When little Johnny brings his report card home from school, he’s likely to wave it proudly in front of his parents or hide it in the bottom of his backpack where they won’t see it. But what if his school receives its own report card? And what if that report card can’t be hidden because it’s published on the Internet?

This is what’s happening in Alaska, where almost 100 schools that operate their own nontransient, noncommunity water systems (NTNCWSs) currently receive quarterly report cards grading their performance as drinking water providers. The report cards are part of a two-year, multi-agency project called “Safe Drinking Water for Our Schools.” Designed to improve public health protection and regulatory compliance among school-operated water systems, the project is helping these systems with their homework, providing both teaching materials and onsite tutors.

**What is a NTNCWS?**

A NTNCWS is a public water system that is not a community water system but regularly supplies water to at least 25 of the same people at least six months a year. According to the U.S. Environmental Protection Agency (EPA), the U.S. has almost 20,000 NTNCWSs serving more than six million people. Most of these systems use groundwater as their supply source. Schools, including elementary and secondary schools and even universities, operate more than 7,000 (about 37 percent) of these systems. NTNCWSs may also be found at factories, hospitals, prisons, and other institutions located in remote areas where connecting to a community water system is impractical or impossible.

**School-Operated NTNCWSs**

School-operated NTNCWSs must overcome multiple obstacles.

Focused on budgeting sufficient sums for textbooks and teachers’ salaries, NTNCWS may overlook line items for monitoring the school’s drinking water or hiring a part-time certified operator.

By Nancy Zeilig
NDWC Contributing Writer
“Roughly 90 percent of these school-operated NTNCWSs are in Alaska Native villages that are accessible only by plane or boat,”

Because school administrators are primarily concerned with what goes on in the classroom, they are often unaware of the requirements for operating a water system. Focused on budgeting sufficient sums for textbooks and teachers’ salaries, they may overlook line items for monitoring the school’s drinking water or hiring a part-time certified operator. The school’s maintenance director may get saddled with responsibility for its water system without receiving training and without being advised of local and national resources that could be helpful. Architects who design school facilities may be unfamiliar with water system capacity needs such as the advisability of having onsite storage and more than one well. Because school-operated water systems have no ratepayers’ base, finding money for system improvements can be difficult.

Most school-operated NTNCWSs that are out of compliance with regulatory requirements find themselves in this situation because of monitoring and reporting violations. A few systems face water quality problems, including occasional total coliform violations, elevated lead and copper concentrations, and, now that the maximum contaminant level for arsenic has been lowered, unacceptable amounts of arsenic in source water supplies.

Report Cards in Alaska

In Alaska, the “Safe Drinking Water for Our Schools” project came into being because staff members in the Division of Environmental Health of the Department of Environmental Conservation (the state’s primacy agency) were looking for ways to help school-operated NTNCWSs comply with federal regulations. At the same time, the Alaska Department of Education was implementing a statewide preventive maintenance program for school facilities. Working toward both these goals, the two state agencies joined forces with several other organizations—the Alaska Rural Water Association (ARWA), the Alaska Training and Technical Assistance Center (located at the University of Alaska in Sitka and funded by the EPA), the state Department of Health and Human Services, and the Alaska Native Tribal Health Consortium. Now, less than two years after the project began, school-operated water systems in Alaska are included in the school’s overall maintenance program.

Don Carney, a building management specialist in the Department of Education, says the report cards initially made schools feel “picked on,” but he compared the project’s approach to “sweetening bad-tasting medicine.” Along with issuing grade reports, the work group representing the six cooperating agencies offered meaningful assistance. According to Kathaleen Kastens, project coordinator in the Division of Environmental Health, who spearheaded the project, the group:

• produced an operator’s handbook and distributed it to all school-operated NTNCWSs regulated by the state,
• provided onsite technical assistance through visits by ARWA circuit riders,
• developed a template to help school administrators budget water system expenditures, and
• prepared a PowerPoint presentation, distributed on DVDs, for administrators to use in garnering community support for water system expenses.

“Roughly 90 percent of these school-operated NTNCWSs are in Alaska Native villages that are accessible only by plane or boat,” says Carney, “and most violations occurred because systems couldn’t get their samples to a certified lab within the required time frame. If a daily flight is canceled because of weather, samples may not make it to the lab in time.” Still, Kastens felt it was necessary to improve monitoring at these systems in order to make sure water quality was not a problem.

Carney says the project would have been successful “had it not accomplished anything but getting the circuit riders out and establishing communication with outlying areas,” but he feels the program moved beyond that. He says the state has become more customer-oriented, using personal communication techniques such as phone calls and visits rather than simply issuing violation notices. Also, schools now notify airlines about time-sensitive shipments to discourage unwarranted flight cancellations.

“It was a good experience to get everyone working together for the same goal,” says Kastens. “We’ve set up some relationships that will last past the end of the project.” Pleased that the project has been conducted with minimal funding, she says its success can be measured by “an increase in the number of monitoring samples, fewer reporting violations, and a greater overall awareness of the importance of safe drinking water in our schools.”

Before the project’s onset, ARWA circuit riders had concentrated on helping community water systems. Now they visit school-operated NTNCWSs as well, and Brad Ault, ARWA executive director, provides regional training workshops for NTNCWS operators at no cost. He says that “more operators have become
certified” as a result of the project, and the quality of the water produced by these systems has improved. He attributes these achievements to the project’s success in three areas:

- raising community awareness of the fact that schools have water systems and are bound by federal regulations,
- focusing attention on the need for appropriate budgeting to keep the water safe, and
- convincing the public that maintenance workers who are responsible for school-operated water systems need training and community support.

**Surveys in Connecticut**

A state program on the opposite coast is helping to resolve water system deficiencies at schools in Connecticut. In the six months between November 2002 and April 2003, the Drinking Water Division of Connecticut’s Department of Public Health conducted 147 sanitary surveys at school-operated NTNCWSs serving 130 to 1,200 people. (The surveys were part of a broader effort to help more than 2,500 small, noncommunity drinking water systems in Connecticut understand their responsibilities as water suppliers and find creative ways to comply with regulations.) As a result of the sanitary surveys, 15 schools plan to connect to nearby community water systems, and 36 have installed new onsite facilities or are having them designed. Of the remaining 96, about half need to make minor to moderate improvements to existing systems, and half need to construct completely new water system facilities.

Among the water system improvements recommended as a result of the surveys were corrosion control, ultraviolet (UV) light disinfection, new wells, new storage and pumping facilities, conversion of pressure storage tanks to atmospheric storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage tanks to atmospheric storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of storage, complete system rehabilitation, and consolidation of.
On the Rosebud Sioux Reservation in South Dakota, the wells at Lakeview and Littleburg draw water from the Ogallala Aquifer, which contains naturally occurring arsenic from the volcanic ash that characterizes the local terrain.

Because these schools are 20 miles from the water lines of the nearest community water system, Swanson started researching treatment options. “I received some help from the South Dakota Rural Water Association,” he says, “and about 40 phone calls later, I was learning about the treatment units we eventually purchased.”

The two new microfiltration units have now been delivered, and Swanson plans to install them during spring break or at the end of the school-year when he can “do some plumbing” to create a dedicated distribution system for the treated water. In the meantime, the district dispenses bottled water for students and for cooking, a procedure instituted in February 2003.

Each treatment unit costs less than $5,000, has a capacity of 10 to 20 gallons per minute, and incorporates several filtration steps as well as a high-intensity UV light chamber for disinfection. Typical of school-operated NTNCWSs, the district got the money to buy the treatment units by increasing its maintenance budget over a couple of years. It received no state or federal funds. “We just didn’t change as many light bulbs,” Swanson jokes.

A Little Help From Friends

If a school in your community operates its own water system, you might want to inquire about the quality of the water it provides and its regulatory compliance record. If you’re a parent, you might organize other parents and community members to encourage the school to improve compliance. If you’re a certified water treatment operator, you might volunteer to help with the school’s monitoring program, or perhaps you could persuade several area schools to share the cost of hiring a certified operator. If you’re an environmental or sanitary engineer, you might help the school assess what water system improvements are needed. If you’re a community leader, you might serve as a liaison with state or local funding agencies. If you’re a school administrator, you’ll want to know about a number of resources that dispense advice and funds (see sidebar on page 48). Above all, get your state primacy agency involved. “You’re better off being upfront with these folks about your problems,” says Messer. “Seek their help. They’re your friends and your allies.”

A little help from friends might be just what a school-operated NTNCWS needs to make straight A’s.

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