

A Basic
**EMERGENCY RESPONSE
PLAN TEMPLATE**

For Systems serving populations under 10,000 people

Louisiana Rural Water Association

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**LOUISIANA RURAL WATER ASSOCIATION
EMERGENCY RESPONSE PLAN TEMPLATE
For
MUNICIPAL UTILITIES**

If your community was hit by a natural disaster or placed under a terrorist threat, would you be prepared? If not, you could be with the implementation of an Emergency Response Plan. Emergency Response Plans are required by state and federal regulations.

In Louisiana, the Louisiana Administrative Code requires all community water systems to have a plan to deal with emergency situations (NR 811.11(8)). At a minimum, this plan must include:

- **A list of local and state emergency contacts.**
- **A system for establishing emergency communications.**
- **Any mutual aid agreements the utility has with other communities for sharing personnel, equipment, and other resources during an emergency.**
- **Standard procedures for emergency water production.**

Also, federal regulations require community water systems serving a population ***greater than 3,300*** to;

- **Complete a vulnerability assessment and submit a copy to the EPA.**
- **Certify to the EPA that you have developed or updated your emergency response plan based on the vulnerability assessment within six months of submitting it to the EPA.**
- **Complete the certification form and certify to the DNR that the assessment has been completed.**
- **Prepare or revise, where necessary, an emergency response plan that incorporates the results of vulnerability assessments that have been completed.**
- **Coordinate with Local Emergency Planning Committees, established under the Emergency Planning and Community Right-to-Know Act, when preparing or revising an emergency response plan.**

The emergency response plan shall include, but not be limited to;

- **Plans, procedures, and identification of equipment that can be implemented or utilized in the event of a terrorist or other intentional attack on the public water system.**
- **Actions, procedures, and identification of equipment which can obviate or significantly lessen the impact of terrorist attacks or other intentional actions on the public health and the safety and supply of drinking water provided to communities and individuals.**

The WRWA Emergency Response Plan template was designed to assist you in preparing a plan that will help you deal with emergency and terrorist situations. It includes the instructions for working through the different phases necessary to complete the plan development process, and form templates that you can use to complete each phase.

EMERGENCY PLANNING PROCESS

A comprehensive emergency response plan is concerned with all types of hazardous situations and threats that may affect a utility. It is more than an operational plan in that it accounts for activities before, during, and after emergency operations

Every effort should be made to ensure that the plan can be easily understood and implemented with the resources available within a reasonable amount of time. It should include the utilization of every available resource found either externally or internally, but it should be based only on available and identified resources

It is important at the onset of the planning process to bring to the attention of the utility directors or governing body as much information as possible about the potential consequences of such an event. This will serve to reinforce the need for comprehensive planning. The completion and implementation of the planning effort provides the utility with the mechanism by which disaster-related activities can be accomplished. However, keep in mind that planning does not equate to preparedness. System-wide education and training programs that implement and support a good plan will ensure a prepared staff.

STEP 1- IDENTIFY THE SCOPE OF THE PLAN

The first thing that must be established prior to the development of your plan is the scope of the plan itself. In other words, identify if you're going to be starting from scratch or if you're going to be updating or expanding on any previous emergency planning that had been completed. If you're updating a previous plan, you may be able to skip the early steps we've outlined for the planning stages of emergency preparedness and simply utilize any of the templates and/or checklists that we have provided. However, you may also want to follow through the basic steps to see if there are areas you may want to use to update your plan due to regulatory requirements, community changes and/or growth.

If you're starting from scratch, the first thing you need to determine is the area that the plan is going to cover. As the organization of every community is unique, it is necessary to determine if the most effective scope for your plan is to be:

- **Developed as an overall municipal plan**
- **Developed by the utility or public works as part of a municipal plan**
- **Developed by the utility as a stand-alone plan**

Once the scope of the plan is determined, this will then help to determine the extent of the plan and the makeup of the personnel that will be involved in plan development and emergency response.

STEP 2- ASSESS YOUR ORGANIZATIONAL MAKEUP

Once the scope of the plan has been established, it is necessary to identify the organizational makeup of the county, community or utility that will allow the plan to be developed and implemented as effectively as possible. The personnel who will be undertaking the emergency planning and response for your community or utility depends on your current organizational makeup. You also need to identify the available resources and the most effective coordination of resources in order to deal with an emergency situation. Federal regulations require you to **“coordinate with existing Local Emergency Planning Committees established under the Emergency Planning and Community Right-to-Know Act when preparing or revising an emergency response plan...”** This is to ensure that emergency policies, activities, training, and resources are coordinated throughout the community and/or general service area.

HAZARD AND VULNERABILITY ASSESSMENT

STEP 3- IDENTIFY POSSIBLE HAZARDS

Using the **Hazard Identification Form**, identify the potential hazards that you may need to deal with. Although it may be a guess, an effort should also be made to predict the probability of a disaster or emergency occurring in your service area, as well as the magnitude of the affects it would have on your ability to provide essential services to your customers. Thus, the higher probability and magnitude the higher priority for your planning efforts.

(To add to this table, tab after the last row)

HAZARDS IDENTIFICATION FORM							
Type of Hazard	Probability			Magnitude			Priority
	High	Moderate	Low	Severe	Moderate	Light	
CONSTRUCTION ACCIDENTS							
DROUGHT							
EXTREME COLD							
FLOODS							
FOREST OR BRUSH FIRES							
ICE / FREEZING RAIN STORMS							
HAZARDOUS MATERIAL RELEASE							
HIGH WINDS							
NUCLEAR BOMB EXPOSIONS							
NUCLEAR POWER PLANT ACCIDENTS							
RIOTS							
SEVERE THUNDERSTORMS							
SNOW STORMS							
STRIKES							
STRUCTURAL FIRES							
TERRORISM							
TORNADOS							
TRANSPORTATION ACCIDENTS							
Air							
Rail							
Road							
Water							
VANDALISM							
WATERBORNE DISEASES							
WATER SOURCE CONTAMINATION							
OTHER:							

STEP 4- ASSESS THE SECURITY OF YOUR FACILITIES

Although the affects of vandalism or terrorism to a water system may be similar to those from other emergency situations, the actions you take to prevent them are different and should be considered as a separate area of hazard assessment for emergency planning. **Note- If your system serves a population of 3,300 or less you are not required by law to conduct a vulnerability assessment. However, the Department of Natural Resources recommends that you do so to help you be better prepared to meet any emergency situation.**

Using the **Security Vulnerability Self-Assessment Guide for Small Drinking Water Systems Serving Populations Between 3,300 and 10,000**, conduct an assessment of the security of your water system.

Security Vulnerability Self-Assessment Guide for Small Drinking Water Systems Serving Populations Between 3,300 and 10,000

Introduction

Water systems are critical to every community. Protection of public drinking water systems should be a high priority for local officials and water system owners and operators to ensure an uninterrupted water supply, which is essential for the protection of public health (safe drinking water and sanitation) and safety (fire fighting). 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 water system at the local level.

This Security Vulnerability Self-Assessment Guide is designed to help small water 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 water system security, focusing on defined threats that could compromise its ability to meet its various service missions - such as providing adequate drinking water, water for firefighting, and/or water for various commercial and industrial purposes. This document is designed particularly for systems that serve populations of 3,300 up to 10,000. 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. Completion of this document will meet the requirement for conducting a Vulnerability Assessment as directed under the Public Health Security and Bioterrorism Preparedness and Response Act of 2002. Community Water Systems (CWSs) serving more than 3,300 and fewer than 50,000 people must submit their completed vulnerability assessment to the Administrator of U.S. EPA no later than June 30, 2004 in order to meet the provisions of the Act.

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 drinking water primacy agency.

How to Use this Self-Assessment Guide

This document is designed for use by water system personnel. Physical facilities pose a high degree of exposure to any security threat. According to the Bioterrorism Law, vulnerability assessments should include, but not be limited to, a review of pipes and constructed conveyances, physical barriers, water collection, pretreatment, treatment, storage and distribution facilities, electronic, computer or other automated systems which are utilized by the public water system, the use, storage, or handling of various chemicals, and the operation and maintenance of such system. This self-assessment should be conducted on all components of your system (wellhead or surface water intake, treatment plant, storage tank(s), pumps, distribution system, and other important components of your system).

The Assessment includes a basic emergency contact list for your use; however, under the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, all systems serving a population greater than 3,300 must complete or revise an emergency response plan based on their vulnerability assessment. Systems must certify to the U.S. EPA Administrator that incorporates the results of the VA that have been completed or revised within six months of submitting their vulnerability assessment to U.S. EPA. The list included as Attachment 2 will not meet the requirements of the Bioterrorism Act, but it 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 drinking water primacy agency. 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. Please complete the Certificate of Completion on page 29 and return only the certificate to your state drinking water primacy agency. Unless your state has its own requirement that the vulnerability assessments be submitted to the state for review (e.g. New York) do not include a full copy of your self-assessment with the certification submitted to the state primacy agency. Please check with your state drinking water primacy agency to find out what is required for your state. In addition, under the Bioterrorism Act all systems serving a population greater than 3,300 and less than 50,000 must submit their completed vulnerability assessment and a Certificate of Completion to the U.S. EPA Administrator by June 30, 2004.

Before Starting this Assessment

Systems should make an effort to identify critical services and customers, such as hospitals or power facilities, as well as critical areas of their drinking water system that if attacked could result in a significant disruption of vital community services, result in a threat to public health, or a complete shut down of the system (e.g. inability to provide an adequate supply of water for fire prevention, inability to provide safe potable water, or release of hazardous chemicals that could cause catastrophic results). When prioritizing the potential water 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 7 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. Systems should also refer to the U.S. EPA "Baseline Threat Information for Vulnerability Assessments of Community Water Systems" to help assess the most likely threats to their water system. This document is available to CWSs serving greater than 3,300 people. If your system has not yet received instructions on how to receive a copy of this document, then contact your Regional U.S. EPA Office immediately. You will be sent instructions on how to securely access it via the Water Information Sharing and Analysis Center (ISAC) website or obtain a hard copy that can be mailed directly to you. 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.

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 water system. A duplicate copy should also be retained at a secure off-site location. Access to this document should be limited to key water system personnel and local officials as well as the state drinking water primacy agency and others 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:	_____
Water System Name:	_____
Water System PWSID:	_____
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 Water System Critical Components

<u>Component</u>	Number & Location (if applicable)	Description	Critical Asset or Single Point of Failure (H/M/L)
Source Water Type			
Ground Water			
Surface Water			
Purchased			
Treatment Plant			
Buildings			
Pumps			
Treatment Equipment (e.g., basin, clear well, filter)			
Process Controls			
Treatment Chemicals and Storage			
Laboratory Chemicals and Storage			
Storage			
Storage Tanks			
Pressure Tanks			
Power			
Primary Power			
Auxiliary Power			
Distribution System			
Pumps			
Pipes			
Valves			
Appurtenances (e.g., flush hydrants, backflow preventers, meters)			
Other Vulnerable Points			
Offices			
Buildings			
Computers			
Files			
Transportation/ Work Vehicles			
Personnel			
Communications			
Telephone			
Cell Phone			
Radio			
Computer Control Systems (SCADA)			
Critical Facilities Served			
Power Plant Facilities			
Hospitals			
Schools			
Waste Water Treatment Plants			
Food/Beverage Processing Plants			
Nursing Homes			
Prisons/Other Institutions			

Security Vulnerability Self-Assessment for Small Water Systems

The first 15 questions in this vulnerability self-assessment are general questions designed to apply to all components of your system (wellhead or surface water intake, treatment plant, storage tank(s), pumps, distribution system, 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	<p>Under the provisions of the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 you are required to develop and/or update an ERP within six months after completing this assessment. If you do not have an ERP, you can obtain a sample from your state drinking water primacy agency. As a first step in developing your ERP, you should develop your Emergency Contact List (see Attachment 2).</p> <p>A 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 water samples. You should coordinate with your LEPC.</p> <p>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 water system personnel and local officials (if applicable).</p> <p>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.</p>	
2. Have you reviewed U.S. EPA's Baseline Threat Information Document?	Yes No	<p>The U.S. EPA baseline threat document is available through the Water Information Sharing and Analysis Center at www.waterisac.org. It is important you use this document to determine potential threats to your system and to obtain additional security related information. U.S. EPA should have provided a certified letter to your system that provided instructions on obtaining the threat document.</p>	
3. Is access to the critical components of the water system (i.e., a part of the physical infrastructure of the system that is essential for water flow and/or water quality) restricted to authorized personnel only?	Yes No	<p>You should restrict or limit access to the critical components of your water system to authorized personnel only. This is the first step in security enhancement for your water system. Consider the following:</p> <ul style="list-style-type: none"> ◆ Issue water 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 escort people without proper ID. 	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
4. Are all critical facilities fenced, including wellhouses and pump pits, and are gates locked where appropriate?	Yes No	<p>Ideally, all facilities should have a security fence around the perimeter.</p> <p>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.</p>	
5. Are all critical doors, windows, and other points of entry such as tank and roof hatches and vents kept closed and locked?	Yes No	<p>Lock all building doors and windows, hatches and vents, gates, and other points of entry to prevent access by unauthorized personnel. Check locks regularly. Dead bolt locks and lock guards provide a high level of security for the cost.</p> <p>A daily check of critical system components enhances security and ensures that an unauthorized entry has not taken place.</p> <p>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.</p> <p>To limit access to water 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.</p>	
6. Is there external lighting around all critical components of your water system?	Yes No	<p>Adequate lighting of the exterior of water systems' critical components is a good deterrent to unauthorized access and may result in the detection or deterrence of trespassers. Motion detectors that activate switches that turn lights on or trigger alarms also enhance security.</p>	
7. Are warning signs (tampering, unauthorized access, etc.) posted on all critical components of your water system? (For example, well houses and storage tanks.)	Yes No	<p>Warning signs are an effective means to deter unauthorized access.</p> <p>"Warning - Tampering with this facility is a federal offense" should be posted on all water facilities. These are available from your state rural water association.</p> <p>"Authorized Personnel Only," "Unauthorized Access Prohibited," and "Employees Only" are examples of other signs that may be useful.</p>	
8. Do you patrol and inspect all source intake, buildings, storage tanks, equipment, and other critical components?	Yes No	<p>Frequent and random patrolling of the water system by utility staff may discourage potential tampering. It may also help identify problems that may have arisen since the previous patrol.</p> <p>All systems are encouraged to initiate personal contact with the local law enforcement to show them the drinking 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 water system.</p>	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
9. Is the area around all the critical components of your water system free of objects that may be used for breaking and entering?	Yes No	When assessing the area around your water 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 water system easily seen?	Yes No	<p>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.</p> <p>Trim trees and shrubs to enhance the visibility of your water system's critical components.</p> <p>If possible, park vehicles and equipment in places where they do not block the view of your water system's critical components.</p>	
11. Do you have an alarm system that will detect unauthorized entry or attempted entry at all critical components?	Yes No	<p>Consider installing an alarm system that notifies the proper authorities or your water 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.</p> <p>You should also have an audible alarm at the site as a deterrent and to notify neighbors of a potential threat.</p>	
12. Do you have a key control and accountability policy?	Yes No	<p>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.</p> <p>You should have all keys stamped (engraved) "DO NOT DUPLICATE."</p>	
13. Are entry codes and keys limited to water system personnel only?	Yes No	Suppliers and personnel from co-located organizations (e.g., organizations using your facility for telecommunications) 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 water 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 water 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.	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
15. Do you have a neighborhood watch program for your water 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.	

Water Sources

In addition to the above general checklist for your entire water system (questions 1-15), you should give special attention to the following issues, presented in separate tables, related to various water system components. Your water sources (surface water intakes or wells) should be secured. Surface water supplies present the greatest challenge. Typically they encompass large land areas. Where areas cannot be secured, steps should be taken to initiate or increase law enforcement patrols. Pay particular attention to surface water intakes. Ask the public to be vigilant and report suspicious activity.

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
16. Are your wellheads sealed properly?	Yes No	A properly sealed wellhead decreases the opportunity for the introduction of contaminants. If you are not sure whether your wellhead is properly sealed, contact your well drilling/maintenance company, your state drinking water primacy agency, your state rural water association, or other technical assistance providers.	
17. Are well vents and caps screened and securely attached?	Yes No	Properly installed vents and caps can help prevent the introduction of a contaminant into the water supply. Ensure that vents and caps serve their purpose, and cannot be easily breached or removed.	
18. Are observation/test and abandoned wells properly secured to prevent tampering?	Yes No	All observation/test and abandoned wells should be properly capped or secured to prevent the introduction of contaminants into the aquifer or water supply. Abandoned wells should be either removed or filled with concrete.	
19. Is your surface water source secured with fences or gates? Do water system personnel visit the source?	Yes No	Surface water supplies present the greatest challenge to secure. Often, they encompass large land areas. Where areas cannot be secured, steps should be taken to initiate or increase patrols by water utility personnel and law enforcement agents.	

Treatment Plant and Suppliers

Some small systems provide easy access to their water 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
20. Are deliveries of chemicals and other supplies made in the presence of water system personnel?	Yes No	Establish a policy that an authorized person, designated by the water system, must accompany all deliveries. Verify the credentials of all drivers. This prevents unauthorized personnel from having access to the water system.	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
21. Have you discussed with your supplier(s) procedures to ensure the security of their products?	Yes No	<p>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 water system.</p> <p>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.</p>	
22. Are chemicals, particularly those that are potentially hazardous (e.g. chlorine gas) or flammable, properly stored in a secure area?	Yes No	<p>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.</p> <p>You should have tools and equipment on site (such as a fire extinguisher, drysweep, etc.) to take immediate actions when responding to an emergency.</p>	
23. Do you monitor raw and treated water so that you can detect changes in water quality?	Yes No	<p>Monitoring of raw and treated water can establish a baseline that may allow you to know if there has been a contamination incident.</p> <p>Some parameters for raw water include pH, turbidity, total and fecal coliform, total organic carbon, specific conductivity, ultraviolet adsorption, color, and odor.</p> <p>Routine parameters for finished water and distribution systems include free and total chlorine residual, heterotrophic plate count (HPC), total and fecal coliform, pH, specific conductivity, color, taste, odor, and system pressure.</p> <p>Chlorine demand patterns can help you identify potential problems with your water. A sudden change in demand may be a good indicator of contamination in your system.</p> <p>For those systems that use chlorine, absence of chlorine residual may indicate possible contamination. Chlorine residuals provide protection against bacterial and viral contamination that may enter the water supply.</p>	
24. Are tank ladders, access hatches, and entry points secured?	Yes No	<p>The use of tamper-proof padlocks at entry points (hatches, vents, and ladder enclosures) will reduce the potential for of unauthorized entry.</p> <p>If you have towers, consider putting physical barriers on the legs to prevent unauthorized climbing.</p>	
25. Are vents and overflow pipes properly protected with screens and/or grates?	Yes No	<p>Air vents and overflow pipes are direct conduits to the finished water in storage facilities. Secure all vents and overflow pipes with heavy-duty screens and/or grates.</p>	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
26. Can you isolate the storage tank from the rest of the system?	Yes No	<p>A water system should be able to take its storage tank(s) out of operation or drain its storage tank(s) if there is a contamination problem or structural damage. Install shut-off or bypass valves to allow you to isolate the storage tank in the case of a contamination problem or structural damage.</p> <p>Consider installing a sampling tap on the storage tank outlet to test water in the tank for possible contamination.</p>	
<p>Distribution</p> <p><i>Hydrants are highly visible and convenient entry points into the distribution system. Maintaining and monitoring positive pressure in your system is important to provide fire protection and prevent introduction of contaminants.</i></p>			
QUESTION	ANSWER	COMMENT	ACTION/NEEDED TAKEN
27. Do you control the use of hydrants and valves?	Yes No	<p>Your water system should have a policy that regulates the authorized use of hydrants for purposes other than fire protection. Require authorization and backflow devices if a hydrant is used for any purpose other than fire fighting.</p> <p>Consider designating specific hydrants for use as filling station(s) with proper backflow prevention (e.g., to meet the needs of construction firms). Then, notify local law enforcement officials and the public that these are the only sites designated for this use.</p> <p>Flush hydrants should be kept locked to prevent contaminants from being introduced into the distribution system, and to prevent improper use.</p>	
28. Does your system monitor for, and maintain, positive pressure?	Yes No	Positive pressure is essential for fire fighting and for preventing backsiphonage that may contaminate finished water in the distribution system. Refer to your state primacy agency for minimum drinking water pressure requirements.	
29. Has your system implemented a backflow prevention program?	Yes No	In addition to maintaining positive pressure, backflow prevention programs provide an added margin of safety by helping to prevent the intentional introduction of contaminants. If you need information on backflow prevention programs, contact your state drinking water primacy agency.	

Personnel

You should add security procedures to your personnel policies.

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
30. 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.	
31. Are your personnel issued photo-identification cards?	Yes No	For positive identification, all personnel should be issued water system photo-identification cards and be required to display them at all times. Photo identification will also facilitate identification of authorized water system personnel in the event of an emergency.	
32. 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 water system, and could have both the intent and physical capability to harm your system. Requiring employees who will no longer be working at your water system to turn in their IDs, keys, and access codes helps limit these types of security breaches.	
33. Do you use uniforms and vehicles with your water system name prominently displayed?	Yes No	Requiring personnel to wear uniforms, and requiring that all vehicles prominently display the water system name, helps inform the public when water 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.	
34. Have water 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.	
35. 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 water system.

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
36. Is computer access "password protected?" Is virus protection installed and software upgraded regularly and are your virus definitions updated at least daily? Do you have Internet firewall software installed on your computer? Do you have a plan to back up your computers?	Yes No	<p>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. If you have Internet access, a firewall protection program should be installed on your side of the computer and reviewed and updated periodically.</p> <p>Also consider contacting a virus protection company and subscribing to a virus update program to protect your records.</p> <p>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.</p>	
37. Is there information on the Web that can be used to disrupt your system or contaminate your water?	Yes No	<p>Posting detailed information about your water 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.</p> <p>You should do a Web search (using a search engine such as Google, Yahoo!, or Lycos) using key words related to your water supply to find any published data on the Web that is easily accessible by someone who may want to damage your water supply.</p>	
38. Are maps, records, and other information stored in a secure location?	Yes No	<p>Records, maps, and other information should be stored in a secure location when not in use. Access should be limited to authorized personnel only.</p> <p>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.</p>	
39. Are copies of records, maps, and other sensitive information labeled confidential, and are all copies controlled and returned to the water system?	Yes No	<p>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.</p>	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
40. Are vehicles locked and secured at all times?	Yes No	<p>Vehicles are essential to any water system. They typically contain maps and other information about the operation of the water system. Water system personnel should exercise caution to ensure that this information is secure.</p> <p>Water system vehicles should be locked when they are not in use or left unattended.</p> <p>Remove any critical information about the system before parking vehicles for the night.</p> <p>Vehicles also usually contain tools (e.g., valve wrenches) and keys that could be used to access critical components of your water system. These should be secured and accounted for daily.</p>	

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
41. 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 water system?	Yes No	<p>Advise your customers and the public that your system has increased preventive security measures to protect the water 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.</p>	
42. Does your water system have a procedure to deal with public information requests, and to restrict distribution of sensitive information?	Yes No	<p>You should have a procedure for personnel to follow when you receive an inquiry about the water system or its operation from the press, customers, or the general public.</p> <p>Your personnel should be advised not to speak to the media on behalf of the water system. Only one person should be designated as the spokesperson for the water 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.</p>	
43. 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	<p>It is critical to be able to receive information about suspected problems with the water at any time and respond to them quickly. Written procedures should be developed in advance with your state drinking water primacy agency, local health agencies, and your local emergency planning committee and reviewed periodically.</p>	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
44. Do you have a procedure in place to advise the community of contamination immediately after discovery?	Yes No	<p>As soon as possible after a disease outbreak, 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 (water, food, etc.). Active testing of your water 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 water supply.</p> <p>It is critical to be able to get the word out to your customers as soon as possible after discovering a health hazard in your water supply. In addition to your responsibility to protect public health, you must also comply with the requirements of the Public Notification Rule. Some simple methods include announcements via radio or television, door-to-door notification, a phone tree, and posting notices in public places. The announcement should include accepted uses for the water and advice on where to obtain safe drinking water. Call large facilities that have large populations of people who might be particularly threatened by the outbreak: hospitals, nursing homes, the school district, jails, large public buildings, and large companies. Enlist the support of local emergency response personnel to assist in the effort.</p>	
45. Do you have a procedure in place to respond immediately to a customer complaint about a new taste, odor, color, or other physical change (oily, filmy, burns on contact with skin)?	Yes No	<p>It is critical to be able to respond to and quickly identify potential water quality problems reported by customers. Procedures should be developed in advance to investigate and identify the cause of the problem, as well as to alert local health agencies, your state drinking water primacy agency, and your local emergency planning committee if you discover a problem.</p>	

Now that you have completed the “Security Vulnerability Self-Assessment Guide for Small Water Systems Serving Populations Between 3,300 and 10,000,” 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 2. Emergency Contact List

All community water systems serving populations greater than 3,300 and less than 10,000 must adopt an emergency response plan (ERP) based on their vulnerability assessment. Emergency response plans are action steps to follow if a primary source of drinking water becomes contaminated or if the flow of water is disrupted. You can obtain sample ERPs from your state drinking water administrator, or from your state primacy agency.

This sample document is an “Emergency Contact List.” Although, it can be an essential part of your ERP, **this will not satisfy the Bioterrorism Act requirement to develop or update your emergency response plan based on your vulnerability assessment.** 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

Public Water System (PWS) ID 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	Name and title	Telephone

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				
Water 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 Water Systems				
Critical Industrial/Commercial Water Users				
Others				

Service/Repair Notification List

ORGANIZATION	CONTACT NAME/TITLE	PHONE (DAY)	PHONE (NIGHT)	E-MAIL
Electrician				
Electric Utility Company				
Gas Utility Company				
Sewer Utility Company				
Telephone Utility Company				
Plumber				
Pump Specialist				
"Diggers Hotline"				
Soil Excavator/Backhoe Operator				
Equipment Rental (Power Generators)				
Equipment Rental (Chlorinators)				
Equipment Rental (Portable Fencing)				
Equipment Repairman				
Equipment Repairman (Chlorinator)				
Radio/Telemetry Repair Service				
Bottled Water Source				
Bulk Water Hauler				
Pump Supplier				
Well Drillers				
Pipe Supplier				
Chemical Supplier				

State Notification List

ORGANIZATION	CONTACT NAME/TITLE	PHONE (DAY)	PHONE (NIGHT)	E-MAIL
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 Water 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 water supply, you will need to notify the public and make public health recommendations (e.g., boil water, or use bottled water). 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 water system who will be authorized to make all public statements to the media.
- Make arrangements for contacting institutions with large numbers of people, some of whom may be immuno-compromised:
 - Nursing homes
 - Hospitals
 - Schools
 - Prisons

Attachment 3: Threat Identification Checklists

Water System Telephone Threat Identification Checklist

In the event your water 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: <input type="checkbox"/> Contamination <input type="checkbox"/> Threat to tamper <input type="checkbox"/> Biological <input type="checkbox"/> Bombs, explosives, etc. <input type="checkbox"/> Chemical <input type="checkbox"/> Other (explain)	
2. Water System Identification: Name: Address: Telephone: PWS Owner or Manager's Name:	
3. Alternate Water Source Available: Yes/No	If yes, give name and location:
4. Location of Tampering: <input type="checkbox"/> Distribution Line <input type="checkbox"/> Water Storage Facilities <input type="checkbox"/> Treatment Plant <input type="checkbox"/> Raw Water Source <input type="checkbox"/> Treatment Chemicals <input type="checkbox"/> 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): <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Foul <input type="checkbox"/> Illiterate <input type="checkbox"/> Well Spoken <input type="checkbox"/> Irrational <input type="checkbox"/> Incoherent	

10. Is the Caller's Voice (check all that apply): <input type="checkbox"/> Soft <input type="checkbox"/> Calm <input type="checkbox"/> Angry <input type="checkbox"/> Slow <input type="checkbox"/> Rapid <input type="checkbox"/> Slurred <input type="checkbox"/> Loud <input type="checkbox"/> Laughing <input type="checkbox"/> Crying <input type="checkbox"/> Normal <input type="checkbox"/> Deep <input type="checkbox"/> Nasal <input type="checkbox"/> Clear <input type="checkbox"/> Lispering <input type="checkbox"/> Stuttering <input type="checkbox"/> Old <input type="checkbox"/> High <input type="checkbox"/> Cracking <input type="checkbox"/> Excited <input type="checkbox"/> Young <input type="checkbox"/> Familiar (who did it sound like?) <input type="checkbox"/> Accented (which nationality or region?)	
11. Is the Connection Clear? (Could it have been a wireless or cell phone?)	
12. Are There Background Noises?	
<input type="checkbox"/> Street noises (what kind?)	
<input type="checkbox"/> Machinery (what type?)	
<input type="checkbox"/> Voices (describe)	
<input type="checkbox"/> Children (describe)	
<input type="checkbox"/> Animals (what kind?)	
<input type="checkbox"/> Computer Keyboard, Office	
<input type="checkbox"/> Motors (describe)	
<input type="checkbox"/> Music (what kind?)	
<input type="checkbox"/> 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:	

Water System Report of Suspicious Activity

In the event personnel from your water system (or neighbors of your water 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)	Changes in water quality noticed by customers (e.g., change in color, odor, taste) that were not planned or announced by the water system			
Unauthorized personnel on water system property.	Other (explain)			
Presence of personnel at the water system at unusual hours				
2. Water System Identification:				
Name:				
Address:				
Telephone:				
PWS Owner or Manager's Name:				
3. Alternate Water Source Available: Yes/No	If yes, give name and location:			
4. Location of Suspicious Activity:				
<input type="checkbox"/> Distribution Line	<input type="checkbox"/> Water Storage Facilities	<input type="checkbox"/> Treatment Plant	<input type="checkbox"/> Raw Water Source	<input type="checkbox"/> Treatment Chemicals
<input type="checkbox"/> 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 water 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:

Certification of Completion of Assessment

A final step in completing the "Security Vulnerability Self-Assessment Guide for Small Drinking Water Systems Serving Populations Between 3,300 and 10,000" is to notify the state drinking water primacy agency that the assessment has been conducted. Please fill in the following information and send this page only to the appropriate state drinking water primacy agency contact so that this certification can be included in the records that the state maintains on your water system.

- **DO NOT** send the completed vulnerability assessment (VA) to your state primacy agency unless your state requires VA submittals.
- **DO** send the completed VA to the U.S. EPA Administrator by June 30, 2004 to satisfy the requirements of the Federal Bioterrorism Act. You must also certify to the U.S. EPA Administrator that you have developed or updated your emergency response plan based on your VA within six months of submitting your VA to the U.S. EPA. The Agency will be providing instructions to water systems to follow when submitting your VA and certification. Please follow these U.S. EPA procedures when released.

Public Water System (PWS) ID: Number:

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: _____

I certify that the information in this vulnerability assessment has been completed to the best of my knowledge and that the appropriate parties have been notified of the assessment and recommended steps to be taken to enhance the security of the water system. Furthermore, a copy of the completed assessment will be retained at the public water system, in a secure location, for state review as requested.

Signed _____

Date _____

INSTRUCTIONS FOR SUBMITTING CERTIFICATION, VULNERABILITY ASSESSMENT AND EMERGENCY RESPONSE PLAN TO EPA

Systems serving populations of 3,300 or more must send an **ORIGINAL** certification letter for the completion of the Vulnerability Assessment to EPA before June 30, 2004. If you will not be certifying completion of your Emergency Response Plan in this submission, you need to send an additional certification to EPA by December 31, 2004. EPA Strongly recommends that you send the Vulnerability Assessment to EPA sealed in two envelopes, one inside the other. No reference should be made on the outer envelope as to its contents. Avoid the use of markings on the outer envelope that may lead someone to know its contents. Do NOT use words such as “vulnerability assessment”, “confidential”, “Water Protection Task Force”, “Bioterrorism Act”, etc. The inside envelope should be sealed and marked **“TO BE OPENED BY ADDRESSEE ONLY – Janet Pawlukiewics”**. The outside envelope should be addressed to the address that is on top of the certification letter you printed.

The submission packet should include:

- **Your printed certification letter**
- **Your printed self assessment responses**
- **Your printed Inventory**

DO NOT SUBMIT THE VULNERABILITY ASSESSMENT PACKAGE TO EPA ELECTRONICALLY IN ANY FORM

DISCLAIMER

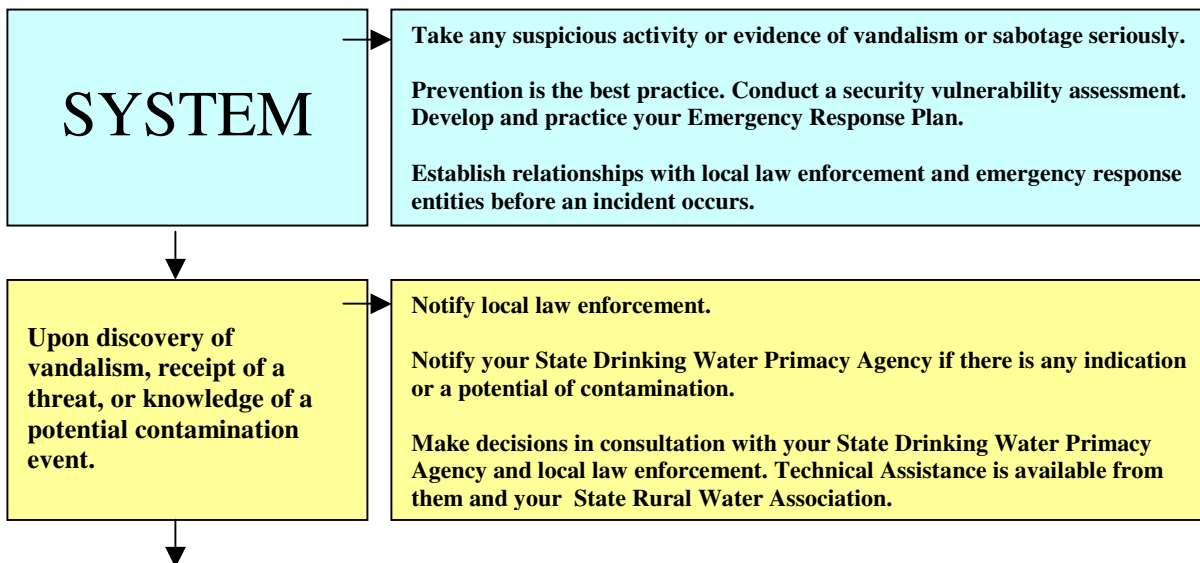
This document contains information on how to plan for protection of the assets of your water system. The work necessarily addresses problems in a general nature. You should review local, state, and Federal laws and regulations to see how they apply to your specific situation.

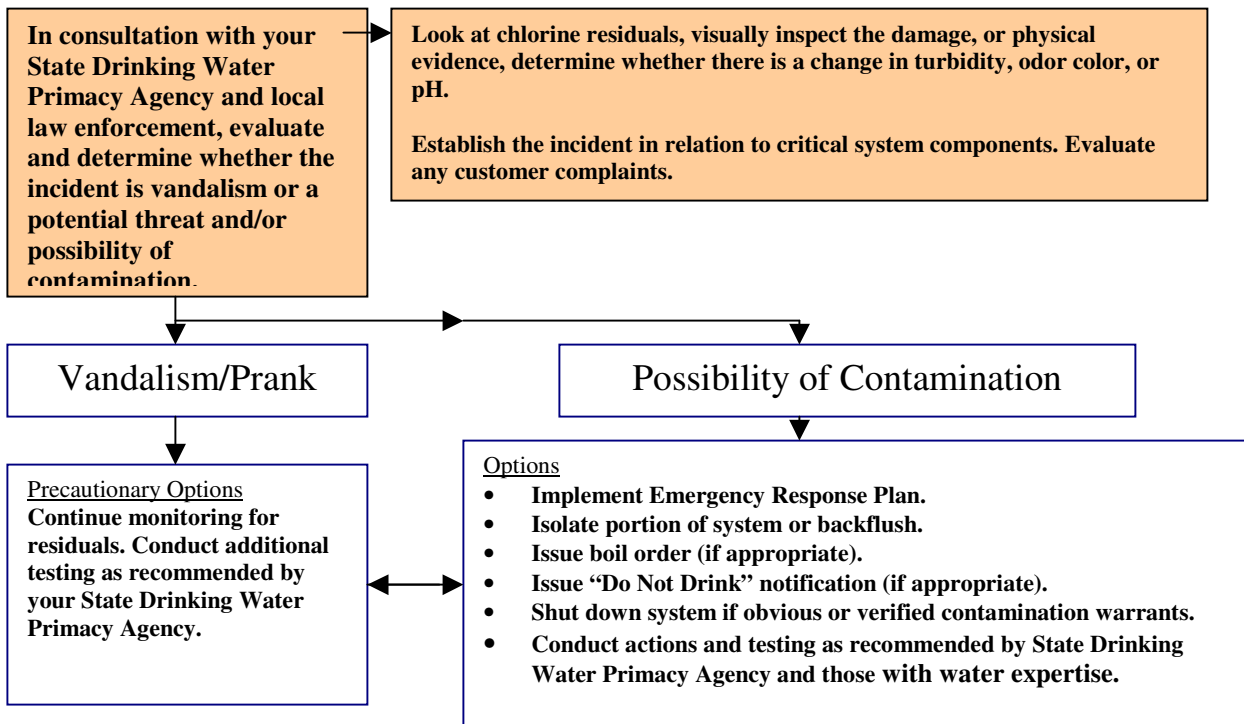
Knowledgeable professionals prepared this document using current information. The authors make no representation, expressed or implied, that this information is suitable for any specific situation. The authors have no obligation to update this work or to make notification of any changes in statutes,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

Neither the Association of State Drinking Water Administrators, the National Rural Water Association, the U. S. Environmental Protection Agency, or the Drinking Water Academy assume any liability resulting from the use or reliance upon any information, guidance, suggestions, conclusions, or opinions contained in this document.

A Utility Guide For Security Decision Making

These guidelines are designed to assist utilities in determining the level of security concern if a break-in or threat occurs at the water system and to assist the utility in appropriate decision making and response actions. These various steps and actions can be adjusted to meet the needs of specific situations and to comply with individual state requirements. Specific actions should be undertaken in consultation with your State Drinking Water Primacy Agency. Technical assistance is available from your state drinking water primacy agency and state rural water association for prevention initiatives such as vulnerability assessments, emergency response planning, and security enhancements.





- Do not disturb evidence and document what you see. Keep notes and take photos as you go.
- Collect samples for future analysis and store them appropriately.
- Alert other officials as appropriate and keep the public informed (designate one spokesperson).
- Use the expertise in public drinking water supplies and public health in the decision making process.
- Preventative measures are the best practice to prevent such an incident.
- Prior communication with the local law enforcement authorities and local emergency response entities prevents confusion and defines who has responsibility for what, when an incident occurs.

Prevention First

Simple security precautions and procedures should be a first priority for all size systems. Conducting a security vulnerability self-assessment and developing and practicing your Emergency Response Plan in cooperation with your local law enforcement and local emergency response entities prior to an incident is essential for a proper response to any emergency.

Discovery or receipt of threat

- Take any suspicious activity or evidence of vandalism or sabotage seriously.
- Document what you see and take photos and keep notes as you go.
- Contact local law enforcement.
- Notify the regulatory authority (State Drinking Water Primacy Agency).
- Notify other agencies and organizations as appropriate.
- Map customer complaints.

In The Event of An Incident (break-in, damage or threat)

Local law enforcement should be notified. Notify the state drinking water primacy agency if there is any question or potential of contamination.

An initial evaluation must be made by the system owner or operator to make appropriate decisions on any actions that should be taken. The initial evaluation should include a review of:

- Physical evidence such as containers or material in the intrusion area.
- A quick check for chlorine residuals in all parts of system.
- A visual check of finished water as to turbidity, odor, color, or pH.
- Intrusion or incident location in relation to critical system components such as finished water supply.
- Other items and areas relevant to the system operation and environment.

Consultations in Decision Making

The system may want to obtain assistance in the evaluation process and obtain input as to the appropriate actions to take. This input is best obtained from those with expertise in law enforcement, and drinking water treatment, distribution, and its impact on public health. The system should work with the state drinking water primacy agency, the Louisiana Rural Water Association and other drinking water professional organizations, as well as emergency response agencies, in the decision making process. These decisions must be made jointly to ensure public health protection and to avoid adverse affects. For example, a non-water person may suggest that the system be drained. This has ramifications in fire protection and could impact the integrity and safety of the water supply. Technical assistance to assist in the implementation of preventative or remedial measures is available from your state drinking water primacy agency or the Louisiana Rural Water Association.

Actions to Consider

The system must make decisions as to what level of actions must be taken to perform due diligence in protecting the public health and provide a safe quality water supply. Actions can range from a determination that the incident is a prank with no action needed to implementing additional monitoring as a precautionary measure. If contamination is indicated, the system may declare an emergency and implement their emergency response plan. These decisions impact public health and safety and should be made in cooperation with law enforcement and the Department of Natural Resources.

EMERGENCY EQUIPMENT IDENTIFICATION

STEP 5 – LIST EMERGENCY EQUIPMENT AND WATER PRODUCTION PROCEDURES

According to federal regulations, Emergency Response Plans for systems serving a population greater than 3,300 must include **“plans, procedures, and identification of equipment that can be implemented or utilized in the event of a terrorist or other intentional attack on the public water system.”** The regulations also require these systems to include **“actions, procedures, and identification of equipment which can obviate or significantly lessen the impact of terrorist attacks or other intentional actions on the public health and the safety of drinking water provided to communities and individuals.”** Also, the Louisiana Administrative Code requires you to have **“arrangements made for emergency production of water and include these in your emergency plan.”** Based on your equipment, you should establish steps to take when power is interrupted for any length of time. You may also want to include actions to take when power is restored.

EMERGENCY EQUIPMENT LISTING

(To add to any of these tables, tab after the last row of each table)

Name of Utility	_____
Contact Person (Name)	_____
Work Phone	_____
Home Phone	_____
Alternate Contact (Name)	_____
Work Phone	_____
Home Phone	_____

Equipment Available (Check items owned)

Portable Pumps: _____ GPM: _____ Type _____
 Generators: _____ 110 _____ 440 _____ Other _____
 Welders: _____ Size _____

- | | | |
|---|--|---------------------------------------|
| <input type="checkbox"/> Back Hoe | <input type="checkbox"/> Trench Box (Shoe) | <input type="checkbox"/> Boom Truck |
| <input type="checkbox"/> Dump Truck | <input type="checkbox"/> PTO Powered Equip. | <input type="checkbox"/> Jet Vac |
| <input type="checkbox"/> Leak Detector | <input type="checkbox"/> Confined Space Equip | <input type="checkbox"/> Line Locator |
| <input type="checkbox"/> Air Compressor(s) | <input type="checkbox"/> Hydrant Relief Valve | <input type="checkbox"/> Sandbags |
| <input type="checkbox"/> Stand-by CL2 Equip | <input type="checkbox"/> Portable Water Tanker | <input type="checkbox"/> |

Additional Equipment Available

Water Utility

Emergency Water Production Procedures

Facility- _____

Location- _____

Type of Emergency Backup- Generator _____ Motor/Gear Drive _____ Other _____

Backup fuel source- Deisel _____ Gasoline _____ Natural Gas _____ LP _____ Other _____

Amount of backup fuel stored onsite- _____

Amount of time backup can operate with fuel stored onsite - _____ hours

Contact(s) for backup fuel- Name _____

Address _____

Phone _____

Steps to produce water with backup power:

1. _____

2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

EMERGENCY DISINFECTION

As your first line of defense against contamination of the water in your distribution system, we also recommend that you include the steps necessary for emergency disinfection in your emergency management plan. These steps should be described as completely as possible so that all emergency response personnel can understand them in the event of an emergency situation.

STEP 6 – DEVELOP EMERGENCY DISINFECTION PLAN

These procedures can be used as general guidelines for developing a more specific Emergency Disinfection Plan. Each water system varies and a specific plan pertaining to that system should be developed.

EMERGENCY CHLORINATION PROCEDURES

Chlorine Addition to System

1. Set up the chlorination feed pump. Refer to pump O&M manual for specifics on particular pump and proper connection.
2. Make sure that chlorine feed pump operates when plugged into the outlet connected to the well pump. The chlorine feed pump should only operate when the well pump is on. Make sure pump is plugged into correct outlet.
3. Set pump to reach the desired chlorine residual based on the chlorine being used and the gallons per minute (GPM) of the well. Turn well pump to manual and let run for a couple of minutes. Check the chlorine residual downstream from chlorine injection point. If necessary, adjustment chlorine pump feed rate to reach the desired residual.

4. Distribute the chlorinated water throughout the system by flushing hydrants or faucets.
5. Continue emergency chlorination until follow up samples come back safe and DNR instructs that chlorination is no longer required.

Chlorine Addition To Well

1. New wells and wells that are bacteriologically contaminated should be disinfected according to a chlorine solution ratio of 1:100. That is 1 part of chlorine (household bleach) to 100 parts of water.
2. Mixing can be done 25 gallons at a time in a clean plastic container. (Use 1 quart of bleach for every 25 gallons of water.) Always prepare enough solution to meet or exceed the total volume of your well.

<u>Solution needed- Casing Diameter</u>	<u>Minimum amount of chlorine solution.</u>
2" -----	2 gallons of solution per 10 feet of well depth.
4" -----	7 gallons of solution per 10 feet of well depth.
6" -----	15 gallons of solution per 10 feet of well depth.
8" -----	26 gallons of solution per 10 feet of well depth.

Example: A 6" well that is 100' deep would need 150 gallons of solution (15 gallons of solution for every 10' of well equals 150 gallons). About 1 & 1/2 gallons of bleach would be needed at the minimum.

3. Remove the well cap and pour the required amount of solution into the well.
4. Hook up a hose to the system being disinfected and rinse the well casing for 5-10 minutes. Run enough water to circulate the chlorine solution throughout the water system.
5. Turn on each of your other water taps till the bleach smell is just detected and then turn them off to keep the chlorine solution in the system.
6. Let the chlorine solution remain in the system for at least 24 hours.
7. Pump out all of the chlorine solution where the chlorine will do no damage. Pump until you can no longer smell the chlorine. Flush out your other water taps.
8. Resample for bacteria only after all of the chlorine is flushed from the system.

Disinfection of Household Water

The following procedures will destroy the usual bacteria and other microorganisms that may be present in water obtained from a contaminated public water supply system or from alternate emergency sources.

Heat Disinfection (boiling)

Boil the water for at least one minute after reaching a rolling boil.

Chemical Disinfection

1. Strain water through a clean, tightly woven cloth into a clean container to remove any sediment or floating matter.
2. Purify the water with one of the following chemicals (choice of chemical is based on availability)
 - a. Hypochlorite solutions (PUREX, CLOROX or other household bleach)

Read the label to find the percent of available chlorine in the solution and determine the number of drops needed to disinfect each quart of water from the table below:

Available Chlorine	Drops of Bleach to add to each quart of clear water	Drops of Bleach to add to each quart of cloudy water
1%	10	20
4 to 6%	2	4
7 to 10%	1	2
If not known	10	20
<i>Mix thoroughly by stirring or shaking water in container. Let stand for 30 minutes. A slight chlorine odor should be detectable in the water. If not, repeat the dosage and let stand an additional 15 minutes before using.</i>		

- b. Iodine: Use USP tincture of iodine; iodine from the medicine cabinet should be suitable. Add two to three drops to each quart of clear water (or eight to ten drops to each quart of cloudy water). Mix and let water stand for 30 minutes before using.

Purified water should be stored in clean, non-corrosive, tightly covered containers. Containers suitable for water storage include empty vinegar bottles, soft drink jugs and plastic milk containers that have been thoroughly washed and rinsed with purified water. Freezing does not disinfect water; ice cubes must be made from water that is properly disinfected.

STEP 7- PURSUE AGREEMENTS FOR NEEDED SERVICES AND EQUIPMENT

A utility or a community cannot be expected to have all of the equipment or facilities that will be needed to deal with most emergency situations. That is why you must take an active role in preparing agreements with other entities for supplies, contracted service, mutual aid, backup lifeline services, interconnections, etc. **According to Louisiana Administrative Code, copies of these agreements must be included in your plan.** If you do decide to pursue agreements with other entities, we have included a sample **Mutual Aid Agreement** form for your use.

**COMMUNITY WATER/WASTEWATER UTILITY
MUTUAL ASSISTANCE AGREEMENT**

This **Agreement** is entered into this _____ day of _____, _____ by the communities listed on Attachment A.

1. **PURPOSE.** Situations arise in the operation of a community’s water and/or wastewater system when assistance from a nearby community would be beneficial in maintaining or restoring normal operations. The purpose of this Agreement is to formalize and define the conditions under which this assistance may be requested and granted as between the two communities identified above.
2. **TYPE OF ASSISTANCE AVAILABLE.**
 - 2.1 **Assistance from Certified Operator.** If a community’s certified operator is or will be unavailable to that community’s water or wastewater system for any reason, that community (the Requesting Community) may request the other community to this Agreement (the Requested Community) to

permit one or more of the Requested Community's certified operators to be available to the Requesting Community's water or wastewater system during the absence of the certified operator of the Requesting Community.

- 2.2 **Emergency Assistance.** If an emergency situation arises in a community, that community (the Requesting Community) may request the other community to this Agreement (the Requested Community) to provide support to the Requesting Community during the emergency, to the extent possible.
3. **REQUEST FOR ASSISTANCE.** Each community will provide the name(s), telephone numbers, and emergency telephone number(s) of personnel authorized to request and receive a request for assistance. When requesting assistance, Requesting Community shall specify, to the extent practicable under the circumstances:
- a. The reason assistance is needed, and if assistance is needed for an emergency, the nature of the emergency;
 - b. The assistance requested (including equipment, material and estimates of hours of labor needed);
 - c. An estimate of the length of time such assistance may be required, and estimated time to return material; and
 - d. The site where the assistance should be rendered.
4. **DETERMINATION OF EXTENT OF ASSISTANCE.** If a request for assistance is received, the Requested Community, through its water utility superintendent, wastewater utility superintendent, director of public works, or another authorized individual, shall determine whether and the extent to which assistance will be provided. It is the intention of this Agreement to vest in each community the sole right to determine when its needs will permit it to respond to a request for assistance by another community, and it is further agreed by the communities to this Agreement, that if the Requested Community refrains from providing any assistance to the Requesting Community, that the Requested Community shall not be liable for any damages to the Requesting Community or any third party.
5. **TIME WHEN ASSISTANCE BEGINS.** The rendering of assistance by Requested Community in lending employees and/or equipment to Requesting Community will commence when the transportation of such employees and/or equipment to Requesting Community begins and will terminate when the transportation of such employees and/or equipment back to Requested Community has been completed.
6. **CONTROL OF ASSISTANCE.** The Requesting Community, acting through its water utility superintendent, wastewater utility superintendent, director of public works, or such person acting in that capacity, shall be in total command of the employees and/or equipment provided by the Requested Community. However whenever it is practical, such commands or orders for the use of the Requested Community's personnel and/or equipment shall be made by the Requesting Community through the person(s) in charge of the Requested Community's personnel and/or equipment. The Requested Community shall, at all times, have the authority to recall its personnel and/or equipment from the Requesting Community upon direct notice to the person(s) in authority for the Requesting Community.
7. **NO STANDBY.** It is understood that personnel and equipment of the Requested Community shall be used in the capacity for which they are intended, and further, shall not be held in "stand by" capacity unless agreed to by the Requesting Community and the Requested Community. If personnel and/or equipment are not needed, they will be returned to the Requested Community.
8. **EMPLOYEES.** Employees of Requested Community will at all times while providing assistance continue to be employees of Requested Community and will at no time and for no purpose be deemed employees of

Requesting Community. Wages, hours, and other terms and conditions of employment applicable to employees providing assistance will be those of the Requested Community.

Each Community entering into this Agreement shall continue to provide the same salaries, compensation for death or disability, and retirement and furlough payments, to their respective employees or volunteers who are assigned to render assistance to the Requesting Community, as that employee or volunteer would receive if on duty within the jurisdictional limits of the Requested Community.

9. **REIMBURSEMENT FOR COSTS.** If requested, Requesting Community will reimburse Requested Community for all additional costs and expenses incurred by Requested Community in providing assistance. Such costs and expenses may include, but not be limited to, the following:
- a. Wages and benefits paid to loaned employees for paid time spent in Requesting Community's utility service area and during travel to and from such service area;
 - b. Transportation to and from Requesting Community's utility service area;
 - c. Food, lodging and personal expenses such as those for laundry and communication services, when such personal services are specifically agreed to between Requesting and Requested Communities;
 - d. Charges and rates internally used by Requested Community for the use of transportation equipment and other requested equipment; and
 - e. Reasonable overhead.

All timesheets and work records pertaining to loaned employees will be kept by the water or wastewater utility superintendent for the Requested Community.

All charges will be paid by the Requesting Community within 30 calendar days after receiving an invoice for such charges.

10. **REPAIRS AND MAINTENANCE OF EQUIPMENT.** If the Requesting Community requests to use equipment, requires use of equipment, or uses equipment, for a period of time which extends more than 24 hours from the time of the request, the Requesting Community shall assume the expense of any repairs and/or maintenance required for the equipment. Otherwise, the governmental unit owning the equipment will bear the cost of repairs and maintenance of equipment used or expended while rendering assistance under this Agreement. It is further agreed, that if the equipment is required by the Requesting Community for a period exceeding 24 hours, that the Requesting Community will be responsible for returning the requested equipment, in good condition, to the Requested Community.

11. **INDEMNIFICATION AND HOLD HARMLESS.**

- 11.1 **No Liability for Requested Community.** Requested Community shall not be held liable for any injury or damages incurred by or caused by personnel working, or equipment operated, under the authority of either Community while providing assistance in accordance with this Agreement.
- 11.2 **Indemnification and Hold Harmless.** Requesting Community will indemnify and hold harmless Requested Community from and against any and all liability for loss, damage, cost, expense, fines or penalties which Requested Community may suffer by reason of bodily injury, including death, to any person or persons, or by reason of damage to or destruction of any property, including the loss of use thereof, arising out of or in any manner connected with the provision of assistance by Requested Community under this Agreement whether or not due in whole or in part to any act, omission or negligence of Requested Community.

The indemnification and hold harmless provisions of this section, however, do not obligate Requesting Community to indemnify or hold harmless the Requested Community from liability, loss, cost, damage, expense, fines or penalties arising out of willful misconduct on the part of Requested Community or its employees, or service interruption or other occurrence in Requested Community's service area as a result of the lack of availability of employees or equipment furnished to Requesting Community.

11.3 **Extent of Indemnification.** In the event of bodily injury, including death, to any employee of Requested Community, or in the event of damage to or destruction of any property of Requested Community for which Requesting Community must indemnify, the Requesting Community will indemnify the Requested Community as follows:

- i. when any loss of the nature described above occurs and it is covered by insurance carried by the Requested Community, the Requesting Community will make reimbursements to the extent such losses increase the Requested Community's insurance costs, whether such increase in costs occur in the form of an increase in premiums, or in the form of a reduction in dividends or premium refunds, or both, such reimbursement to be for a reasonable period agreed to between Requesting and the Requested Communities, but not to exceed 2 years from the date of such increase or reduction;
- ii. when any loss of the nature described above occurs and it is not covered by insurance carried by the Requested Community, the Requesting Community shall make reimbursement to the extent of claims or benefits actually paid or losses sustained by Requested Community, including the costs of litigation, and Requesting Community has the right to control any claims, litigation and settlement thereof.

11.4 **No Change in Existing Laws.** Nothing in this Section 11 constitutes a waiver by either Requesting or Requested Community of any of the provisions of sec. 893.80, Wis. Stats., any other municipal liability protection laws, or any insurance policy limitations, nor does it constitute an agreement to pay any form or type of damages not otherwise payable.

12. **INSURANCE.** It is the duty of Requesting Community to verify its own insurance coverage under these situations; as well as to verify that Requested Community has adequate insurance coverage.
13. **NOTIFICATION OF GOVERNMENTAL ENTITIES.** It shall be the responsibility of the requesting Community to notify the appropriate state or other agencies of governmental authority, in accordance with all applicable laws and/or policies, of the nature and extent of the emergency.
14. **UNION OR COLLECTIVE BARGAINING UNITS.** If any of the employees affected by this Agreement are members of a labor union and/or collective bargaining unit, the community that employs these members shall take whatever steps are necessary with the unit to assure the Community's ability to perform under this Agreement.
15. **AMENDMENT.** This Agreement may be amended in writing at any time upon written consent of all parties to this Agreement.
16. **TERMINATION OF AGREEMENT.** Either Community may, upon thirty days written notice to the other, terminate its participation in this Agreement.
17. **GOVERNING LAW.** This Agreement is governed by the laws of the State of Louisiana as such laws and regulations currently exist and may hereafter be amended.
18. **COUNTERPARTS.** This Agreement shall be executed by each Community in identical duplicates and each duplicate shall, individually and taken together, constitute one and the same Agreement.

IN WITNESS WHEREOF, the Communities listed on the attached Attachment A, by their duly authorized officers, do sign and execute this Agreement.

Community Name

By: _____
Authorized Representative Name
Position

Attest: _____

**Communities Which Have Entered Into the
Community Water/Wastewater
Utility Assistance Agreement**

Name of Community

Address

EMERGENCY COMMUNICATIONS

STEP 8- IDENTIFY EMERGENCY COMMUNICATIONS SYSTEMS

In an emergency situation, one of the most important things you will need to be able to do effectively is communicate with your employees, other municipal departments, decision makers and other emergency response agencies. In many emergency situations you should assume that conventional forms of communications such as telephone and radio may be inoperable. That is why you should identify any other forms of communications that are available. **The Louisiana Administrative Code requires you to make arrangements for a system of emergency communications and include these arrangements in your plan.** Alternative methods of communications may include portable radios, cellular phones, civilian radio clubs and local and state radio nets. Other potential sources might be:

- Sheriff Departments
- Highway Patrol
- National Guard
- Civil Defense
- Ambulance Services
- Fire Departments
- Police Departments
- Many businesses utilize radio communications. Some common ones are: plumbing contractors, telephone companies, power companies, bulk fuel distributors, concrete companies and heating and air conditioning companies.

_____ **Water Utility**
Communications Listing

Primary means of communication under normal conditions- 1. _____
2. _____
3. _____

Backup power available for normal communications system?- Yes _____ No _____

Alternate means of communications under emergency conditions- 1. _____
2. _____
3. _____

Backup power available for emergency communications system?- Yes _____ No _____

Other possible means of communications- _____

HAZARD SCENARIOS

STEP 9 – CONDUCT HAZARD SCENARIOS

Based upon the hazards you identified in Step 3, complete a different **Hazard Scenario Form** for each hazard. The scenario should provide a common picture of what the environment and problems will be at the time the hazard occurs. The intent through this process is to identify your operations and components that are affected by a hazard and list the short-term and long-term plans for dealing with the affects. Assessing the vulnerability of each functional area for each type hazard and documenting the Mitigation/Prevention actions necessary will tell you where to concentrate your planning efforts. You should include the Hazard Scenario Forms in your emergency management plan so that they can be referred to in the event of that particular hazard occurring.

While developing your disaster scenarios, there are a number of elements of emergency situations that must be kept in mind.

- A. An emergency situation is an event or series of events that may result in large numbers of deaths and injuries, destruction of a large percentage of facilities that provide and sustain human needs, and an overwhelming demand on local, state and federal response resources.
- B. Emergency situations may occur without warning and at a time of day that may produce a maximum number of casualties and damage. Access to and from the damaged areas may be severely restricted for hours and perhaps days. Communications and life support may be severely disrupted or destroyed.
- C. Emergency situations may trigger secondary events such as fires, flooding, and release/spread of hazardous materials, etc.
- D. A major disaster may result in a declaration of a state of emergency. This will allow state and federal life support and emergency response operations to begin. These resources may not be available, however, in any large quantities for the first seventy-two hours, and even then may be insufficient to meet the need.
- E. In those cases where a state of emergency has been declared, local employees and officials should be cognizant of the fact that other county, state, or federal officials may be given the authority to direct all emergency response actions. In these cases, the responsibility of local response is to provide information and support to those in charge of the situation.
- F. Local government resources will probably be inadequate to respond to a major disaster. Local governments must establish priorities and procedures for the use of available resources, and the priorities for the restoration of utilities, communications, and transportation networks.
- G. In planning for an emergency situation, do not assume that you or all of your employees will be able to respond and act in a normal capacity. In many situations, you and they may also be dealing with personal injuries or emergencies that would take precedence over those affecting the overall community.
- H. Most, if not all, emergency situations will attract a great deal of media attention. It is important that for each situation, the community identify a media spokesperson to handle all media inquiries. This not only allows other employees to devote their full attention to emergency actions, but it also guaranties that all information provided to the media and community is consistent.

HAZARD SCENARIO FORM

(To make more copies of this form, highlight everything on this page, then go to Edit – Copy. Go to the bottom of this page and Edit – Paste.)

Scenario	
-----------------	--

Utility Operations Affected:

--

Utility Components Affected:

--

MITIGATION ACTIONS

(To add to the tables on this page, tab after the last row of each table)

<u>Short Term</u>	<u>Long Term</u>
1 _____	1 _____
2 _____	2 _____
3 _____	3 _____
4 _____	4 _____
5 _____	5 _____
6 _____	6 _____
7 _____	7 _____
8 _____	8 _____
9 _____	9 _____
10 _____	10 _____

Contacts

1 _____	6 _____
2 _____	7 _____
3 _____	8 _____
4 _____	9 _____
5 _____	10 _____

EMERGENCY PLAN DEVELOPMENT

STEP 10 – COMPLETE YOUR EMERGENCY RESPONSE PLAN

At the completion of the steps outlined above, you should have a number of elements to include in your Emergency Response Plan and a pretty good idea of the general outline of the plan that will work best for your utility or community.

The format for your plan is really not as important as the content. It must be a document that can be understood so that everyone has a reasonable level of comfort in its use. Regardless of the format you choose, it should be developed from the information you gathered during the steps we've outlined. This document should then become a living document that can be used before, during and after a disaster.

PLAN REVIEW

Following the completion of your plan, you should review its elements at least once each year and update it if necessary. One way to do this is to hold tabletop exercises or actual scenario simulations including the different entities in your area that would respond to such an emergency. Such exercises are a good way to identify how the other entities would be affected in a given situation and how that may affect your own actions and response. If necessary, your plan can then be updated based on these findings.