

Taking Care of What You Have

Asset Management From Theory To Reality

By **Natalie Eddy** • NESCA Staff Writer

Asset management: It's a simple concept. Know your assets—equipment, pipes, machinery, and supplies—to ensure that you meet your service needs at the lowest possible cost to your community. The difficult part for many small water systems is implementing a plan for managing these assets, including their repair and replacement.

The federal government has invested billions of dollars in drinking water infrastructure and, therefore, has an inherent interest in protecting those resources to make sure that future funding is directed toward utilities that are built and maintained to meet regulatory requirements.

Additionally, drinking water facilities are facing potentially significant investments over the next 20 years to upgrade aging infrastructure. The projected needs range from \$154 to \$446 billion, according to the U.S. Environmental Protection Agency (EPA). The American Society of Civil Engineers states that U.S. drinking water systems are responsible for maintaining an estimated 800,000 miles of water delivery pipelines.

As one way to address this situation, Congress may require utilities to develop comprehensive asset management policies. In fact, many utilities have already taken it upon themselves to create such a plan.

Asset Management ABCs

Steve Allbee, director of EPA's Gap Analysis—a project that seeks to identify the difference between available funds and necessary infrastructure repair—says there are different schools of thought concerning asset management that range from “how to operate your facilities better to something much more than that.”

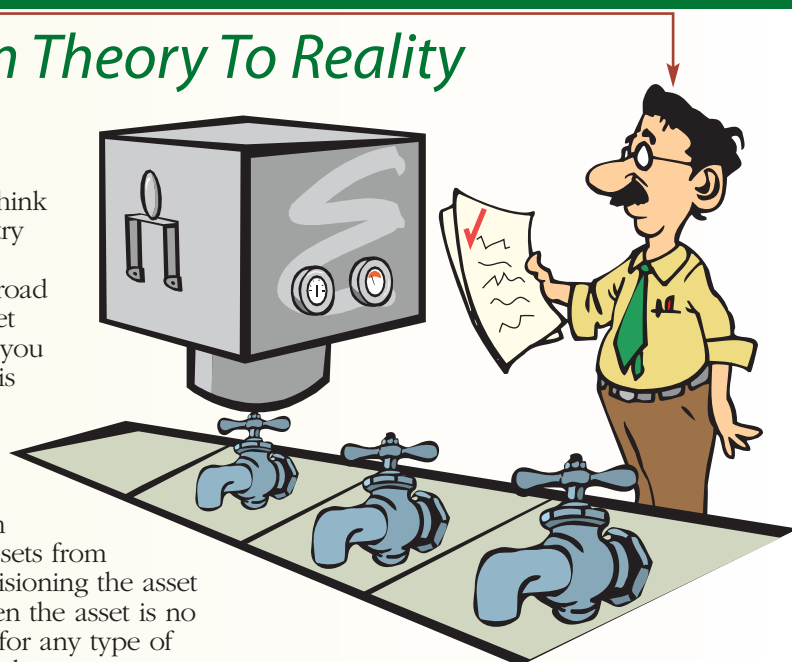
He adds, “I think where the country needs to go is toward a very broad definition of asset management. If you were running this as a business, how would you do it? That means concerning yourself with managing the assets from the point of envisioning the asset to the point when the asset is no longer required for any type of service. It just makes common sense.”

Allbee says asset management principles should be applied to large and small systems alike.

“A lot of small communities are faced with really difficult economic challenges in terms of putting in place their assets,” says Allbee. “So they even have greater pressure on them. In addition, they typically have a limited tax base to pay for the higher unit costs and the difficulty of attracting and maintaining system operators to incorporate more advanced technologies.”

Given the nature that all assets, at one time or another, will fail, Allbee says that managing failures is the key. He added that it is essential for small, rural communities to know what they have, understand its condition, and know what is most critical to meeting service requirements to make sound judgments on investment priorities.

“Let's say there is a relatively small but growing system, and there are requirements being placed on it to serve an additional population,” Allbee says. “There is a considerable cost associated with serving that additional population, but by bringing forward various demand techniques, like



installing low flush toilets and low flow showerheads, the system operator can reduce per capital demand and perhaps avoid or defer having to build that new asset for an extended period of time. If you can take steps that allow you to maximize the use of your existing assets, all of those things work in the economic favor of the community.”

Benefits and Challenges

A March 2004, U.S. General Accounting Office (GAO) report outlines how asset management can help utilities better identify needs and plan for future investments. GAO lists some of the benefits of the plan as improved decision making about capital assets.

“In particular,” the report states, “utilities are using the information they collect to allocate their maintenance resources more effectively and make better decisions about whether to rehabilitate or replace aging assets.”

The report also notes that an asset management plan fosters information sharing across departments and encourages coordinated planning and decision making.

Another advantage is improved relationships with

stakeholders, such as governing authorities, rate payers, and credit rating agencies. "For instance, several utilities have used, or expect to use, the information collected through comprehensive asset management to persuade elected officials to increase user rates to help pay for needed improvements in drinking water," the report adds.

Despite the advantages, the report also notes some challenges. Collecting and managing needed data can be difficult when the existing data is incomplete or inaccurate. And, like in many businesses, making the cultural changes that are needed to integrate the information can be difficult. Also, the short-term focus of governing bodies can hinder long-term planning efforts.

Getting Started

The first place to start when implementing an asset management plan is defining what an asset is and how it should be viewed. "The way to think about an asset is it's a physical facility or component of a physical facility that has a value that enables a service to be provided," says Allbee.

As with all things, though, these assets have a life expectancy. Things wear out and things break on a regular basis.

"Typically, you don't set about consuming assets," he adds. "The idea is not to consume an asset, but to be able to sustain that service level in perpetuity. Unlike if you buy a computer and use it for X period of time, it becomes antiquated. You throw it away and buy a new computer. An asset is not approached like that. It's a whole series of component parts that you're trying to sustain. In essence, you're trying to sustain that pipe, sustain that plant, and sustain those pumping stations forever."

EPA has several resources available to small community drinking water systems. Allbee recommends that operators begin with a handbook titled *Asset Management: A Handbook for Small Water Systems*. Worksheets and samples are provided, as well as case studies. Potential sources of financial assistance to drinking water systems

and several EPA resources are listed by region.

EPA is also planning eight to 10 introductory-level training sessions for fall 2004 that will continue until spring 2005 at sites yet to be determined.

Allbee reports that EPA is working with the Water Environment Research Foundation to create a Web-based information system this fall that will enable people to get a lot more information on the tools and practices of asset management online.

"There's a tremendous amount of information that we're going to organize and make available. Training and information play a major role in accomplishing these objectives on the part of the community," Allbee says.

"Traditionally, what the operator had to do and what the operator was very, very good at was the core set of functions that they confront in terms of actually running a facility," he continues. "Now you're into a whole set of additional requirements for them to really become expert in this subject. Part of asset management is business management skills and part of it is information management skills. We're placing a lot more expectations on the people who run these facilities to become really good at all of this."

Coming Trend

"The change that is evolving in this industry is coming very, very quickly right now," Allbee says. "A couple of years ago, you could have probably narrowed the number of communities adhering to asset management practices to a relatively small number. Today, there are 10 times as many people focused in this direction as there were a year ago. In another couple of years, there will be 10 times as many as there are today."

Allbee said the reason for this is the scale of the challenge that lies ahead for communities. "Better approaches have to be found. They can't stay where they are," he adds. "This is a major challenge. It's not going to be easy. The issue that you have here is really very significant, and it's not going to be solved over a short period of time."

The Five Steps of Asset Management

According to the U.S. Environmental Protection Agency, there are five steps in an asset management process:

- 1. Take inventory.** Before you can manage your assets, you need to know what assets you have and what condition they are in. List the condition, age, service history, and useful life of each.
- 2. Prioritize your assets.** Because most water systems have a limited budget, prioritizing assets will ensure that funds are allocated for the rehabilitation and replacement of the most important assets. Ask how important is this asset and how soon will it have to be replaced?
- 3. Develop an asset management plan.** Plan for the rehabilitation and replacement of your assets, including estimates of how much money is needed annually to maintain the operation of the system. Ask local contractors and businesses for estimated costs. Contact neighboring systems about their costs, and discuss this with your state, tribal, or local technical assistance organization.
- 4. Implement the asset management plan.** Once the annual budget is estimated, work with regulators and customers to determine how much additional funding will be necessary. To meet the need, consider creating additional reserve accounts, forming partnerships with other systems, increasing rates, or applying for financial assistance.
- 5. Review and revise the asset management plan.** Once the plan is in place, view it as a flexible document to help you evolve and gain more information as priorities shift, and review it annually.

Source: U.S. Environmental Protection Agency. *Asset Management: A Handbook for Small Water Systems*.

"There was never an idea that grant programs would sustain us forever. There was always an idea that the government would provide grants to help people get to a certain level of infrastructure, but that, eventually, they would have to reach for an approach that would afford sustainability of that infrastructure."

For more information, contact Allbee at (202) 564-0581. EPA's Asset Management: A Handbook for Small Water Systems is available online at www.epa.gov/safe-water/smallsys/pdfs/guide_small_systems_asset_mgmnt.pdf. 💧

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