemicals or bio-toxins directly into the public water supply via an RP backflow valve. The DEP or a utility cannot waive their legal responsibility for water quality and system security. For example, the DEP and a utility are acting negligently when they slough off their responsibility for water quality and system security to homeowners by forcing the homeowners to install a backflow valve on the homeowners' own property followed by expensive mandatory yearly inspections, paid for by each of those homeowners.

RPs provide direct access to the public water supply and are an open invitation to terrorists, disgruntled people and pranksters to backflow deadly chemicals and bio-toxins directly into the public water supply. [12]

The false sense of security of hydrant cap locks and RP port locks is easily overcome with a strategic squirt of Super-Glue. [13] The best security for a fire hydrant is the installation of an underground dual-check valve. The best security for a residential backflow valve is to specify or replace RPs with an AMR/Dual-check combo, installed (and maintained) in the water purveyor's easement for each customer thus affording the very same proper system protection (physically, legally and conceptually) to the public water supply as does a dual-check valve for each water hydrant.

Again, I appreciate your positive responses to these *Backflow Valve Updates.*

Thank you,

David Brown
1805 Burlington Circle
Sun City Center, FL 33573-5219
Phone: 1-813-634-6048
Websites: *www.suncitydave.info* & *www.backflowvideos.org*
Email: dbrown28@tampabay.rr.com

[11] To see how easily a fire hydrant can be compromised, go to www.backflowvideos.org/video70H.wmv

[12] Go to www.backflowvideos.org and click on "Demonstration".

[13] Go to www.backflowvideos.org and click on "Port Locks".