Emergency Preparedness & Response

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Oregon Health Authority

DRINKING WATER SERVICES
Public Health Division

Agenda

- Emergency Response Rules (2021 update)
- Drinking Water State Revolving Fund for Emergencies
- Drinking Water Emergency Response Process
- Risk & Resilience Assessments
- Emergency Response Plans (ERPs)
- Emergency Notifications & Communication
- Cross Coordination

Rules

- EPA's America's Water Infrastructure Act (AWIA) 2018 only applies to water systems serving a **population of 3,301** or more.
- 2021 updates to OAR 333-061-0064 Emergency Response Plan Requirements.
  - Risk & resilience assessment
  - Communications
  - Emergency contacts
  - Emergency chemical suppliers
  - Cross coordination
- Will be determining requirements for various sizes of public water systems.

DRINKING WATER STATE REVOLVING FUND (DWSRF)

The DWSRF provides low-cost loans to community and nonprofit non-community water systems for planning, design and construction of drinking water infrastructure improvements.

Eligible Project Scopes:

- Planning & Engineering Design
  - Sustainable Infrastructure Planning Projects (SIPP)
- Treatment
- Transmission / Distribution
- Source
- Storage
- Land Acquisition or Easements
- Other (e.g., consolidation)

Quarterly project reviews, ratings, & rankings.
Emergency projects are reviewed immediately.

DRINKING WATER STATE REVOLVING FUND (DWSRF)

Emergency Project Designation
(Infrastructure related projects)

Does the proposed project qualify as an Emergency Project by having all the following characteristics?

1. Represents a threat to public health.
2. Entails an immediate lack of available potable drinking water from the system for a community over an extended period of time.
3. Has arisen from a reasonably unexpected and unpreventable occurrence of disaster or catastrophe such as droughts, earthquakes, tsunamis, and floods. A situation arising from negligence such as preventable mechanical failure will not qualify.
4. Includes assessment, design, and/or construction activities that will return the water system operations and production capacity within the shortest possible recovery timeframe.
5. Designation by the state, county, or local authorities or a Governors Declaration of an Emergency has occurred within 180 days before application is submitted.

DRINKING WATER STATE REVOLVING FUND (DWSRF)

Emergency Project Designation
(Drinking Water Source Protection projects)

Does the proposed project qualify as an Emergency Project by having all the following characteristics?

1. The water quality threat came from a reasonably unexpected occurrence or catastrophe (Note that a situation arising from preventable negligence on the part of the water system will not likely be eligible),
2. The water quality threat has occurred within 180 days before Letter of Interest (LOI) is submitted to the Authority,
3. Entails an immediate risk of a dangerous lack or loss of potable drinking water for an extended time period,
4. Represents a current or future threat to public health, and
5. The Letter of Interest for the “Emergency Project” must score 85 or more points using the existing Drinking Water Source Protection LOI scoring system.

DRINKING WATER STATE REVOLVING FUND (DWSRF)

What OHA and partners, Business Oregon, are doing currently to assist communities impacted by the wildfires:

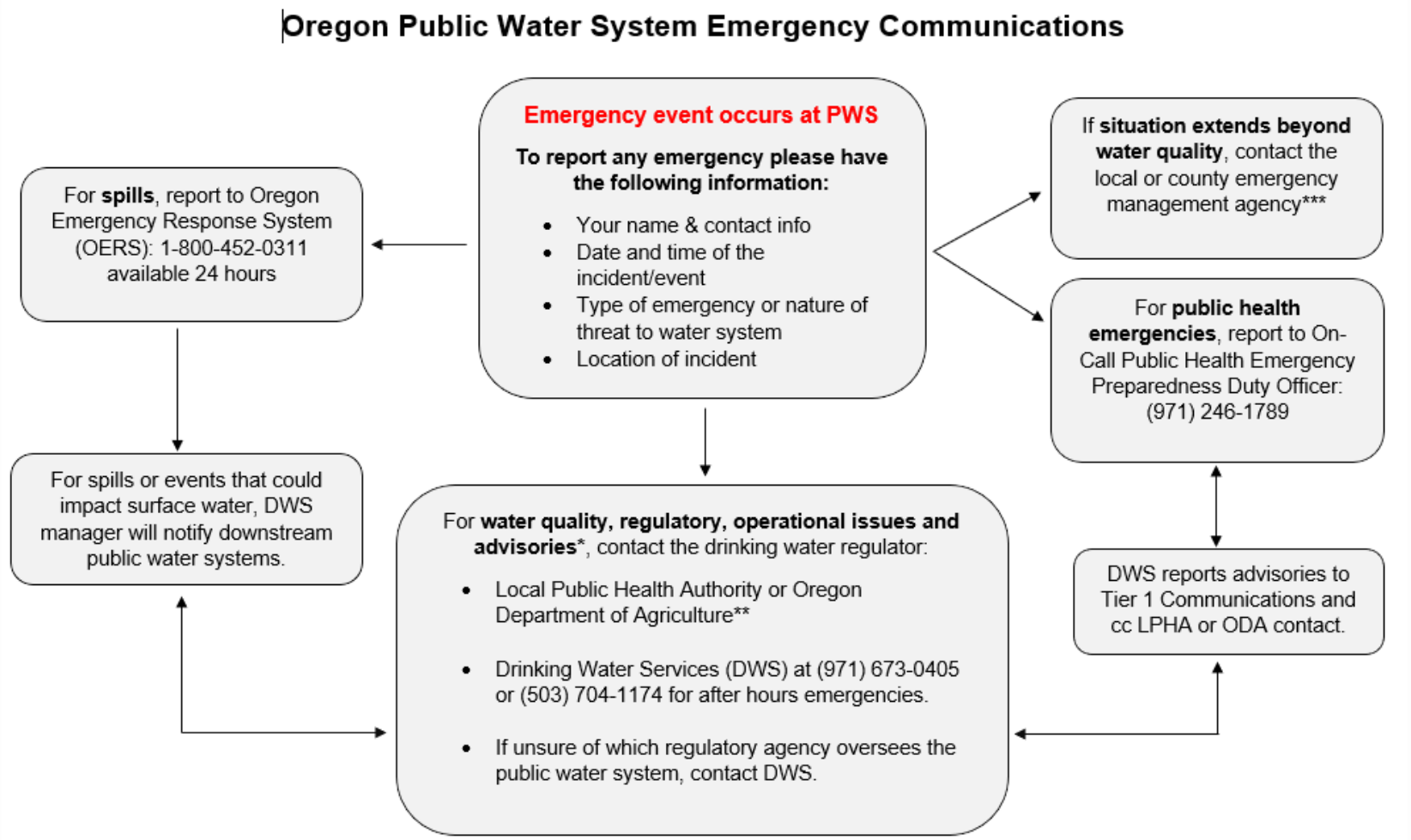
- Reaching out to communities impacted.
- Working with existing, impacted borrowers (SRF & others) to provide loan repayment flexibility.
- Working to connect impacted communities to OEM for potential FEMA funding.
  - Working with communities to explore FEMA funding match opportunities. Business Oregon has potential state match sources such as the Special Public Works Fund (SPWF).
- Coordinating with USDA-RD to discuss other funding opportunities. USDA's ECWAG can provide grants up to $1M for emergency water projects.
- Other potential funding sources that may help include (but not limited to) the W/WW and SSEA programs.

DRINKING WATER STATE REVOLVING FUND (DWSRF)

What you can do to help the water systems you regulate access funding:

- Raise awareness that there are funders ready to assist.
- Best way to help these systems is to direct them to Business Oregon's Regional Development Officers (RDO). Visit http://www.oregon4biz.com/directory.php?d=1#rdo to see who the RDO is for each region.
- If you have questions on eligibility etc., feel free to contact:
  - Adam DeSemple – OHA, 971-673-0422 or by email at adam.desemple@dhsoha.state.or.us
  - Jon Unger – Business Oregon, 503-507-7107 or by email at jon.unger@Oregon.gov
- Consider utilizing OHA's Circuit Rider program to assist systems with technical, managerial, financial capacity issues and funding applications.

Emergency Response Process

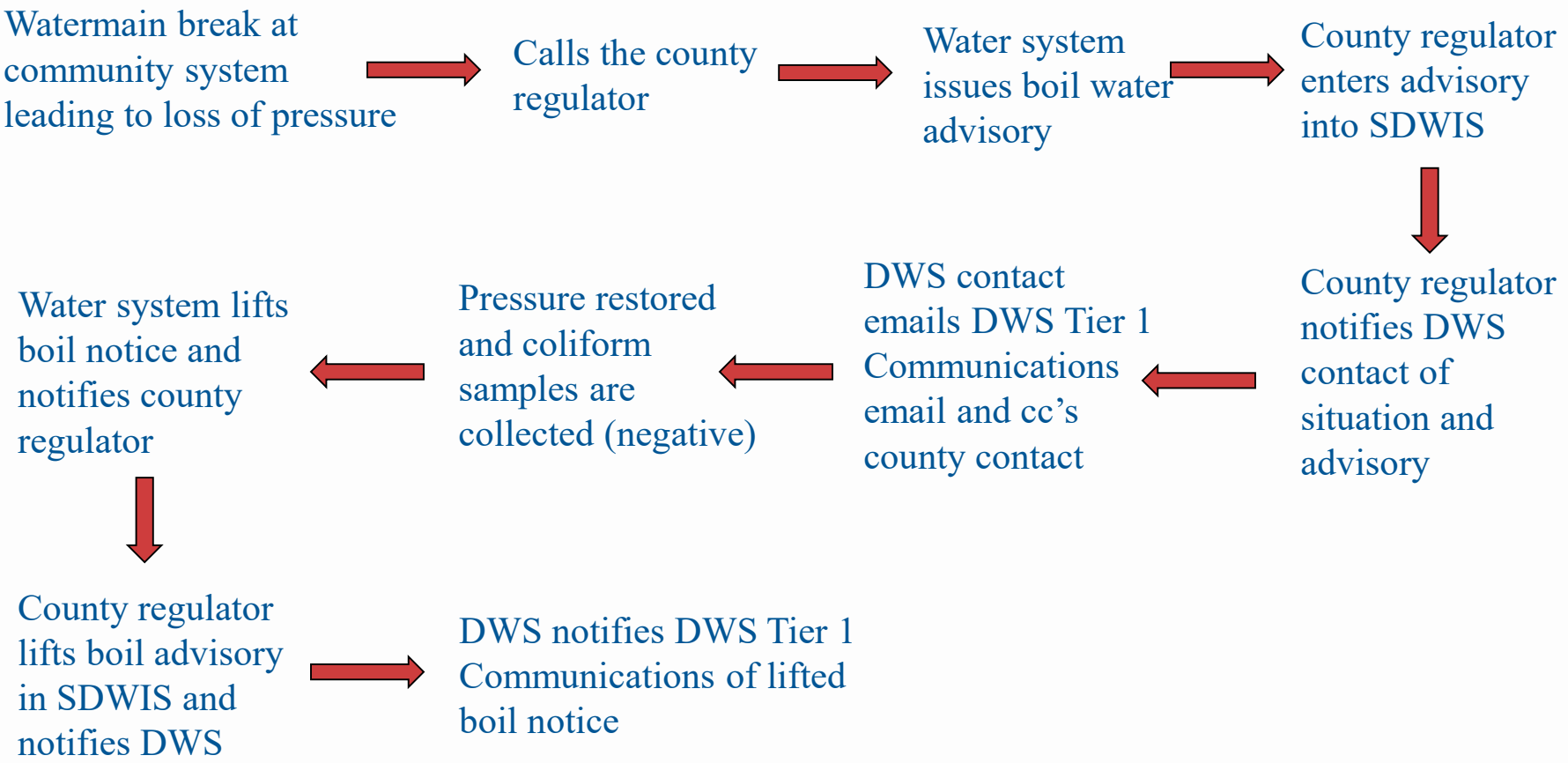


*Public Water Systems should consider making advisories available in different languages based on their non-English speaking customers.

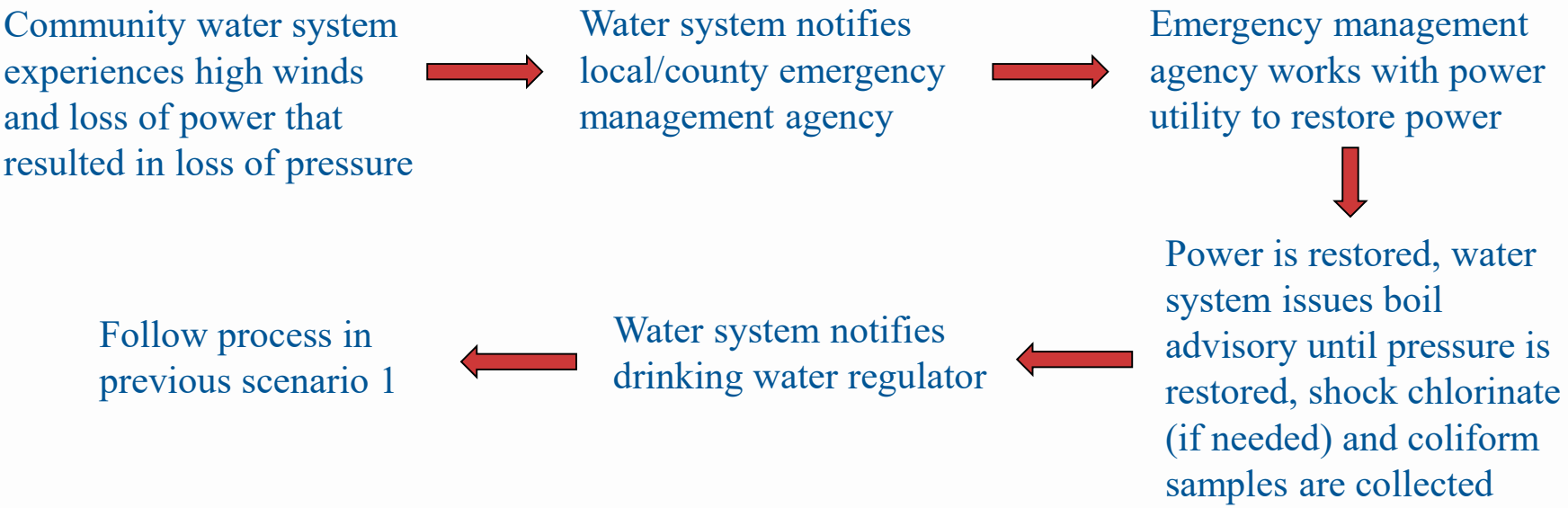
**LPHA Contacts: https://www.oregon.gov/oha/ph/ProviderPartnerResources/LocalHealthDepartmentResources/Pages/lhd.aspx

***Local & County Emergency Manager Contacts: https://www.oregon.gov/oem/Documents/locals_list.pdf

Scenario 1


Watermain break at community system leading to loss of pressure
Calls the county regulator
Water system issues boil water advisory
County regulator enters advisory into SDWIS
County regulator notifies DWS contact of situation and advisory
DWS contact emails DWS Tier 1 Communications email and cc's county contact
Pressure restored and coliform samples are collected (negative)
Water system lifts boil notice and notifies county regulator
County regulator lifts boil advisory in SDWIS and notifies DWS
DWS notifies DWS Tier 1 Communications of lifted boil notice

Scenario 2


Community water system experiences high winds and loss of power that resulted in loss of pressure
Water system notifies local/county emergency management agency
Emergency management agency works with power utility to restore power
Power is restored, water system issues boil advisory until pressure is restored, shock chlorinate (if needed) and coliform samples are collected
Water system notifies drinking water regulator
Follow process in previous scenario 1

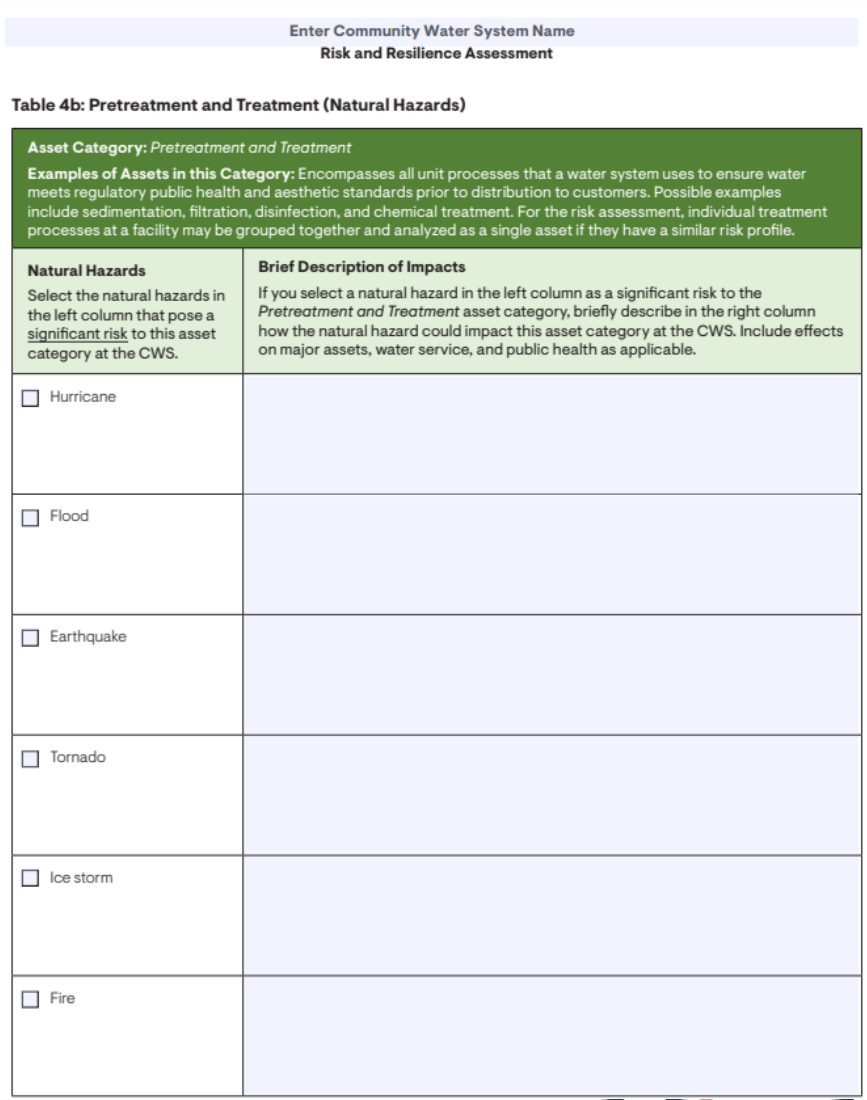
Small System Risk & Resilience Assessment

- Identify the potential hazards (natural or man-made) and vulnerabilities that could impact the water system.

1. EPA's Small System Risk & Resilience Assessment
2. DWS Small System Vulnerability Assessment
3. EPA's Vulnerability Self Assessment Tool (VSAT) program

EPA's Small System Risk & Resilience Assessment

- Identifies natural and man-made (malevolent) threats to each asset.
- Assets: Physical barriers, source water, pre-treatment and treatment, storage and distribution system, electronic or automated systems, financial infrastructure.



Enter Community Water System Name

Risk and Resilience Assessment

Table 4b: Pretreatment and Treatment (Natural Hazards)

Asset Category: *Pretreatment and Treatment*

Examples of Assets in this Category: Encompasses all unit processes that a water system uses to ensure water meets regulatory public health and aesthetic standards prior to distribution to customers. Possible examples include sedimentation, filtration, disinfection, and chemical treatment. For the risk assessment, individual treatment processes at a facility may be grouped together and analyzed as a single asset if they have a similar risk profile.

Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Pretreatment and Treatment* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Hurricane	
☐ Flood	
☐ Earthquake	
☐ Tornado	
☐ Ice storm	
☐ Fire	

DWS Small System Vulnerability Assessment

RISK & RESILIENCE VULNERABILITY ASSESSMENT

Conducting the Risk and Resilience Vulnerability Assessment can identify strategies, procedures and equipment that can improve water system resiliency and be implemented during an emergency. Answer the questions below or alternatively, use the EPA's online vulnerability self-assessment tool to identify the highest risks your system is vulnerable to and cost-effective measures to reduce those risks. The online tool can be found here: https://www.epa.gov/waterriskassessment/conduct-drinking-water-or-wastewater-utility-risk-assessment

1. List the critical components and assets of your system (wells, pumps, pressure/storage tanks, computer systems, etc.):
   _____
2. Is your system vulnerable in any way? (infrastructure, pipes, lack of locks, unrestricted access to critical components, inadequate sampling plans, etc.)
   _____
3. What are your current cybersecurity measures? (password protection, firewall, etc.)
   _____
4. What procedures, technologies and detection strategies does your system already have in place for natural or man-made hazards? (auxiliary power supply, emergency water supply, etc.) Are they effective?
   _____
5. Do you have procedures for notifying your customers of service interruptions, boil water advisories, chemical detections, etc.?
   _____
6. What training programs or exercises do you or your staff take part in? (positive coliform samples, line breaks, breach of distribution system, wildfires, etc.) Are all staff trained?
   _____
7. Do you have a source water protection program?
   _____

SYSTEM SECURITY ASSESSMENT

The system security assessment below should be done at least annually and is intended for water systems to identify and correct any deficiencies in their system. After completing this assessment, make a plan of what areas in your system could use added security measures and activities to be completed.

System name: _____ PWS # 41_____

Date of review:_____ Assessed by: _____

Wells/spring/intake protective structures, pumphouses, offices and treatment plants:	**Yes**	**No**	**Comments**
Locks on all doors	☐	☐	_____
All windows secured	☐	☐	_____
Adequate alarms, motion sensors, video cameras or security lighting	☐	☐	_____
Entry restricted to authorized personnel	☐	☐	_____
Chemical are NSF 60 certified and properly stored	☐	☐	_____
Chemical storage is locked and posted	☐	☐	_____
Fencing around buildings (if needed)	☐	☐	_____

Reservoirs or storage tanks:	**Yes**	**No**	**Comments**
Fenced area around reservoir/storage tank	☐	☐	_____
Gate is locked and posted	☐	☐	_____
Ladder guard and access hatches locked	☐	☐	_____
Adequate security lighting	☐	☐	_____
Working motion sensors or video surveillance	☐	☐	_____
Vents/overflow pipes properly protected with screens and/or grates	☐	☐	_____

Distribution system:	**Yes**	**No**	**Comments**
Manholes, hydrants, and other access points are secured	☐	☐	_____
Positive pressure is monitored and maintained	☐	☐	_____
Backflow protection plan implemented	☐	☐	_____

Procedures:	**Yes**	**No**	**Comments**
All facilities locked and alarms set	☐	☐	_____
Background checks done for new hires	☐	☐	_____
Employees are regularly trained and have participated in exercises or drills	☐	☐	_____
Visitors or contractors checked in/out	☐	☐	_____
Passcodes/keys/access changed when employees are no longer employed	☐	☐	_____
Emergency notification procedures up to date	☐	☐	_____

EPA's Vulnerability Self Assessment Tool (VSAT) program

- Free downloadable program
- Qualitative and quantitative risk assessment
- Countermeasure analysis
- Report
- Systems of all sizes

Asset-Threat Pair		Baseline consequences and likelihood of threat and vulnerability			
Asset	Threat	Public Health Consequences	Economic Consequences	Threat Likelihood	Vulnerability Likelihood
Online Water Quality Monitoring Sensors	Flood – F1 – Flood – 100 Year	Fatalities: 0 Injuries: 0	Utility Financial: $76,000 Regional Economic: $80,944,600	Annual Baseline Estimate: 0.01	Baseline Estimate: 72%

Mitigation/Preparedness Planning

Address vulnerabilities found in the Risk & Resilience Assessment

Table 11: Countermeasures (Optional)[25]

Countermeasures (optional) List countermeasures in the left column the CWS could potentially implement to reduce risk from the malevolent acts and natural hazards that were selected.	Brief Description of Risk Reduction or Increased Resilience For each countermeasure, in the right column, describe how the countermeasure could reduce risk or increase resilience for CWS assets from malevolent acts or natural hazards that were selected in the analysis. A countermeasure may reduce risk across multiple malevolent acts, natural hazards and asset categories.
1.	
2.	
3.	
4.	
5.	

PRIORITIZATION OF NEEDED ACTIONS

After completing the Risk & Resilience Vulnerability Assessment Questionnaire and the System Security Assessment, review the actions needed to improve your system's security and resilience. Note the questions to which you answered "no" on this worksheet and summarize the areas your system need to improve.

Needed Action	Scheduled Completion
[Example: completing written protocols for under-certified operators]	
[Example: procure back up generators or auxilary power for storage tanks]	
[Example: establish procedures for public notifications (ex. boil water advisories)]	

ERP

- Why?
  - Strategies, procedures to prepare for and respond to natural and man-made emergencies.
- Incidents can range from small main breaks, flooding, water contamination, state-wide wildfires, etc.
- Important elements to include:
  - Roles, responsibilities & decision-making authority
  - Notification procedures
  - Advisories
  - Emergency contacts

Responsibilities

CHAIN OF COMMAND

(Review/update annually)

Staff Name & Title	Responsibilities During Emergencies	Emergency Phone Number(s)

Where will the Emergency Response Plan be stored? _____

Have all the people listed above been informed of the location(s)? Yes ☐ No ☐

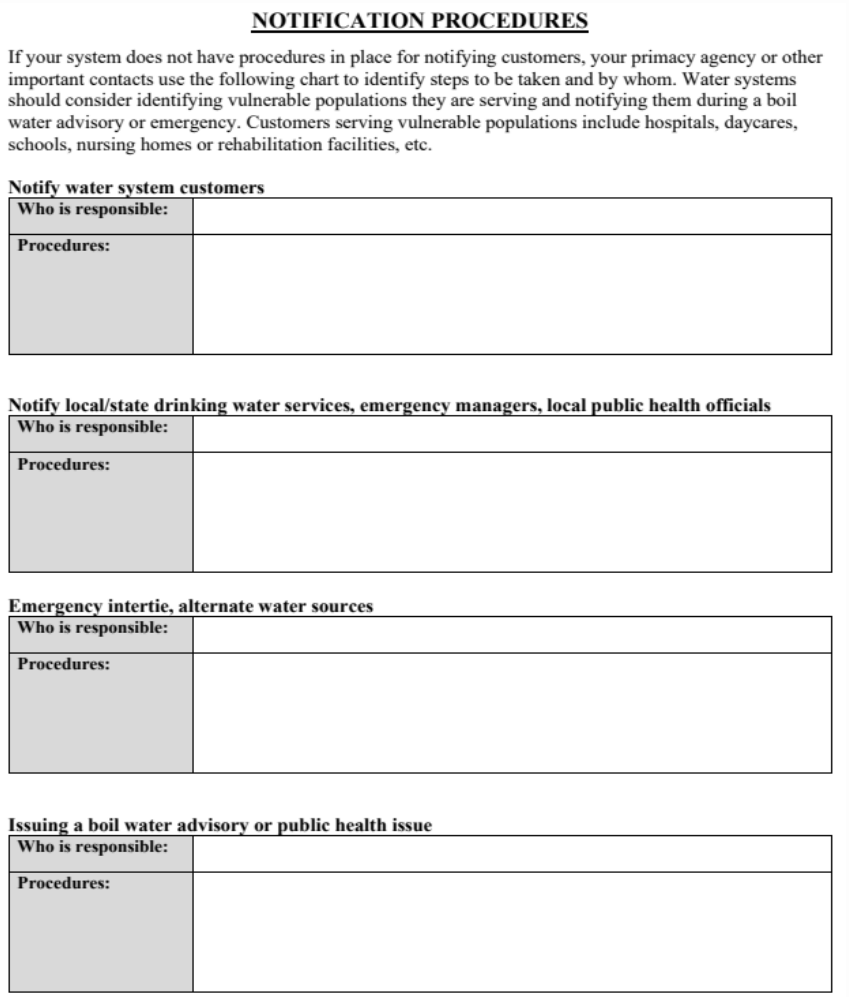
Would they all have access to the stored plan in an emergency? Yes ☐ No ☐

- Can be added to under-certified operator protocols

Notification Procedures

Considerations:

- Public notice templates
- Emergency Contacts
- Outside agencies
- Regulating authorities
- Schools & childcare facilities
- Critical customers
  - Hospitals
  - Treatment facilities
- Non-English speaking customers



NOTIFICATION PROCEDURES

If your system does not have procedures in place for notifying customers, your primacy agency or other important contacts use the following chart to identify steps to be taken and by whom. Water systems should consider identifying vulnerable populations they are serving and notifying them during a boil water advisory or emergency. Customers serving vulnerable populations include hospitals, daycares, schools, nursing homes or rehabilitation facilities, etc.

Notify water system customers

Who is responsible:	
Procedures:	

Notify local/state drinking water services, emergency managers, local public health officials

Who is responsible:	
Procedures:	

Emergency intertie, alternate water sources

Who is responsible:	
Procedures:	

Issuing a boil water advisory or public health issue

Who is responsible:	
Procedures:	

Emergency chemical suppliers

Electrical supplier's high-priority list

EMERGENCY CONTACTS

(Review/update annually)

Organization	Contact Name	Business Hours	After Hours
OHA Drinking Water Services		**(971) 673-0405**	**(971) 704-1174**
County Health Department			
Fire Department			
Law Enforcement			
Emergency Management Agency			
Equipment or Chemical Supply			
Engineering Company			
Electrical Utilities			
Alternate Water Suppliers			
Pump Maintenance Company			
Media			
Medical Facilities			
Nursing/Rehab Facilities			
Day Care Centers			
Schools			

TO REPORT A DRINKING WATER SYSTEM EMERGENCY

Be prepared provide the following when contacting Drinking Water Services, OERS, and/or your County Health Department

1. Your name, address, phone number, current location
2. Type of incident
3. Exact location of incident
4. The date and time the incident occurred
5. Nature of threat to the water system

Cross Coordination

- “Bridging the Gap” to protect public health and maintain (or restore) essential service.
- Build relationships with local/county emergency managers.
  - Contact sharing before an emergency
- Educate local/county emergency managers know what the public health office does.
  - Identify resources needed for water systems
    - Shock chlorinating, BMPs, water hauling guidelines, alternate water, etc.
  - Assist in evaluating if an advisory is needed
- Recommend Oregon Water/Wastewater Agency Response Network (ORWARN)

Polls!

Other Resources

- DWS wildfire resources
- Post wildfire VOC monitoring
- DWS Public Notice Templates
  - Translation templates
  - Public Notification Rules
- AWIA 2018
- DWS Risk & Resilience and Emergency Response Plan template
- DWS Water Hauling Guidelines
- Coliform alert response procedures
- BMPs (Repairing Water Mains, Reduced Pressure Events)
- Coordination of Water and Emergency Services Sector (EPA article)

Thank you!

Questions, suggestions, feedback: Chantal.t.Wikstrom@dhsoha.state.or.us