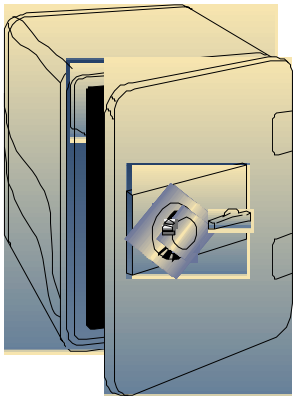
Security Vulnerability Self-Assessment Guide for Small Wastewater Systems

Vermont Rural Water Association
National Rural Water Association

February 26, 2004

	This document contains sensitive information about the security of your wastewater system. Therefore, it should be treated as **Confidential Information** and should be stored in a secure place at your wastewater system. A duplicate copy should also be stored in a secure off-site location.

Contents

Security Vulnerability Self-Assessment Guide for Small Wastewater Systems

Introduction

Wastewater systems are critical to every community. Protection of wastewater systems should be a high priority for local officials and wastewater system owners and operators to ensure proper sanitation of their community to prevent disease outbreaks which is essential for the protection of public health. Adequate security measures will help prevent loss of service through terrorist acts, vandalism, or pranks. If your system is prepared, such actions may even be prevented. The appropriate level of security is best determined by the wastewater system at the local level.

This Security Vulnerability Self-Assessment Guide is designed to help small wastewater systems determine possible vulnerable components and identify security measures that should be considered in order to protect the system and the customers it serves. A "vulnerability assessment" (VA) is the identification of weaknesses in wastewater system security, focusing on defined threats that could compromise its ability to meet its various services. This document is meant to encourage smaller systems to review their system vulnerabilities, but it may not take the place of a comprehensive review by security experts.

The Self-Assessment Guide has a simple design. Answers to assessment questions are "yes" or "no," and there is space to identify needed actions and actions you have taken to improve security. For any "no" answer, refer to the "comment" column and/or contact your state rural water association.

How to Use this Self-Assessment Guide

This document is designed for use by wastewater system personnel. Physical facilities pose a high degree of exposure to any security threat. This self-assessment should be conducted on all components of your system (lift stations, pump stations, treatment plant, pumps, collection system, and other important components of your system).

The Assessment includes a basic emergency contact list for your use. The list included as Attachment 2 will help you identify who you need to contact in the event of an emergency or threat and will help you develop communication and outreach procedures. You may be able to obtain sample Emergency Response Plans from your state wastewater primacy agency or your state rural water association. Development of the emergency response plan should be coordinated with the Local Emergency Planning Committee (LEPC).

Security is everyone's responsibility. This document should help you to increase the awareness of all your employees, governing officials, and customers about security issues. Once you have completed the questions, review the actions you need to take to improve your system's security. The goal of the vulnerability assessment is to develop a system-specific list of priorities intended to reduce risks to threats of attack. Make sure to prioritize your actions based on the most likely threats to your system. Once you have developed your list of priority actions, you have completed your vulnerability assessment.

Before Starting this Assessment

Systems should make an effort to identify critical services and customers, such as hospitals, schools or prisons, as well as critical areas of their wastewater system that if attacked could result in a significant disruption of vital community services, result in a threat to public health, cause an explosion that would cause harm to the public or cause a release of hazardous chemicals that could cause catastrophic results. When prioritizing the potential wastewater system vulnerabilities and consequences factor into the decision process the critical facilities, services, and single points in the system that if debilitated could result in significant disruption of vital community services or health protection. To help identify priorities for

your system, the table on page 5 provides a column where you can categorize the assets that you consider critical into one of three categories – high (H), medium (M), or low (L).

When evaluating a system's potential vulnerability, systems should attempt to determine what type of assailants and threats they are trying to protect against. Systems should contact their local law enforcement office to see if they have information indicating the types of threats that may be likely against their facility. Some of the typical threats to your facility may be vandalism, an insider (i.e. disgruntled employee), a terrorist, or a terrorist working with a system employee.

Every wastewater utility will have unique circumstances they will encounter and will have priorities that the community will designate as critical for protection. However, some typical critical facilities that you may think about may include easily accessible or hidden manholes/manholes that provide access to facilities with a large quantity (hospitals, schools, etc) or critically important people (military, government offices, etc); electric suppliers or standby generators; fuel storage or gas supply; chemical storage areas (particularly gaseous chlorine facilities and anhydrous ammonia); and critical lift or pumping stations.

Keep this Document

This is a working document. Its purpose is to start your process of security vulnerability assessment and security enhancements. Security is not an end point, but a goal that can be achieved only through continued efforts to assess and upgrade your system. This is a sensitive document. It should be stored separately in a secure place at your wastewater system. A duplicate copy should also be retained at a secure off-site location. Access to this document should be limited to key wastewater system personal. Others should only have access to information contained in this document on a need to know basis.

Security Vulnerability Self-Assessment

Record of Security Vulnerability Self-Assessment Completion

The following information should be completed by the individual conducting the self-assessment and/or any additional revisions.

Name: _____

Title: _____

Area of Responsibility: _____

POTW Name: _____

NPDES Permit No.: _____

State Permit No.: _____

Source of Wastewater: _____

Discharge Point (Receiving system) _____

Design Flow _____

Address: _____

City: _____

County: _____

State: _____

Zip Code: _____

Telephone: _____

Fax: _____

E-mail: _____

Date Completed: _____

Date Revised:	_____	Signature:	_____
Date Revised:	_____	Signature:	_____
Date Revised:	_____	Signature:	_____
Date Revised:	_____	Signature:	_____
Date Revised:	_____	Signature:	_____

Inventory of Small Wastewater System Critical Components

Component	Number & Location (if applicable)	Description	Critical Asset or Single Point of Failure (H/M/L)
Collection System			
Lift Stations			
Pumps			
Blowers			
Manholes			
Cleanouts			
Pipes			
Treatment Plant (Note: Describe from headworks to point of discharge)			
Preliminary (e.g. screening, grinding, grit removal, other)			
Pumps			
Primary Treatment (e.g. lagoon, clarifier, wetland)			
Pumps			
Secondary Treatment (e.g. fixed film, aeration, activated sludge, trickling filter)			
Pumps			
Tertiary Treatment (e.g. chemical, filtration)			
Pumps			
Other Treatment			
Disinfection (e.g. gaseous chlorine)			
Discharge			
Biosolids Handling			
Other Sludge Handling Facilities/Equipment			
Laboratory Chemicals			
Power			
Primary Power			
Auxiliary Power			
Offices			
Buildings			
Computers			
Files/Facility Maps or Diagrams			
Transportation/ Work Vehicles			
Personnel			
Communications			
Telephone			
Cell Phone			
Radio			
Computer Control Systems (SCADA)			
Critical Facilities Served			
Hospitals/Nursing Homes			
Schools			
Food/Beverage Processing Plants			
Prisons			
Other Institutions			

General Questions for the Entire Wastewater System

Security Vulnerability Self-Assessment for Small Wastewater Systems

The first 15 questions in this vulnerability self-assessment are general questions designed to apply to all components of your wastewater treatment and collection system (collection system, wastewater discharge points, treatment plant, pumps, and offices). These are followed by more specific questions that look at individual system components in greater detail.

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
1. Do you have a written emergency response plan (ERP)?	Yes □ No □	An emergency response plan is vital in case there is an incident that requires immediate response. Your plan should be reviewed at least annually (or more frequently if necessary) to ensure it is up-to-date and addresses security emergencies including ready access to laboratories capable of analyzing wastewater samples. You should coordinate with your local emergency planning committee (LEPC). As a first step in developing your ERP, you should develop your Emergency Contact List (see attachment 2) You should designate someone to be contacted in case of emergency regardless of the day of the week or time of day. This contact information should be kept up-to-date and made available to all wastewater system personnel and local officials (if applicable). Share this ERP with police, emergency personnel, and your state primacy agency. Posting contact information is a good idea only if authorized personnel are the only ones seeing the information. These signs could pose a security risk if posted for public viewing since it gives people information that could be used against the system. By completing this software in its entirety, this software will generate an emergency response plan for your use. You should check with your State Primacy Agency and State Rural Development Office to ensure you meet any specific requirements that they may need.	
2. Is access to the critical components of the wastewater system (i.e., a part of the physical infrastructure of the system that is essential for collecting and/or treating wastewater) restricted to authorized personnel only?	Yes □ No □	You should restrict or limit access to the critical components of your wastewater system to authorized personnel only. This is the first step in security enhancement for your wastewater system. Consider the following: ◆ Issue wastewater system photo identification cards for employees, and require them to be displayed within the restricted area at all times. ◆ Post signs restricting entry to authorized personnel and ensure that assigned staff escorts people without proper ID.	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
3. Are all critical facilities fenced, including lift stations and storm sewer outfalls, and are gates locked where appropriate?	Yes □ No □	Ideally, all facilities should have a security fence around the perimeter. Disabled lift stations can create many problems in the wastewater system. Secure access points and control panels at lift stations with tamper-resistant locks. Structures can be protected from collision with concrete bollards or jersey barriers. Lift stations can be alarmed and should be tested regularly. Storm sewer outfalls may also provide access to the collection system. When appropriate, access to storm-sewer outfalls should be restricted without interrupting the flow. The fence perimeter should be walked periodically to check for breaches and maintenance needs. All gates should be locked with chains and a tamper-proof padlock that, at a minimum, protects the shank. Other barriers such as concrete "jersey" barriers should be considered to guard certain critical components from accidental or intentional vehicle intrusion.	
4. Are all critical doors, windows, and other points of entry such as process tank hatches, vents and fill pipes kept closed and locked?	Yes □ No □	Lock all building doors and windows, hatches, vents, fill pipes, gates, and other points of entry to prevent access by unauthorized personnel. Consider securing fill pipes to prevent contamination of chemicals or fuel (especially fuel for back-up generators) Check locks regularly. Dead bolt locks and lock guards provide a high level of security for the cost. A daily check of critical system components enhances security and ensures that an unauthorized entry has not taken place. Doors and hinges to critical facilities should be constructed of heavy-duty reinforced material. Hinges on all outside doors should be located on the inside. To limit access to wastewater systems, all windows should be locked and reinforced with wire mesh or iron bars, and bolted on the inside. Systems should ensure that this type of security meets with the requirements of any fire codes. Alarms can also be installed on windows, doors, and other points of entry.	
5. Are vents and overflow pipes properly protected with screens and/or grates?	Yes □ No □	Air vents and overflow pipes are direct conduits to the finished wastewater in storage facilities. Secure all vents and overflow pipes with heavy-duty screens and/or grates.	
6. Is there external lighting around all critical components of your wastewater system?	Yes □ No □	Adequate lighting of the exterior of wastewater systems' critical components is a good deterrent to unauthorized access and may result in the detection or deterrence of trespassers. Motion detectors that turn lights on or trigger alarms also enhance security.	
7. Are warning signs (tampering, unauthorized access, etc.) posted on all critical components of your wastewater system? (For example, lift stations and pump houses.)	Yes □ No □	Warning signs are an effective means to deter unauthorized access. "Warning - Tampering with this facility is prohibited" should be posted on all wastewater facilities. "Authorized Personnel Only," "Unauthorized Access Prohibited," and "Employees Only" are examples of other signs that may be useful.	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
8. Do you patrol and inspect all buildings, outfalls, lift stations and critical manholes?	Yes □ No □	Frequent and random patrolling of the wastewater system by utility staff may discourage potential tampering. It may also help identify problems that may have arisen since the previous patrol. All systems are encouraged to initiate personal contact with the local law enforcement to show them the waste water facility. The tour should include the identification of all critical components with an explanation of why they are important. Systems are encouraged to review, with local law enforcement, the NRWA/ASDWA Guide for Security Decisions or similar state document to clarify respective roles and responsibilities in the event of an incident. Also consider asking the local law enforcement to conduct periodic patrols of your wastewater system.	
9. Is the area around all the critical components of your wastewater system free of objects that may be used for breaking and entering?	Yes □ No □	When assessing the area around your wastewater system's critical components, look for objects that could be used to gain entry (e.g., large rocks, cement blocks, pieces of wood, ladders, valve keys, and other tools).	
10. Are the entry points to all of your wastewater system easily seen?	Yes □ No □	You should clear fence lines of all vegetation. Overhanging or nearby trees may also provide easy access. Avoid landscaping that will permit trespassers to hide or conduct unnoticed suspicious activities. Trim trees and shrubs to enhance the visibility of your wastewater system's critical components. If possible, park vehicles and equipment in places where they do not block the view of your wastewater system's critical components.	
11. Do you have an alarm system that will detect unauthorized entry or attempted entry at all critical components?	Yes □ No □	Consider installing an alarm system that notifies the proper authorities or your wastewater system's designated contact for emergencies when there has been a breach of security. Inexpensive systems are available. An alarm system should be considered whenever possible for tanks, pump houses, and treatment facilities. You should also have an audible alarm at the site as a deterrent and to notify neighbors of a potential threat.	
12. Do you have a key control and accountability policy?	Yes □ No □	Keep a record of locks and associated keys, and to whom the keys have been assigned. This record will facilitate lock replacement and key management (e.g., after employee turnover or loss of keys). Vehicle and building keys should be kept in a lockbox when not in use. You should have all keys stamped (engraved) "DO NOT DUPLICATE."	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
13. Are entry codes and keys limited to wastewater system personnel only?	Yes □ No □	Suppliers and personnel from co-located organizations (e.g., organizations using your facility for other purposes or contractors who perform routine maintenance) should be denied access to codes and/or keys. Codes should be changed frequently if possible. Entry into any building should always be under the direct control of wastewater system personnel.	
14. Do you have an updated operations and maintenance manual that includes evaluations of security systems?	Yes □ No □	Operation and maintenance plans are critical in assuring the on-going provision of safe and reliable wastewater service. These plans should be updated to incorporate security considerations and the on-going reliability of security provisions – including security procedures and security related equipment.	
15. Do you have a neighborhood watch program for your wastewater system?	Yes □ No □	Watchful neighbors can be very helpful to a security program. Make sure they know whom to call in the event of an emergency or suspicious activity.	

Wastewater Collection System

In addition to the above general checklist for your entire wastewater system (questions 1-15), you should give special attention to the following issues related to various wastewater system components. Ask the public to be vigilant and report suspicious activity.

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
16. Are your critical manholes sealed and secured?	Yes □ No □	Manholes that provide access to pipes that can be easily traversed, or access to critical customers should be a priority for security. A properly sealed manhole decreases the opportunity for the introduction of contaminants. Critical manholes that provide access to pipes large enough to easily maneuver through will prevent unauthorized personnel from placing explosives or other incendiary devises under buildings or other highly populated areas. Other points of entry that provide access to critical customers such as schools, industry, hospitals or prisons should also be secured. Continuous service to these critical customers is essential to prevent serious health problems in the community. Tamper resistant bolts or other methods may be used to secure manhole covers to rims. Contact your State Rural Development Office or State Rural Water Association for more information or technical assistance.	
17. Are tributary collection systems from neighboring entities secure?	Yes □ No □	Coordinate with other jurisdictions whose collection systems connect with your system. Vulnerabilities in neighboring systems can be vulnerabilities in your system.	

Treatment Plant and Suppliers

Some small systems provide easy access to their wastewater system for suppliers of equipment, chemicals, and other materials for the convenience of both parties. This practice should be discontinued.

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
18. Are deliveries of chemicals and other supplies made in the presence of wastewater system personnel?	Yes □ No □	Establish a policy that an authorized person, designated by the wastewater system, must accompany all deliveries. Verify the credentials of all drivers. This prevents unauthorized personnel from having access to the wastewater system.	
19. Have you discussed with your supplier(s) procedures to ensure the security of their products?	Yes □ No □	Verify that your suppliers take precautions to ensure that their products are not contaminated. Chain of custody procedures for delivery of chemicals should be reviewed. You should inspect chemicals and other supplies at the time of delivery to verify they are sealed and in unopened containers. Match all delivered goods with purchase orders to ensure that they were, in fact, ordered by your wastewater system. You should keep a log or journal of deliveries. It should include the driver's name (taken from the driver's photo I.D.), date, time, material delivered, and the supplier's name.	
20. Are chemicals, particularly those that are potentially hazardous (e.g. chlorine gas) or flammable, properly stored in a secure area?	Yes □ No □	All chemicals should be stored in an area designated for their storage only, and the area should be secure and access to the area restricted. Access to chemical storage should be available only to authorized employees. Pay special attention to the storage, handling, and security of chlorine gas because of its potential hazard. Facilities that are required to do risk management plans should review the plans and procedures within that document. You should have tools and equipment on site (such as a fire extinguisher, drysweep, etc.) to take immediate actions when responding to an emergency.	
21. Do you have a procedure to control septage dumps?	Yes □ No □	Septage haulers should only be allowed to dump when regular personnel are on duty. Septage should be sampled and tested for compatibility. Record all septage dumps including: amount, sample results, company/hauler, date, time, and location of dump.	
22. Do you monitor raw and treated wastewater so that you can detect changes in wastewater quality?	Yes □ No □	Monitoring of raw and treated water can establish a baseline that may allow you to know if there has been a contamination incident. Some parameters for raw wastewater include pH, DO, COD, BOD and conductivity. These parameters can help identify and can be indicators of excessive organic loading or toxic compounds that may be introduced to the system. Any changes or abnormal observations of the influents color and odor may also be an indication of potential contamination. Routine parameters for treated wastewater include biological oxygen demand (BOD), total chlorine residual, heterotrophic plate count (HPC), total and fecal coliform, pH, and specific conductivity. Chlorine demand patterns can help you identify potential problems with your treated wastewater. A sudden change in demand may be a good indicator of contamination in your system.	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
23. Are tank ladders, access hatches, and entry points secured?	Yes □ No □	The use of tamper-proof padlocks at entry points (hatches, vents, and ladder enclosures) will reduce the potential for unauthorized entry.	

Personnel

You should add security procedures to your personnel policies.

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
24. When hiring personnel, do you request that local police perform a criminal background check, and do you verify employment eligibility (as required by the Immigration and Naturalization Service, Form I-9)?	Yes □ No □	It is good practice to have all job candidates fill out an employment application. You should verify professional references. Background checks conducted during the hiring process may prevent potential employee-related security issues. If you use contract personnel, check on the personnel practices of all providers to ensure that their hiring practices are consistent with good security practices.	
25. Are your personnel issued photo-identification cards?	Yes □ No □	For positive identification, all personnel should be issued wastewater system photo-identification cards and be required to display them at all times. Photo identification will also facilitate identification of authorized wastewater system personnel in the event of an emergency.	
26. When terminating employment, do you require employees to turn in photo IDs, keys, access codes, and other security-related items?	Yes □ No □	Former or disgruntled employees have knowledge about the operation of your wastewater system, and could have both the intent and physical capability to harm your system. Requiring employees who will no longer be working at your wastewater system to turn in their IDs, keys, and access codes helps limit these types of security breaches.	
27. Do you use uniforms and vehicles with your wastewater system name prominently displayed?	Yes □ No □	Requiring personnel to wear uniforms, and requiring that all vehicles prominently display the wastewater system name, helps inform the public when wastewater system staff is working on the system. Any observed activity by personnel without uniforms should be regarded as suspicious. The public should be encouraged to report suspicious activity to law enforcement authorities.	
28. Have wastewater system personnel been advised to report security vulnerability concerns and to report suspicious activity?	Yes □ No □	Your personnel should be trained and knowledgeable about security issues at your facility, what to look for, and how to report any suspicious events or activity. Periodic meetings of authorized personnel should be held to discuss security issues.	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
29. Do your personnel have a checklist to use for threats or suspicious calls or to report suspicious activity?	Yes □ No □	To properly document suspicious or threatening phone calls or reports of suspicious activity, a simple checklist can be used to record and report all pertinent information. Calls should be reported immediately to appropriate law enforcement officials. Checklists should be available at every telephone. Sample checklists are included in Attachment 3. Also consider installing caller ID on your telephone system to keep a record of incoming calls.	

Information/Storage/Computers/Controls/Maps

Security of the system, including computerized controls like a Supervisory Control and Data Acquisition (SCADA) system, goes beyond the physical aspects of operation. It also includes records and critical information that could be used by someone planning to disrupt or contaminate your wastewater system.

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
30. Is computer access "password protected?	Yes □ No □	All computer access should be password protected. Passwords should be changed every 90 days and (as needed) following employee turnover. When possible, each individual should have a unique password that they do not share with others.	
31. Is virus protection installed and software upgraded regularly?	Yes □ No □	Consider contacting a virus protection company and subscribing to a virus update program to protect your records. Update virus protection on a regular basis (daily, weekly and in some circumstances monthly)	
32. Dou you have a plan to back up your computer?	Yes □ No □	Backing up computers regularly will help prevent the loss of data in the event that your computer is damaged or breaks. Backup copies of computer data should be made routinely and stored at a secure off-site location.	
33. Do you have Internet firewall software installed on your computer?	Yes □ No □	If you have Internet access, a firewall protection program should be installed on your side of the computer and reviewed and updated periodically. If you have a SCADA system, consider operating it on systems without internet access. (NOTE: Firewall protection software usually does not protect modem connections. If a modem must be used, use software that will disable the local network connection when the modem is not in use.	
34. If you have a SCADA system, has it been evaluated for weaknesses and hardened?	Yes □ No □	SCADA can be vulnerable to potential intruders. The most direct approach to evaluate vulnerabilities is penetration testing. Penetration testing can detect vulnerability and security breaches that could be used to attack and penetrate the entire SCADA system. Hardening is the process of making the system less vulnerable through equipment upgrades, redundancy of components, etc.	
35. Can Employees by-pass SCADA and run system manually?	Yes No	It is important to be able to completely override your SCADA and manually operate your system. Employees should be trained how to by-pass or shut down the SCADA and the procedures to manually operate the system in the event of an emergency.	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
36. Is there information on the Web that can be used to disrupt your system or contaminate your wastewater?	Yes □ No □	Posting detailed information about your wastewater system on a Web site may make the system more vulnerable to attack. Web sites should be examined to determine whether they contain critical information that should be removed. You should do a Web search (using a search engine such as Google, Yahoo!, or Lycos) using key words related to your wastewater supply to find any published data on the Web that is easily accessible by someone who may want to damage your wastewater supply.	
37. Are maps, records, and other information stored in a secure location?	Yes □ No □	Records, maps, and other information should be stored in a secure location when not in use. Access should be limited to authorize personnel only. You should make back-up copies of all data and sensitive documents. These should be stored in a secure off-site location on a regular basis.	
38. Are copies of records, maps, and other sensitive information labeled confidential, and are all copies controlled and returned to the wastewater system?	Yes □ No □	Sensitive documents (e.g., schematics, maps, and plans and specifications) distributed for construction projects or other uses should be recorded and recovered after use. You should discuss measures to safeguard your documents with bidders for new projects.	
39. Are vehicles locked and secured at all times?	Yes □ No □	Vehicles are essential to any wastewater system. They typically contain maps and other information about the operation of the wastewater system. Wastewater system personnel should exercise caution to ensure that this information is secure. Wastewater system vehicles should be locked when they are not in use or left unattended. Remove any critical information about the system before parking vehicles for the night. Vehicles also usually contain tools (e.g., valve wrenches) and keys that could be used to access critical components of your wastewater system. These should be secured and accounted for daily.	

Public Relations

You should educate your customers about your system. You should encourage them to be alert and to report any suspicious activity to law enforcement authorities.

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
40. Do you have a program to educate and encourage the public to be vigilant and report suspicious activity to assist in the security protection of your wastewater system?	Yes □ No □	Advise your customers and the public that your system has increased preventive security measures to protect the wastewater supply from vandalism. Ask for their help. Provide customers with your telephone number and the telephone number of the local law enforcement authority so that they can report suspicious activities. The telephone number can be made available through direct mail, billing inserts, notices on community bulletin boards, flyers, and consumer confidence reports.	
41. Does your wastewater system have a procedure to deal with public information requests, and to restrict distribution of sensitive information?	Yes □ No □	You should have a procedure for personnel to follow when you receive an inquiry about the wastewater system or its operation from the press, customers, or the general public. Your personnel should be advised not to speak to the media on behalf of the wastewater system. Only one person should be designated as the spokesperson for the wastewater system. Only that person should respond to media inquiries. You should establish a process for responding to inquiries from your customers and the general public.	
42. Do you have a procedure in place to receive notification of a suspected outbreak of a disease immediately after discovery by local health agencies?	Yes □ No □	It is critical to be able to receive information about suspected problems with the wastewater at any time and respond to them quickly. Written procedures should be developed in advance with your state wastewater primacy agency, local health agencies, and your local emergency planning committee and reviewed periodically.	
43. Do you have a procedure in place to advise the community of contamination immediately after discovery?	Yes □ No □	As soon as possible after a disease outbreak (possibly from recreational swimming or consumption from a contaminated water body), you should notify testing personnel and your laboratory of the incident. In outbreaks caused by microbial contaminants, it is critical to discover the type of contaminant and its method of transport (dermal contact, food, etc.). Active testing of your wastewater supply will enable your laboratory, working in conjunction with public health officials, to determine if there are any unique (and possibly lethal) disease organisms in your wastewater. It is critical to be able to get the word out to your customers or others using the source water that your plant is discharging effluent to as soon as possible after discovering a health hazard in your wastewater supply. Drinking water systems or other food/beverage manufactures using the same source of water downstream from your wastewater system should be contacted immediately. Some simple methods include announcements via radio or television, door-to-door notification, a phone tree, and posting notices in public places.	

Now that you have completed the "Security Vulnerability Self-Assessment Guide for Small Wastewater Systems," review your needed actions and then prioritize them based on the most likely threats. A Table to assist you in prioritizing actions is provided in Attachment 1.

Attachment 1. Prioritization of Needed Actions

Once you have completed the "Security Vulnerability Self-Assessment Guide for Small Wastewater Systems ", review the actions you need to take to improve your system's security. Note the questions to which you answered "no" on this worksheet. You can use it to summarize the areas where your system has vulnerability concerns. It can also help you prioritize the actions you should take to protect your system from vulnerabilities. You can rank your priorities in numerical order or based on the categories of high, medium, and low.

Use the following information and the information you have generated by completing this assessment to prioritize and rank the most important security vulnerabilities to your system:

1. Any information from local law enforcement office about the likelihood of a terrorist attack or other threats.
2. The primary mission of your system (i.e. protection of public health, protection of the environment etc.).
3. Single points of failure (i.e. disabling pump) that severely limit your capability to conduct your primary mission.
4. Critical customers – such as hospitals, manufactures, power plants, and schools that rely on your service for sanitation.
5. The vulnerabilities identified by completing this assessment.

Question Number	Needed Action	Scheduled Completion	Priority/ Ranking

Attachment 2. Emergency Contact List

Emergency response plans are action steps to follow if your wastewater treatment plant becomes contaminated or if the flow of wastewater is disrupted. You can obtain sample ERPs from your state primacy agency.

This sample document is an "Emergency Contact List." Although, it can be an essential part of your ERP**,** it does not serve as a comprehensive plan. It contains the names and telephone numbers of people you might need to call in the event of an emergency. This is a critical document to have at your disposal at all times. It gives you a quick reference to all names and telephone numbers that you need for support in the case of an emergency.

Filling out this Emergency Contact List reminds you to think about all of the people you might need to contact in an emergency. You should also talk with these people about what you and they would do if an emergency were to occur.

Section 1. System Identification

NPDES Permit Number			
System Name			
Town/City			
Telephone Numbers	System Telephone	Evening/Weekend Telephone	
Other Contact Information	System Fax	Email	
Population Served and Number of Service Connections	People Served	Connections	
System Owner (The owner must be listed as a person's name)			
Name, title, and telephone number of person responsible for maintaining this emergency contact list and location of list	Name and title	Telephone	Location of list

Section 2. Notification/Contact Information – Update regularly and display clearly next to telephones

Responders

ORGANIZATION	CONTACT NAME/TITLE	PHONE (DAY)	PHONE (NIGHT)	E-MAIL
Fire Department				
Police Department				
FBI Field Office (for terrorism or sabotage)				
Emergency Medical Service				
Local Health Department				
National Spill Response Center	24 Hour Hotline	**1 (800) 424-8802**		
State Spill Hotline	24 Hour Hotline			
Local Hazmat Team (if any)				
Local/Regional Laboratory				
Wastewater System Operators				

Local Notification List

ORGANIZATION	CONTACT NAME/TITLE	PHONE (DAY)	PHONE (NIGHT)	E-MAIL
Government Officials				
Emergency Planning Committee				
Hospitals				
Pharmacy				
Nursing Homes				
Schools				
Prisons				
Neighboring Wastewater Systems				
Water Systems Downstream from Effluent Discharge				
Critical Industrial/Commercial Wastewater Users				
Others				

Service/Repair Notification List

ORGANIZATION	CONTACT NAME/TITLE	PHONE (DAY)	PHONE (NIGHT)	E-MAIL
Electrician				
Electric Utility Company				
Gas Utility Company				
Telephone Utility Company				
Plumber				
Pump Specialist				
“Dig Safe” or local equivalent				
Soil Excavator/Backhoe Operator				
Equipment Rental (Power Generators)				
Equipment Rental (Chlorinators)				
Equipment Rental (Portable Fencing)				
Equipment Repairman				
Equipment Repairman (Chlorinator/other				
Radio/Telemetry Repair Service				
Pump Supplier				
Pipe Supplier				
Chemical or Microbe Supplier				

State Notification List

ORGANIZATION	CONTACT NAME/TITLE	PHONE (DAY)	PHONE (NIGHT)	E-MAIL
Wastewater Primacy Agency				
Drinking Water Primacy Agency				
Department of Environmental Protection (or state equivalent)				
Department of Health				
Emergency Management Agency				
Hazmat Hotline				

Media Notification List

ORGANIZATION	CONTACT NAME/TITLE	PHONE (DAY)	PHONE (NIGHT)	E-MAIL
Designated Wastewater System Spokesperson				
Newspaper - Local				
Newspaper – Regional/State				
Radio				
Television				

Section 3. Communication and Outreach

Communication

Communications during an emergency poses some special problems. A standard response might be to call “911” for local fire and police departments. But what if your emergency had disrupted telephone lines and over-loaded cell phone lines? Talk with your local Emergency Management Agency, Health Department representative, or your Local Emergency Planning Committee (LEPC) about local emergency preparedness and solutions to these problems. Increasingly, state emergency agencies are establishing secure lines of communication with limited access. Learn how you can access those lines of communication if all others fail.

Outreach

If there is an incident of contamination in your wastewater collection system or treatment plant, you will need to notify the public and make public health recommendations. To do this, you need a plan.

How will you reach all customers in the first 24 hours of an emergency?

Appoint a media spokesperson—a single person in your wastewater system who will be authorized to make all public statements to the media.

Make arrangements for contacting institutions (e.g. food processing facilities, drinking water treatment plants, etc.) on the receiving water body that may be utilizing the water (i.e. it may be necessary to bypass the treatment plant and discharge directly into the water body)

Attachment 3: Threat Identification Checklists

Wastewater System Telephone Threat Identification Checklist

In the event your wastewater system receives a threatening phone call, remain calm and try to keep the caller on the line. Use the following checklist to collect as much detail as possible about the nature of the threat and the description of the caller.

1. Types of Tampering/Threat:

Contamination	Threat to tamper
Biological	Bombs, explosives, etc.
Chemical	Other (explain)

2. Wastewater System Identification:

Name:
Address:

Telephone:

PWS Owner or Manager's Name:

3. Alternate Wastewater Treatment Available: Yes/No **If yes, give name and location:**

4. Location of Tampering:

Raw Wastewater Source	Biosolids Storage Facilities	Treatment Plant	Wastewater Collection System	Treatment Chemicals

Other (explain):

5. Contaminant Source and Quantity:

7. Date and Time of Tampering/Threat:

8. Caller's Name/Alias, Address, and Telephone Number:

9. Is the Caller (check all that apply):

Male	Female	Foul	Illiterate	Well Spoken	Irrational	Incoherent

10. Is the Caller's Voice (check all that apply):

Soft	Calm	Angry	Slow	Rapid
Slurred	Loud	Laughing	Crying	Normal
Deep	Nasal	Clear	Lisping	Stuttering
Old	High	Cracking	Excited	Young

Familiar (who did it sound like?)

Accented (which nationality or region?)

11. Is the Connection Clear? (Could it have been a wireless or cell phone?)

12. Are There Background Noises?

Street noises (what kind?)	
Machinery (what type?)	
Voices (describe)	
Children (describe)	
Animals (what kind?)	
Computer Keyboard, Office	
Motors (describe)	
Music (what kind?)	
Other	

13. Call Received By (Name, Address, and Telephone Number):

Date Call Received:

Time of Call:

14. Call Reported to: **Date/Time**

15. Action(s) Taken Following Receipt of Call:

Wastewater System Report of Suspicious Activity

In the event personnel from your wastewater system (or neighbors of your wastewater system) observe suspicious activity, use the following checklist to collect as much detail about the nature of the activity.

1. Types of Suspicious Activity:

- □ Breach of security systems (e.g., lock cut, door forced open)
- □ Unauthorized personnel on wastewater system property.
- □ Presence of personnel at the wastewater system at unusual hours
- □ Changes in wastewater quality noticed by customers (e.g., change in color or odor) that were not planned or anticipated by the wastewater system
- □ Other (explain)

2. Wastewater System Identification:

Name:
Address:

Telephone:

PWS Owner or Manager's Name:

3. Alternate Wastewater Treatment Available: Yes/No **If yes, give name and location:**

4. Location of Suspicious Activity:

Raw Wastewater Source | Biosolids Storage Facilities | Treatment Plant | Wastewater Collection System | Treatment Chemicals

Other (explain):

5. If Breach of Security, What was the Nature of the Breach?

Lock was cut or broken, permitting unauthorized entry.

Specify location

Lock was tampered with, but not sufficiently to allow unauthorized entry.

Specify location

Door, gate, window, or any other point of entry (vent, hatch, etc.) was open and unsecured

Specify location

Other

Specify nature and location

6. Unauthorized personnel on site?

Where were these people?

Specify location

What made them suspicious?

Not wearing wastewater system uniforms

Something else? (Specify)

What were they doing?

7. Please describe these personnel (height, weight, hair color, clothes, facial hair, any distinguishing marks):

8. Call Received By (Name, Address, and Telephone Number):

Date Call Received:

Time of Call:

9. Call Reported to: **Date/Time:**

10. Action(s) Taken Following Receipt of Call:

Record of Completion

Please fill in the following information so that a record can be maintained of wastewater systems that have completed a vulnerability assessment.

NPDES Permit No: _____

System Name: _____

Address: _____

Town/City: _____ State: _____

ZIP Code: _____

Phone: _____ Fax: _____

Email: _____

Person Name: _____

Title: _____

Address: _____

Town/City: _____ State: _____

ZIP Code: _____

Phone: _____ Fax: _____

Email: _____

24 Hour Emergency Contact Information for Your System:

Contact Person: First Name: _____ Last Name: _____

Daytime Phone: _____ Fax: _____

Emergency Phone: _____ E-mail: _____

Cell Phone: _____

The information in this vulnerability assessment has been completed to the best of my knowledge.

Signed_____ Date_____

DISCLAIMER

This document contains information on how to plan for protection of the assets of your wastewater system. The work necessarily addresses problems in a general nature. You should review local, state, and Federal laws and regulations to see how they apply to your specific situation.

Knowledgeable professionals prepared this document using current information. The authors make no representation, expressed or implied that this information is suitable for any specific situation. The authors have no obligation to update this work or to make notification of any changes in statutes, regulations, information, or programs described in this document. Publication of this document does not replace the duty of wastewater systems to warn and properly train their employees and others concerning health and safety risk and necessary precautions at their wastewater systems.

The National Rural Water Association does not assume any liability resulting from the use or reliance upon any information, guidance, suggestion, conclusions, or opinions contained in the document.