

Emergency Response Planning: An Often Overlooked Need

Convincing small community sewer system managers to conduct a vulnerability assessment or develop an Emergency Response Plan (ERP) often seems somewhat like trying to sell ice to Eskimos.

For many of them, there just doesn't appear to be a need. Discuss the need and a first reaction often is, "what are you going to do, contaminate our sewer system with human waste?"

Leaders in small rural communities often compare their sewer systems to their water systems. Adverse effects from contaminated drinking water are immediate. Because we don't ingest sewage, many problems with a sewer system take longer to be identified. Those leaders just don't take sewer system vulnerability seriously.

We do, unfortunately, need to realize that if something does disrupt a sewer collection or treatment system, severe consequences can result. When sewage starts backing up in homes, health concerns

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Photo courtesy the National Environmental Services Center

Water and waste system emergency response planning needs to consider any and every contingency, from sabotage to breakdowns to accidents of man or nature.

Help Available for Montana Communities

"Ask and you shall receive!" It's a mantra that could help many small community water systems in Montana which could benefit from the state's Financial and Managerial Assistance program. Many

more communities could be served than those currently being assisted through the program. Not enough communities have thought to ask.

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MAP Renews CEO Search

John Woodwick, MAP board president, announced on January 20 that the board of directors would be initiating a new leadership search for the organization. Woodwick said, "The board considers MAP's staff its greatest asset and the backbone of our performance and interaction with communities. We're looking for a CEO with strong, effective leadership qualities that encourage and inspire all of us to work together to fulfill MAP's mission of helping rural communities improve their environment, their quality of life, and be self-sustaining."

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MAP Renews CEO Search...

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Mary Beth Schmidt, who joined the Midwest Assistance Program as chief executive officer last year, will be pursuing other ventures. Woodwick explained that all new MAP employees have a six month introductory period during which they have an opportunity to evaluate the organization as a place to work, and management has an opportunity to evaluate the employee. "The goal is to realize a mutually satisfactory experience," he said.

"I consider the introductory policy a success not only when we achieve mutual satisfaction between employee and employer, but also when we identify early on that what MAP has to offer

and an employee's talents may not always be a suitable match," Woodwick said. "The board wishes Ms. Schmidt good luck in her next venture," he added.

While the board plans, initiates and completes the new CEO search, Joyce Anderson, MAP's director of administration, and Russ Serbus, the director of finance, have been appointed to serve as an interim leadership team. Woodwick said the organization would be in good hands with experienced central office staff and our seasoned team of staff located in the field. Woodwick said the board's goal is to secure the new CEO by its June, 2006, board meeting.

...and two new people join MAP Central Staff

Alex Tarshikov joined MAP as its administrative assistant on January 17. Alex will staff the front desk at MAP's central office and will assist with updating and maintaining some of MAP's databases.

Alex is at MAP part-time through February, as he finishes out some scheduling commitments with his previous employer, Saint Francis Hospital, Shakopee, Minn., where he has worked since 2001.

Alex has an associate degree in office administration. He's an émigré from the southern region of Russia, having moved to the U.S. with his family as a 12-year-old. He volunteers as an audio librarian for a pair of churches, editing and preparing cassette and CD recording of their sermons and music for use by church members and visitors.

Larry Etkin joined MAP as its communications manager two days later. Larry has worked in the communications field for three decades, most recently as a freelance writer, senior editor, and publications development consultant. Before that he spent almost 16 years as an editor and communications project manager with the Minnesota Agricultural Experiment Station and the Minnesota Extension Service of the University of Minnesota.

Larry has also been a working reporter, and an information officer for two Minnesota state agencies, including a stint as head of public information and education activities for the Minnesota Department of Human Services.

Larry holds a masters degree in mass communication and journalism from the University of Minnesota. He grew up in New York City, left there for college at the State University of New York at Fredonia, near Lake Erie in Western New York State, and came to Minnesota to pursue his graduate degree in 1975. (And yes, that was the "Fredonia" where the Marx Brothers got the name for the mythical kingdom portrayed in their movie *Duck Soup* – you can look it up on the web.)

Larry is responsible for producing MAP publications, and for planning and coordinating informational activities aimed at present and potential MAP clients among the public. He edits and produces *WaterLog*, writes and edits a variety of materials for MAP, and will be taking over responsibility for maintaining and updating the content of MAP's website.

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elevate and financial losses occur. When untreated or insufficiently treated wastewater discharges from a system, widespread water contamination can occur.

Conducting a vulnerability assessment allows points of entrance into a sewer system to be identified and secured. If someone breaks into a secure area, evidence of a successful or attempted break-in will be noticed, and an assessment conducted before major damage occurs.

A good example of the need for an emergency response plan for a small sewer system would be the loss of power to lift stations. If the community's water is

from private wells and a power outage is city wide, there isn't much of a problem: everyone gets one flush, and the lift station should have adequate storage until power is restored. However, if the community's water system has elevated storage, running water and flushing toilets can and will continue. Continuing system use would require operating a portable pump or generator to transfer sewage to the treatment facility before it backs up into homes and businesses.

An emergency need for a pump or generator raises several issues. If the sewer operator is unavailable, are other people in the community familiar with connect-

ing and operating the equipment? Do city officials know who these people are? How do we get the emergency equipment to where it's needed? Has the equipment been properly and regularly maintained? During an emergency is not a good time to conduct a trial and error exercise or perform routine maintenance. An ERP should address these kinds of concerns.

In developing an ERP for your system, you need to try first to identify all the possible emergencies that could affect your system, and design a plan addressing all the separate issues for each emergency condition. It is also a good idea to conduct mock drills for the various emergencies and revise the plan to correct any identified weaknesses.

By H.B. Calvert

MAP Rural Development Specialist

Leech Lake Qualifies for Rural Development Grant

The "Tract-33 Project Area" of Leech Lake, and 300 families living there, have qualified for a Rural Development grant and loan for a new fresh water storage and distribution system. This was the result of house-to-house income surveying organized by MAP staff. The project had previously been denied funding based on information from the 2000 Census.

Census data indicated that the Leech Lake Tract-33 project area was above the qualifying Median Household Income level. As an impartial third party, MAP was asked by the Leech Lake Community and USDA to conduct the survey to either confirm or negate the Census information.

Leech Lake, in north central Minnesota, is about 240 miles from Minneapolis/St. Paul. The Leech Lake Band of Ojibwe Tribe has a total population on the reservation of 10,059 and a Median Household Income of \$28,214. The Midwest Assistance Program staff has worked with Leech Lake intermittently since 2001.

The house-to-house survey used volunteers from the local community to reach 85 percent of the families in the project area. Their results showed that the information from the 2000 Census was incorrect in the Tract-33 parcel. The new survey verified that the Leech Lake community qualified for Rural Development grants and loans.

Construction for the new fresh water storage and distribution system is scheduled to start in 2006 or early 2007. MAP works with Leech Lake through the EPA Region V Tribal Program.

Based on material provided by Bill Wilde
MAP Rural Development Specialist

Help Available for Montana Communities

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Montana's Financial and Managerial Assistance program focuses on helping system boards overcome financial and managerial challenges. Montana's Department of Environmental Quality contracts with MAP to have its rural development specialists travel to small communities and provide the assistance.

Sharing the know-how gained from years of experience working with small systems is one of MAP's greatest strengths.

A common scenario among communities MAP staff works with is where a system operator is first requesting assistance with creating a grant eligible public Water District.

Another situation where MAP could help would be where existing districts are seeking assistance for planning an expensive project; help learning the ins and outs of obtaining grants and low interest loans. Other systems might seek help with conducting a rate structure review.

Gary Wiens, is the Montana DEQ program officer. He can be contacted at 406-444-7838 for more information. You can also contact MAP's Montana staff at 406-863-4900 to request financial and managerial assistance. But, you must ask to receive!

Using HACCP as an Emergency Response Tool

In its simplest form, Hazard Analysis and Critical Control Point (HACCP) is a systematic method to identify, reduce or eliminate risks to public health and safety. No community should be without one.

In using the HACCP approach for emergency response planning, MAP staff is performing a pre-disaster mitigation task. That is to say, when considering what disasters could occur, MAP staff is looking for ways to reduce or eliminate risks to public health and safety. Mitigation can be as uncomplicated as properly chaining chlorine cylinders to the wall to prevent them from falling, or scheduling and conducting routine checks on generators at wastewater lift stations.

Through the HACCP process, MAP staff look for vulnerabilities or risks to public health and safety beginning with the watershed and following through the facilities, to customers, from customers to the wastewater treatment facility, and on to where treated water returns to the watershed. It's a holistic approach to risk management. A community using the plan will find that many emergency situations that could occur are already addressed.

MAP staff assesses the entire community to determine vulnerabilities. They then work with community leaders to determine *critical control points*. Think of these as points where something can be monitored. For example, does the storage tank over-flow pipe have a screen? Without one, stored water is vulnerable to contamination from birds. The screen is the control point because it can be monitored periodically and repaired if necessary, eliminating an emergency before it happens—pre-disaster mitigation.

An HACCP plan is specific to a community, and is documented. The documentation includes a simple checklist for each control point. This checklist includes each control point's location, the frequency of checks, procedures for correcting possible problems, and an explanation of who is to perform what task.

The HACCP plan requires documentation of problems that occur: what correc-

tive actions were taken, who was contacted, when the task was completed, cost, and any other pertinent information. A monthly checklist submitted to the board keeps them aware of what is going on in the system, it's affects on the budget, and if there is a reoccurring problem.

*Based on material by Paul Torok
MAP Rural Development Specialist*

Seven Basic Principles of HACCP

- ✓ *Conduct a hazard analysis.*
- ✓ *Determine Critical Control Points.*
- ✓ *Determine Critical Limits.*
- ✓ *Develop and monitor procedures for Critical Control Points.*
- ✓ *Develop corrective action plan for Critical Control Points.*
- ✓ *Develop documentation and record keeping system to provide proof of due diligence.*
- ✓ *Determine verification procedures for individual Critical Control Points and community validation.*

Eight Basic Tasks to Create a Plan

- ✓ *Describe the organization of the community, and duties of staff and governing entity.*
- ✓ *Examine the community.*
- ✓ *Look for possible vulnerabilities.*
- ✓ *Create or update maintenance, emergency response planning, and cross-connection program.*
- ✓ *Create record keeping procedures with true financial record keeping and reporting.*
- ✓ *Create or update a documented method of evaluating the community and implementing improvements.*
- ✓ *Assess plan at regular intervals and recommend improvements.*
- ✓ *Request a third party entity with expertise in rural community development, such as Midwest Assistance Program, to validate the documentation and HACCP plan.*

Water Security and ERPs in Nebraska

After September 11, 2001, public water systems began to recognize their vulnerability to disaster. While the Nebraska Department of Health and Human Services has required emergency plans for public water systems for several years, the information required was not necessarily useful. It consisted mainly of a list of people to contact. It didn't even require stating the responsibilities of the various persons and agencies.

Things began to change in 2004. A person was hired to head up a drinking water security program, and about \$51,000 was budgeted to train public water system personnel to develop effective emergency response plans, promote cooperation and teamwork across disaster emergency responders, encourage public water systems to secure their facilities to the greatest extent possible, and to produce an educational video for law enforcement personnel to teach particulars of crime scene evidence related to public water systems.

Training provides water system operators with the information they need to create effective emergency response plans that cover the unique needs of their systems. Then, more training is offered, in the form of tabletop exercises related to disaster preparedness. These exercises help operators revise and improve their plans.

Program head Randy Fischer tries to provide an "out-of-the-box" training experience, bringing together his background in law enforcement, fire and rescue, and as an operator of a public water system. Developing relationships among emergency responders is his emphasis, from state bioterrorism experts to county health coordinators to local law enforcement officials. He convinced them that they need to train together to know each other, to understand who is responsible for what during an emergency, and to work together effectively.

In some cases he also had to work hard just to convince people that emergencies can and do occur.

In the first year, more than 750 people were trained. Over 80 percent of community and non-transient non-community public water systems participated in this training between August 2004 and March 2005.

But training is only the first part of developing effective emergency response plans. With grants from Homeland Security available for protective equipment—lighting, locks, security cameras—Nebraska has seen an increase in systems protecting their facilities in ways that they didn't think financially possible before.

Nebraska's approach could be readily duplicated in other states. Many have funds allocated to countering bioterrorism. Tapping these funds for cooperative ventures can extend the money's impact, encouraging teamwork among disaster responders.

A potential problem in replicating this project could be getting all the different disaster responders to think in terms of a team effort. Many water operators believe in doing their own work, and think they can handle anything. Pointing out the devastation that can occur with a flood or tornado can help change that perspective. Natural and man-made disasters can require very similar preparations and responses.

Each state would need to determine what works best for them. Travel is labor and time intensive; teleconferencing holds great potential for reaching a lot of people at the same time. Another approach might focus on training a wider network of trainers.

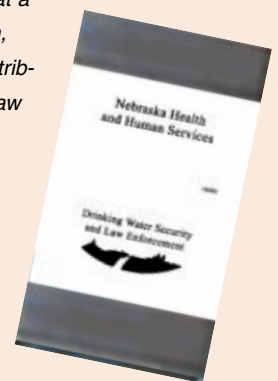
The Nebraska program found county health departments and emergency management coordinators very willing to cooperate with the training. Law enforcement personnel in this largely rural state, having typically not thought much about public water system emergencies, were open to using a video for training in their own communities.

To make a cross-agency program like Nebraska's work elsewhere, a state would need to commit to working with emergency responders. Finding a program head with broad experience, as Nebraska was able to, could be an important factor in getting the range of agencies involved with emergency responses engaged and working together on water system safety.

*By Randy Fischer
Nebraska Water Security Program*

About the Video

The Nebraska Drinking Water Security and Law Enforcement video was shot at the Waverly, Nebraska, water plant in October 2005. The video, which emphasizes the cooperation needed from law enforcement and water operators in the event of a security problem at a water system, has been distributed to 300 law enforcement offices in the state. Some copies of the tape remain available.



Questions about the video, or more generally about Nebraska's water security program can be directed to:

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Developing an ERP: Detailed but Straight Forward

Your utility needs to be serious about emergency planning. In this day and age, system operators need to be prepared, whether their fears are about outside sabotage, local vandalism, or just about meeting the challenge of an unexpected equipment breakdown.

Developing an emergency response plan for your water or sewer system is not necessarily complicated, but does require attention to detail. It must provide administrative support. It needs to identify the broad range of people who will need to be involved in developing a plan.

Emergency planning starts with interviews of management and staff to learn about how the system is operated during normal conditions. It allows for brainstorming to identify the many possible problems that could affect a community's water and sewage infrastructure.

Management interviews are needed to cover the basics of how a system is structured, and also much more. These interviews need to include discussions covering items such as how finances are handled, and how the community itself is organized and functions. They also need to include specifics about any emergency planning that may have already been done.

Interviews of both operations and fiscal staff are equally important. They provide details on the condition of the utility, identify key components and existing problems that could compound an emergency, or even lead to one. It is important to think broadly with staff, including about emergency events that may happen in combinations.

You need key information such as lists of people who need to be informed of any emergency. You need lists with contact information for local and regional resource people, individuals or offices with whom you might have mutual aid agreements, community leaders and critical users, and, of course, your damage assessment and emergency response team members. You also need:

- an inventory of parts, supplies, and equipment
- information on the age and condition of equipment
- floodplain information
- system maps and diagrams
- source of water/discharge stream information
- information on areas or facilities sensitive to environmental contamination

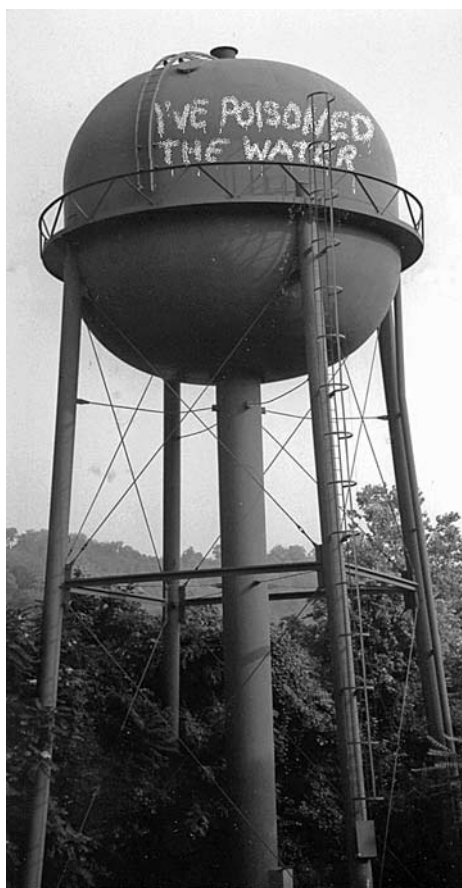


Photo courtesy the National Environmental Services Center

Information in hand, you can complete a vulnerability assessment and hazard risk analysis. You should summarize and share those findings with the utility's managers, and then complete the analysis with a review of the effectiveness of security vulnerability deterrents already in place.

Next in the process, a MAP consultant and the local contact complete hazard event impact analysis worksheets. They discuss the security vulnerability findings, develop a consensus understanding of the findings examined on the worksheets, and together categorize each potential event as to its hazard risk level. Then, mitigation measures can be identified for each risk factor and listed on a mitigation planning worksheet.

The relative risk assessment completes the actual emergency response plan, but the plan will be relatively useless without a few additional steps. At least three copies need to be distributed. One or more will typically need to be sent to appropriate state, regional or area agencies, a copy will need to be on-site at the system's facilities, and at least one copy needs to be kept safe but accessible at a central community location, such as in a safe in a town's offices.

The plan also needs to be reviewed with all the managers and staff who might ever be called on to implement it. Training exercises are important components of this, and training sessions can often be provided through your MAP rural development specialist.

While deliberate sabotage may be an unlikely possibility for most small rural systems, a comprehensive emergency response plan developed to protect against that will also help you meet the challenge of a natural disaster, vandalism, or an unexpected equipment breakdown.

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New Iowa Watershed Board Awards Wetlands Grant

Viking Lake, Iowa, will receive \$58,500 from the newly created Iowa Watershed Improvement Review Board for a constructed wetlands project. It is an integral part of a proposed wastewater system for the unincorporated village of ten homes off Viking Lake in southwest Iowa.

The community encountered problems with a property sale, finding that the home had inadequate wastewater treatment. The Iowa Department of Natural Resources (IDNR) investigated, and in 2003 mandated a sewer upgrade.

In August 2003, IDNR conducted soil sampling, and Page 1 Regional Water was contacted about serving as a “responsible management entity” (RME) to own and operate a new wastewater system. By September, Page 1, which already provided water to the homes in the village of Viking Lake, was enlisted to provide planning assistance for the project.

With engineers and Page 1 management considering treatment options, MAP staff conducted income surveys to determine grant eligibility. With only 21 residents, and three of its ten homes unoccupied, Viking Lake village was too small for a Community Development Block Grant. However, a median household income survey found that this “smallest of the small” community qualified for 45 percent financing with a USDA Rural Development grant. Combined grants will leave the village residents with a loan balance to be paid off through affordable monthly household user fees.

MAP staff involvement in the project increased when Page 1 Regional Water questioned its ability to serve as the RME due to unrelated litigation and financial problems. Though MAP staff met with residents and county officials in 2005 to discuss alternative ownership options, Page 1 resolved its problems and made a firm commitment to serve the Viking Lake community.

The ownership issue encountered by the community underscored the problem of finding organizations to serve as RME’s when rural water districts can’t serve in that role. MAP staff has worked, and is currently working, on several projects involving the task of finding owners or creating new ownership organizations.

The project eventually constructed a wetland, approved by the IDNR, in a small tributary just below the village to store the community’s wastewater.

Iowa communities interested in submitting watershed project applications to the new board should contact Jerry Neppel at the Iowa Department of Agriculture and Land Stewardship, Division of Soil Conservation, Wallace State Office Building, 502 East 9th Street, Des Moines, IA 50319 or by e-mail (Jerry.Neppel@idals.state.ia.us).

*Based on material by Randy Finholt
MAP Rural Development Specialist*

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