THE SPIGOT
from the NORTH DAKOTA RURAL WATER SYSTEMS ASSOCIATION

Water and Wastewater Operators are Responsible for Your Health

By Keith Hegney

Public works employees, including rural water and wastewater operators, hold an occupation that performs several duties within their systems. They range from public safety to street maintenance to community beautification and everything in between. Public works staff are often only one or two people in small communities. When the workload is more than the workforce can manage, workers must focus on the highest priority work to ensure public safety.

Water and wastewater operators are responsible for many activities, including:

- Coordinating and supervising daily work activities
- Coordinating and scheduling tasks with other employees
- Responding to customer complaints or needs
- Preventive maintenance
- Stormwater management
- Wastewater collection, treatment and management
- Wastewater lagoon testing and discharging
- Drinking water treatment system management
- Water distribution management and testing
- Street maintenance such as snow removal, pothole repairs, street sweeping, etc.
- Insect control
- Green space management
- Mowing and trimming
- Weed management
- Inventory/equipment management, maintenance, and repair
- Recording data and maintaining daily records and logs
- Acquiring and maintaining appropriate permits and licenses for the system

Because small-system employees wear so many different hats and must prioritize work, there may be delays to the services they provide. Public works employees strive to complete their work in a timely manner for the safety and comfort of all their customers. All aspects of the duties performed on a day-to-day basis are important; however, the water and wastewater operations of the system are foremost and override any other task. For example, if a public works employee is removing snow to ensure safe travel and a simultaneous waterline break occurs or a sewer issue is detected, they must respond immediately. The priority of the system operator is to resolve the water or sewer issue as quickly as possible. It is simply a matter of public health.

In small communities, there may be times when some citizens believe that mowing and city beautification are not receiving enough attention. This may be because their public works employees have been working on high priority issues that affect public health. Much of the high priority work done is not in sight of the public. Most of a

community's water and wastewater system is underground or outside of town. As a community's water and wastewater system ages, the failures requiring immediate response increase in number. In an aging system, it is not a matter of *if* a problem will occur, but *when* a problem will occur.

To summarize, a system operator's highest priority is the safety of the community members. To ensure this, they are required to obtain proper licensing from the North Dakota Department of Environmental Quality. This licensure includes treating and distributing safe drinking water, as well as wastewater collection and treatment. The job of a public works employee is not always visible to the public; however, when you turn on your faucet and safe water comes out, know they have done their job! (It is a bonus when the streets are swept, too.)

WHAT SMELLS?

By Dan Overmoe

Spring fever is already setting in, thanks to this mild winter! The grass will start to turn from brown to green, the perennials will start to poke through, and the robins will start to return. Spring always brings out the freshness in everything. But wait, we have a nice warm breeze and what should be a nice day to work outdoors has become a day of a rotten sewage smell blowing through. You can hardly stand it. What is it? How long will it last? What can be done about it?

The smell is possibly due to the turnover in the community's wastewater lagoons. This happens with the changing temperatures in the spring. The cold water from the winter months and the warm air from the spring causes mixing between the lower and upper zones of the lagoon. This natural mixing stirs up the settled solids and releases gases that have unpleasant odors. The lagoon will be a darker color and there will be floating sludge. This is a normal process of lagoons and should only last a few weeks.

To reduce the foul odor, oxygen needs to be introduced into the treatment process. If the lagoon is running in sequence operation, you may want to change to parallel operation. This means that instead of all wastewater inflow going into the first cell, you will be dividing the flow into two different cells which will give more time for the cells to recover from the turnover. Another option to add more oxygen is to take effluent flow from your final cell and pump it back into the affected cell, thus diluting the lagoon. If available, aerators can be installed to increase oxygen as well. Some wastewater chemical companies also have chemicals that will help in reducing the smell.

Lagoon turnover is an unfortunate result of using lagoons, especially in cold weather areas. Complaints are understandable and the operator needs to explain how lagoons systems work, what causes lagoon turnover and the unpleasant odor, and the importance of wastewater treatment to the community. The operator may want to consider using a brochure or flyer to assist in the explanation.

Soon, the lagoon turnover smell will be gone, and everyone will be able to enjoy the fresh spring air again (and the mosquitoes).

For any assistance on this or other wastewater issues, please contact one of the NDRW Wastewater Technical Advisors listed on our website, www.ndrw.org.