

# Emergency Water Supply Plan

For

{Insert Public Water System Name}  
{Insert PWS ID number}

Name of Owner/Operator  
Address  
Date of Emergency Water Supply Plan

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Name of PWS: \_\_\_\_\_  
 PWSID#: \_\_\_\_\_  
 Date: \_\_\_\_\_

I. Purpose and Authority

The purpose of the Emergency Water Supply Plan (EWSP) is to ensure that the drinking water system management prepare for a disaster and/or emergency. Procedures need to be established, kept up-to-date and practiced regularly. This plan will identify the procedures necessary to ensure an alternative water supply sources in the event of the contamination or loss of the existing sources.

A disaster or emergency can strike any drinking water system at any time. When an emergency or disaster occurs, drinking water will become one of the top priorities in emergency medical services, fire fighting, sanitation, and general recovery of the emergency or disaster.

An Emergency Coordinator will coordinate all emergency actions, water system personnel, and equipment.

The qualifications and training of the operators are listed below.

II. Description of the Water System

A. Basic Water System Information

Name of System: \_\_\_\_\_

PWS ID #: \_\_\_\_\_

Population Served: \_\_\_\_\_

System Type (CWS, NTNCWS, TCWS): \_\_\_\_\_

Number of Service Connections: \_\_\_\_\_

Average Daily Demand: \_\_\_\_\_

Maximum Daily Demand: \_\_\_\_\_

B. Source(s)

Wells or Springs:				
	Well #1	Well #2	Well #3	Well #4
Tribal Number of Well:				
Depth of Well (linear ft.)				
Casing Diameter (ins.)				
Latitude (or UTM's)				
Longitude (or UTM's)				
Capacity in gallons per minute (gpm)				

Name of PWS: \_\_\_\_\_  
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Date: \_\_\_\_\_

Installed Treatment				
Surface Water:				
Name of source:				
Capacity in gpm				

C. Interconnections with other Public Water Systems. The name of the nearest public water system that may be intertied with is \_\_\_\_\_. A map showing the location of the nearest public water system is provided in the Appendices.

D. An "as-built" is provided in the Appendices. The following information is provided in the as-built:

1. wells and other sources
2. interconnections with other public water systems
3. pressure zones
4. storage tanks with capacities
5. booster pumps
6. hydropneumatic tanks
7. chlorination and other chemical injection points
8. pressure reducing valves
9. blowoff/flush valves
10. air relief valves
11. other critical elements and operation points

### III. Assessment of the Emergency

A. Classifying the degree of the emergency or disaster will help in properly prioritizing activities.

Level I - Normal or routine. Personnel and equipment presently on duty can handle system problems.

Level II - Alert (Minor emergency). Personnel and equipment presently on duty can handle system problems, but may require off duty or additional personnel to be put on alert, be rerouted to other than their normal working areas, or working additional shifts.

Level III - Major Emergency. Problems somewhat beyond the capabilities of the drinking water system personnel and equipment, and may require a "Declaration of Emergency".

Level IV - Disaster. Problems clearly and immediately beyond the capability of the drinking water system.

B. Assess the public water system after any emergency situation and assess the damage that may have occurred.

C. Components of an emergency water supply plan:

a. Loss of water source

i. One-source system:

1. Plan if source is offline for 24 hours.
2. Connections to another PWS.
3. Haul water in an approved tanker truck to the storage tank.

ii. Multiple-source system:

1. Show pumping capacity if primary source is offline using average daily demand during the peak month.

b. Loss of supply due to major component failure or structural collapse

c. Risk to critical components

i. Storage tanks and hydropneumatic tanks

ii. Booster pumps

iii. Transmission pipelines

iv. Water treatment plants

v. Chlorination facilities

vi. Indicate redundancy of major components which will lessen the impacts of the failure of a single unit, or

vii. Explain how a failed component can be safely bypassed.

d. Loss of power / damage to power supply equipment

i. Indicate availability and location of a standby generator for all electrical equipment

ii. Indicate a standard procedure to routinely test standby generators

iii. Indicate electrical control panels and wiring to booster, transfer or well pumps can be repaired or replaced within 24 hours?

iv. Is 24 hour emergency storage available without electrical power – at gravity flow?

Name of PWS: \_\_\_\_\_  
PWSID#: \_\_\_\_\_  
Date: \_\_\_\_\_

- e. Contamination of distribution system due to backflow
  - i. If backflow contamination is discovered due to microbiological or chemical causes, does the explain how the system will use emergency disinfection or implement specific emergency operating procedures, including public notification?
  - ii. Is there a controlled flushing plan that will enable flushing of lines without expanding the area of contamination?
  - iii. Does the system have an acceptable backflow protection program?
  - iv. If a faulty backflow prevention device is found, does the plan indicate that water service will be shut off to that connection in 24 hours?
  
- f. Breaks in transmission or distribution lines
  - i. Indicate that water line breaks of 6-inch pipe or smaller will be repaired within 24 hours?
  - ii. Is there a standard operating procedure for flushing pipelines and disinfection and sampling after a line break?
  - iii. Indicate a valve maintenance program in which all the system's valves are inspected and operated at least once a year; and a log is kept in which each valve is identified and the date of each inspection and the name of the individual inspector are listed?
  - iv. Indicate key system-owned equipment necessary to make emergency repairs, or how the equipment will be made available? Backhoes, compactors, bulldozers.
  
- g. Are the provisions for alternate water sources mentioned in the plan reasonable?  
  
Does the system have an emergency contingency budget line item or equivalent?  
  
Does the system control its alternate water source or have a contract or memorandum of agreement (MOA) with the alternate suppliers?

Name of PWS: \_\_\_\_\_  
PWSID#: \_\_\_\_\_  
Date: \_\_\_\_\_

Is the alternate water source approved by the US EPA, Navajo EPA, or state environmental department?

- h. Are the critical system components that must remain in service, or be returned to service quickly, properly identified?
- i. Does the plan adequately identify the spare parts necessary to keep the critical components in operations?

Identify a minimum inventory of spare parts with size and part numbers indicated?

Does the warehouse inspection indicate that the minimum inventory is on hand?

Or, the names and phone numbers of local suppliers stocking the necessary supplies?

#### IV. Summary of Potential Sources of Contamination

- A. Potential Sources of Contamination: (List the potential contaminant sources that have been identified. They can be listed by broad categories or individually. Potential contamination sources should be listed to assist in developing alternative water supply options.)

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- B. Other Sources of Contamination (These sources may include those outside the wellhead protection area, or others such as flooding potential.)

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- C. Source Water Assessment (If the U.S.EPA or NNEPA has conducted a source water assessment of your system, include any pertinent information here.)

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Name of PWS: \_\_\_\_\_  
PWSID#: \_\_\_\_\_  
Date: \_\_\_\_\_

D. Spill Response Activities (Describe any existing plans to control spills or consider developing a plan if appropriate to your system.)

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V. Alternative Water Supply Options

A. Describe the recommended procedure for determining if an alternative water supply should be implemented.

B. Alternative Water Supply Options: Check the appropriate options for your public water system. For each option selected, list specific steps to be taken to implement the option, ie. who to call, and any other actions to be taken to utilize a specific option as well as equipment needed and location. You may delete any of these options that don't apply to your system.

- Existing System Sources (i.e. emergency or backup wells).
- Source Management (i.e. blending of existing system sources or other source to minimize contaminant concentrations).
- New Wells or Surface Supplies (Is the system currently creating new sources?).
- Conservation Measures.
- Other Public Water Systems (Do you have access to or the ability to receive water from a neighboring water company?).
- Emergency Treatment (i.e. chlorination of contaminated wells).
- Point of Use Treatment (i.e. faucet filters).
- Boiled Water (Have a Boil water notice ready for distribution to users, templates are shown in the appendices).
- Point of Entry Treatment (i.e. whole house water treatment units).
- Bottled Water (Do you have companies nearby who can provide you large quantities of bottled water in an emergency?).
- Tank Trucks (Water Buffalo, Water Transports, Stand pipe locations?)



Name of PWS: \_\_\_\_\_  
 PWSID#: \_\_\_\_\_  
 Date: \_\_\_\_\_

Others \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

VI Sampling

A. When service is restored, are the disinfection and testing procedures for the distribution system adequate?

Does the system have an adequate routine bacteriological sampling plan?

B. Chemical or microbiological contamination of water supply  
 Explain how the system will use emergency disinfection in the event of a microbiological contamination?

Indicate what target chlorine residual will be maintained in the system after a microbiological contamination event?

Explain the system's emergency procedure in case of chemical contamination?

VII. Priority Water Users and Conservation Measures

If appropriate to your system, reducing water demand by conservations measure may lessen or eliminate the necessity of utilizing an alternative water supply option.

A. List major water users and sensitive water users and assign a priority to their use of water. (i.e. Hospitals may be assigned a high priority and industry or schools a lower priority since they can be closed or water use curtailed more easily. Any of these user types that don't apply to this system should be deleted.)

FACILITY	Priority
Hospitals _____	_____
Nursing Homes _____	_____
Dialysis Centers _____	_____
Industry _____	_____
Schools _____	_____
Fire Department _____	_____
Residential _____	_____
Commercial _____	_____

Name of PWS: \_\_\_\_\_  
PWSID#: \_\_\_\_\_  
Date: \_\_\_\_\_

Other \_\_\_\_\_

B. Select conservation measures to be implemented in the event of the need to reduce demand. (Under each option selected describe steps to be taken to implement the option.)

1. Curtail use by larger users
2. Reduce pressure (Area wide or Zones)
3. Implement metering program (for purposes of Conservation)
4. Mandatory water conservation measures
5. Public education
6. Other (List other potential voluntary or involuntary measures that could be implemented to reduce water demand.)

VIII. Notification Roster, Phone Numbers, and Plan Distribution

A. List of organizations, contact persons and telephone numbers should be listed here. Modify as necessary.

Organization	Contact Person	Received Copy of Plan Y/N*	Home Telephone	Work Telephone	24 Hour Emergency Telephone
Water System Management and Employees					
Community Offices and Officials					
Police					911
Fire					911
Navajo Nation Environmental Protection Agency's Public Water Systems Supervision Program				928-871-7755	
Schools					
Power Company					
Telephone Company					
Key Vendors					
Hospitals					
Ambulance Services					
Nearby Water Systems					
Others					

Name of PWS: \_\_\_\_\_  
PWSID#: \_\_\_\_\_  
Date: \_\_\_\_\_

- B. Staff, schedules, telephone numbers:  
List all staff and their schedules. Telephone numbers and radio numbers should also be listed.

IX. Public Education / Media Relations

- A. Primary Contact for the media and public in the event of a contamination or damage to the drinking water system.

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Address: \_\_\_\_\_  
Work Phone: \_\_\_\_\_  
Home Phone: \_\_\_\_\_

- B. Information checklist to be conveyed to the public and the media.

Name of the Water System: \_\_\_\_\_  
Contaminant of Concern: \_\_\_\_\_  
Source of Contamination: \_\_\_\_\_  
Public Health Information (Hazards): \_\_\_\_\_  
Steps the public can take: \_\_\_\_\_  
Steps the Water system is taking: \_\_\_\_\_  
Other information: \_\_\_\_\_

- C. Local Media Contacts:

Newspaper \_\_\_\_\_  
Television \_\_\_\_\_  
Radio \_\_\_\_\_

Name of PWS: \_\_\_\_\_  
PWSID#: \_\_\_\_\_  
Date: \_\_\_\_\_

X. Event Action Log (Optional)

Date of Incident: \_\_\_\_\_

Event: Describe the situation that caused the Emergency Operations Plan to be used.

Action Taken: Describe the activities taken to address the emergency.

Evaluation: Conduct an in-house evaluation to see where improvements need to be made.

Costs: \_\_\_\_\_

Labor: \_\_\_\_\_

Equipment: \_\_\_\_\_

Materials: \_\_\_\_\_

Contract Services: \_\_\_\_\_

Total Cost of Event: \_\_\_\_\_

This type of information may be needed in the event that the water system attempts to receive federal/state emergency relief funding assistance.

Name of PWS: \_\_\_\_\_  
PWSID#: \_\_\_\_\_  
Date: \_\_\_\_\_

## Appendices

Name of PWS: \_\_\_\_\_  
PWSID#: \_\_\_\_\_  
Date: \_\_\_\_\_

#### References

1. Guide to Ground Water Supply Contingency Planning for Local and State Governments, USEPA Washington, D.C. (May, 1990). Available from ERIC Clearinghouse, Columbus, OH. 1-800-276-0462 (Pub #G-647).
2. Wellhead Protection: A Guide for Small Communities. USEPA Washington, D.C. (Feb., 1993) (Pub #EPA/625/R-93/002).
3. Emergency Management Manual for Rural Water Associations and Utilities, National Rural Water Association, Duncan, OK. (1996).
4. Emergency Operations Planning Manual, Missouri Rural Water Association, Columbia, MO.
5. Contingency Plan Guide Water Delivery, Oklahoma Rural Water Association, Oklahoma City, OK. (1992).
6. Arizona Small Utilities Emergency Operations Plan template. (2002)
7. Emergency Planning for Water Utility Management (M19), American Water Works Association. 800-626-7337.
8. Emergency Planning: the Big Picture for Water Utilities, American Water Works Association. 800-926-7337.