

Ready or not – problems are likely coming to a water system near you

I recently attended a KRWA training workshop on the topic of Asset Management. It was a good session, conducted by Carl Brown of Carl Brown Consulting. The session addressed financial planning for equipment replacement, water rate structures and long range planning for future system needs. There is one thing certain for public water systems; equipment and devices used to operate and maintain the water system will eventually fail, and the failure will not come at a convenient time.

Every breakdown, however, does not turn into a crisis. Frequently one small failure leads to another. An operator should not be caught off guard and have a crisis situation every time a simple

problem like a chlorinator failure occurs. Obviously in a major disaster like a tornado that hit Greensburg or Chapman, the system will not necessarily revert immediately to normal operation status. Proper planning, rate structuring and maintenance of

adequate inventory for ongoing work, supplies and repairs are essential for sound utility operation.

Consider these points. First, is the system parts room a disaster or is it neat and organized? I have been in shops one couldn't walk through for fear of tripping over the clutter; in others, inventory was organized and the floors were

polished. Does the system have files of written procedures for maintenance of equipment? Does the system have updated maps? Do staff have meetings to address issues such as safety and

responses are, "Oh, you'll have to talk to the clerk to get that." Sometimes the operator has half the information, such as the amount of water produced or purchased but not the amount sold. Well, yes, city

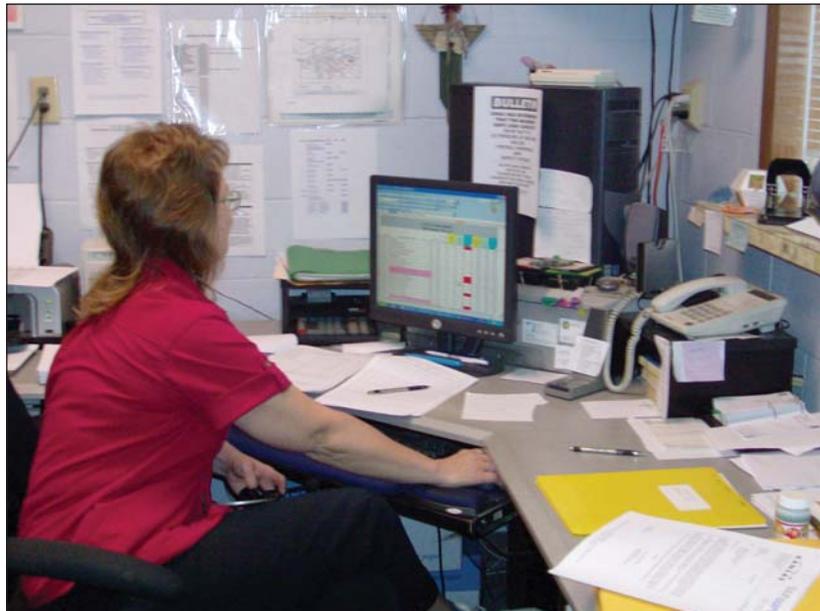
Every breakdown, however, does not turn into a crisis. Frequently one small failure leads to another. An operator should not be caught off guard and have a crisis situation every time a simple problem like a chlorinator failure occurs.

organization? I also think it's important that operators know something about the financial details. Many operators and managers get a confused look when asked about water rates, water loss or production costs. Common

hall may be taking care of these issues but it is critical to good system management that an operator or manager knows this information. How else can the operator ever know if there might be a problem?



*Jon Steele,
Tech Assistant*



Shirley Blank, City of Lyons, reorders parts to replace those used on a recent city repair project. Maintaining adequate inventory of parts is critical to a utility.



City of Lyons parts bins are well-lighted and well-labeled. Tracking inventory by computer also helps ensure that the right parts are on hand when needed.

The following is a recent experience of mine that brings some of this to mind. Early on a Saturday morning, I received a call from a water system with the operator saying, “We’re about to run out of water and have a leak from the well field six miles away. We’re unable to locate the leak. We can’t pump enough water to keep up with the leak and supply the town’s needs.” One of the first questions I asked was, “What is the pipeline size and are you sure about the size and do

you have any repair parts?” The operator knew the line size and where it ran but the reply on the repair parts was one of uncertainty. Since it was a weekend, this was a critical issue. It was thought the leak was isolated to within a one-mile area. That is still a large area so I asked if they had a valve on hand to isolate the line; the operator was confident the city had no valve. The leak was on a 3-inch pipeline that is somewhat uncommon and sometimes difficult to find parts for.

After phoning and finding personnel from a parts supplier in McPherson, a good selection of 3-inch parts were located. I called back and told the city, “I’ll pick up parts and meet you in a couple of hours.” Then loading tools and heading to the parts supplier, I purchased everything that might be needed. I don’t like to skimp on a purchase like this. Unused parts can always be returned but nothing is more frustrating than to get into a repair, many miles away, and need an item looked at but not purchased at the parts warehouse. When not knowing exactly what the problem is, plan for the worst. In this case I picked up a ductile iron 90-degree elbow, four drive-on couplings, two short and two long couplings, two valves, two bolted couplings, two joint restrainers, and transition gaskets in case of finding the smaller OD pipe. The system did have 3-inch pipe on hand.

When arriving on-site with the parts, it was good to hear that system people had located the leak in a remote area. We excavated the line and made the repairs. A valve was also installed at the leak point since it was a good area to have a valve given the rough terrain. A future leak would have an extra valve for better isolation. The leak turned out to be a split on the

Preferred Aqua Technology, LLC

Controls and Service for the Water and Wastewater Industry

Jeff Holzbaur
 2816 Berry Ave
 Independence, MO 64057
 jholzbaur6668@bcglobal.net

816-590-4940

Fax 816-373-1262



ALEXANDER PUMP & SERVICES INC.

**Turbine and Submersible Pumps
 Down-Hole Camera Casing Inspection**

- Linear Installation
- Variable Speed Drives
- New & Rebuilt Motors
- Pump Overhaul
- Digital Flow Meters
- Well Rehab

St. Mary, KS 66536

Ph. 785-437-6305

Web site: www.AlexanderPump.com
 E-mail: aps@kansas.net



Sedgwick RWD 3 uses roll-away shelving for light weight PVC parts storage. The District serves more than 2,000 customers in the vicinities of Mulvane, Derby and Rose Hill.



The quantity of PVC meter wells, flush hydrants and associated parts on hand at Sedgwick RWD 3 indicates this system to be a growing and responsible water utility.

bottom side of the pipe about 15 inches long. The pipe was the thin wall Class 160 PVC.

Have some redundancy

Concerning a repair parts inventory, I always recommend having a minimum of two bolted couplings for each size of pipe, two drive-on couplings for each size under 4-inch, two repair clamps, both long and short; a valve for each size pipe, joint restrainers for each size pipe, a ductile tee and an elbow for each size pipe. I avoid large plastic fittings as they tend to split. I've replaced several due to splits. For service lines a system should have enough parts to build at least one service line completely out of inventory. That translates to the system having a saddle for each size of pipe, a corporation stop, 3/4- or 1-inch roll of poly or copper or 3/4-inch PVC pipe, a meter setter or the appropriate fittings to make one, a few residential meters, a meter can with lid, along with transition fittings for the customer side of the meter, and compression couplings for joining pipe. With these items in stock an operator should be able to make about any emergency leak repair.

What considerations need to be made about the system's

chlorination system, pumps, motors, check valves, motor starter heaters, altitude valves and PRVs? It is essential to create an inventory and maintenance records. Most systems need to have some redundancy. For example, if one pump fails the other can handle the load until repairs are made. I have seen some very small systems with no redundancy at all.

Since chlorination is a requirement, every public water supplier should have a complete chlorinator unit ready to go in case of a failure. If a system uses gas, then that means a booster pump, ejector, regulator and any special fittings needed. For that matter any item that is difficult to replace should be stocked if it is a critical component to the water system. Liquid chlorinator pumps are not that expensive. Extra injection hose and nozzles should also be stocked. Equipment failures are no excuse for not maintaining system chlorine residuals.

Sometimes a board or council will not support purchase of repair inventories because of concerns about expense. This mindset is not acceptable given what's at stake. The question to ask is, "How would you like to be without water on a holiday,

or anytime for that matter, while staff calls all over the state trying to come up with parts to patch a broken main or repair a pump?"

It is a good idea for all equipment to be inventoried. That means all valves, pumps, motors, trucks, tractors, tools, tanks – everything! Equipment maintenance records should provide information about when the equipment was serviced and who performed the service. Basic needs such as oil and filters should be stocked and replaced each time the items are used or installed so back-up inventory is always on hand.

These are management tools that help operators plan for repairs or replacements instead of waiting until something fails, causing a crisis. It's much easier to be proactive by planning for repairs and replacements before the water stops flowing. A leak can't be prevented but operators can be ready when the dreaded call comes just as the family sits down for Thanksgiving dinner.

I encourage you to mark your calendar for the 2009 KRWA conference. It's March 24 – 26 and will be held at the Century II Convention Center. I encourage you to attend.

We think it will never happen to us.

No one likes to think about the worst occurring, however accidents can strike suddenly and many of us are not prepared financially.



First Priority

Accidental Death and Dismemberment

An American dies every five minutes due to an unintentional injury and accidents are the leading cause of death for individuals age 1-44*.

With statistics like this, it makes sense to have First Life America's Accidental Death and Dismemberment Insurance (AD&D) Policy. It can help ensure that in the event of a covered accident, your family is protected.

We cover you regardless of where the accident happens: on the job, at home or traveling worldwide 24 hours a day.

- You cannot be turned down for health or medical reasons
- No Medical Questions or Exams required.

**National Safety Council, Injury Facts 2007*

Affordable Protection:

Family Plan: \$100.00 per year
\$ 8.33 per month

Single Parent Plan: \$ 90.00 per year
\$ 7.50 per month

Individual Plan: \$ 75.00 per year
\$ 6.25 per month

| LOSS | BENEFIT | | |
|--|--|------------------------------------|-----------------------------------|
| | Primary Insured | Spouse | Child |
| Life Both Hands or Both Feet or Sight of Both Eyes Quadriplegia: Total paralysis of both upper and lower limbs | *Ages 30 days – 65 years: \$50,000 | *Ages 30 days – 65 years: \$10,000 | *Ages 30 days – 18 years: \$5,000 |
| One Hand or One Foot or Sight of One Eye Paraplegia: Total paralysis of both legs | *Ages 30 days – 65 years: One-half the Principal Sum named above. | | |

*The benefits shown are for ages 0 (30 days) through age 65. For ages 66 to 80, benefits are one-half of the amounts shown. Benefits terminate at anniversary date following Insured's 80th Birthday.

For more information please call: **RW Evenson, Inc.** • Toll Free at: **800-841-0560**

Exclusions:

- is suicide or any attempt at suicide or is intentionally self-inflicted injury, while sane or insane;
- is due to a war or act of war, whether declared or not (in OK, any war or act of war, declared or undeclared, while serving in the military forces or any attached auxiliary unit);
- the Covered Person is full-time active duty in the armed forces, National Guard or organized reserve corps of any country or international authority (Loss caused while on short-term National Guard or reserve duty for regularly scheduled training purposes is not excluded);
- the Covered Person is riding in or driving any type of motor vehicle as part of a speed contest or scheduled race, including testing such vehicle on a track, speedway or proving ground (not applicable in OK);
- is caused by or results from the Covered Person's taking or using any narcotic, barbiturate or any other drug, unless taken or used as prescribed by a Physician;
- the voluntary take, inhalation or administration of any poison, gas or fumes; except, during the course of employment;
- is caused by or results from the Covered Person's blood alcohol level being .08 percent weight by volume or higher (in OK, caused by or results from alcoholism);
- travel or flight in any form of aerial navigation when the Covered Person: (1) is the pilot or member of the crew of the aircraft; (2) is giving or receiving flight training; (3) has any duties on or relating to the aircraft; (4) is in the aircraft for the purpose of descent from the aircraft while in flight (not applicable in OK); or (5) riding as a passenger in any aircraft not intended or licensed for the transportation of passengers;
- had as its contributing cause, the Covered Person's commission of or attempt to commit a felony, or had as its contributing cause, the Covered Person's being engaged in an illegal occupation; or
- is due to sickness, infection, disease, bodily or mental infirmity of any kind, or medical or surgical treatment of these.

FP-ADV1 (10/08)

First Priority is an accidental death and dismemberment insurance policy for individuals age 0 (30 days) through age 65 and their families. Policy form series ADD-PF or state equivalent. Coverage not available in all states. First Priority is underwritten by First Life America Corp., Topeka, KS.