**Community Water System**

**Emergency Response Plan Template**

**[CWS Name]**

**Emergency Response Plan**

**CWS and ERP Information**

| Please fill in the information below as indicated. | |
| --- | --- |
| PWSID |  |
| Street Address |  |
| City, State Zip Code |  |
| Phone number |  |
| Population Served |  |
| Prepared by |  |
| Reviewed by |  |
| Date completed |  |
|  |  |

**Plan Distribution**

Please fill in the recipient’s name and title, the person who gave them the plan and on what date.

| **Recipient/Title** | **Distributed By** | **Date** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Change History**

Please describe the changes made to this plan since its original development, who made the changes and on what date the changes were incorporated into this plan.

| **description of change** | **NAME/TITLE** | **Date** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**TABLE OF CONTENTS**

[UTILITY INFORMATION 1](#_Toc10806453)

[i Utility Overview 1](#_Toc10806454)

[ii Personnel Information 2](#_Toc10806455)

[iii Primary Utility Components 3](#_Toc10806456)

[iv Industry Chemical Handling and Storage Facilities 4](#_Toc10806457)

[v Safety 5](#_Toc10806458)

[vi Response Resources 6](#_Toc10806459)

[vii Key Local Services 6](#_Toc10806460)

[1 RESILIENCE STRATEGIES 7](#_Toc10806461)

[1.1 Emergency Response Roles 7](#_Toc10806462)

[1.2 Incident Command System (ICS) Roles 9](#_Toc10806463)

[1.3 Communication 9](#_Toc10806464)

[1.3.1 Internal Communication 9](#_Toc10806465)

[1.3.2 External Response Partner Communication 10](#_Toc10806466)

[1.3.3 Critical Customer Communication 11](#_Toc10806467)

[1.3.4 Communication Equipment Inventory 11](#_Toc10806468)

[1.4 Media Outreach 12](#_Toc10806469)

[1.5 Public Notification Templates 12](#_Toc10806470)

[2 EMERGENCY PLANS AND PROCEDURES 13](#_Toc10806471)

[2.1 Core Response Procedures 13](#_Toc10806472)

[2.2 Incident-Specific Response Procedures 16](#_Toc10806473)

[3 MITIGATION ACTIONS 17](#_Toc10806474)

[3.1 Alternative Source Water Options and Interconnected Utilities 17](#_Toc10806475)

[3.2 Other Mitigation Actions 18](#_Toc10806476)

[4 DETECTION STRATEGIES 19](#_Toc10806477)

# UTILITY INFORMATION

During an incident, you need to have system information about your water utility readily available for your personnel, first responders, repair contractors/vendors, the media, and other response partner agencies.

## i Utility Overview

Provide basic information about your utility.

| Utility Information | |
| --- | --- |
| PWSID |  |
| Utility name and address |  |
| Owner |  |
| Directions to utility from major roadway, include lat./long. coordinates |  |
| Total population served and total service connections |  |
| Name, title, phone number of primary contact (e.g., ERP Lead) |  |
| Alternate contact |  |
| Location of treatment, distribution, collection schematics and operation manuals |  |

Use this checklist to ensure the following additional utility information (as applicable) is included as a part of your ERP.

Map of distribution systems

Pressure boundary map

Process flow diagram

Site plans and “as built” drawings for the following components of your system (as applicable):

* + Pumping and storage facilities
  + Reservoir facilities
  + Water treatment facilities
  + Chemical storage locations
  + Booster pump stations
  + Pressure-regulating valve (PRV) sites

Distribution system diagrams and instrumentation information

Equipment specifications and operation instructions

Emergency power and light generation operation specifications

Supervisory Control and Data Acquisition (SCADA) system operation instructions

Communications systems operation instructions

## ii Personnel Information

Attach your personnel roster here or fill out the table below.

| **Personnel** | | | |
| --- | --- | --- | --- |
| **Name and Title** | **Job Duties and Responsibilities** | **Contact Information** | **Emergency Information** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## iii Primary Utility Components

List all the components necessary to maintain effective operation of your utility. Simply add more rows to the tables below if you have additional components. Text in italics represents examples – be sure to delete italicized text as necessary as you fill out the tables below and throughout this template.

| **Wells** | | | |
| --- | --- | --- | --- |
| **Well Name** | **Depth/Location** | **Available Yield** | **Treatment Requirements/Associated Treatment Plant** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

| **Intakes** | | | |
| --- | --- | --- | --- |
| **Intake Name** | **Depth/Location** | **Capacity** | **Treatment Requirements/Associated Treatment Plant** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

| **Treatment Plants** | | | |
| --- | --- | --- | --- |
| **Plant name** | **Location** | **Capacity** | **Treatment Train** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

| **Storage and Distribution System – Tanks, Primary Mains and Pumping Stations** | | |
| --- | --- | --- |
| **Location** | **Area Served** | **Comments** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

| **Treatment Chemical Storage Facilities** | | |
| --- | --- | --- |
| **Location** | **Chemical(s)** | **Comments** |
| *Pump House #1* | *Chlorine* | *This is in liquid form and there is both an eye wash and shower station in the pump house* |
|  |  |  |
|  |  |  |
|  |  |  |

| **Other Key Facilities** | | |
| --- | --- | --- |
| **Location** | **Function** | **Comments** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## iv Industry Chemical Handling and Storage Facilities

List surrounding chemical production, handling or storage industries that could impact your utility during incidents such as accidental releases, hurricanes or earthquakes.

| **Industry Chemical Handling Facilities** | | | |
| --- | --- | --- | --- |
| **Facility Name** | **Location** | **Distance** | **Chemical and Exposure Pathway** |
| *Shiny Stuff Factory* | *54 Grove Street* | *0.15 miles to the north of the utility admin building* | *Facility uses large amounts of highly volatile chemicals. If power failure occurs, evaporation of these chemicals may occur, causing air pollution in areas surrounding the factory.* |
|  |  |  |  |

| **Chemical Storage Tanks** | | | |
| --- | --- | --- | --- |
| **Facility Name** | **Location** | **Distance** | **Chemical and Exposure Pathway** |
| *Metro Gas Station* | *25 Main Street* | *0.2 miles west of the utility wellfield* | *20,000-gallon underground storage tank (UST) holding gasoline. Earthquakes may cause disruption or leaking of the tank.* |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## v Safety

List safety materials and important safety information to help protect utility personnel during an incident. You may also reference your utility Health and Safety Plan, if available.

| **Safety Materials** | |
| --- | --- |
| **Type** | **Location** |
| *Toxic material detection and testing supplies* |  |
| *Emergency food and water supplies* |  |
| *Emergency PPE (note what PPE are present at each location)* |  |
| *Other equipment (note what is present at each location)* |  |

| **Safety Information** | |
| --- | --- |
| **Topic** | **Description** |
| *Wind speed* | *Utility personnel may not work outdoors when the sustained wind speed is 45 mph or greater.* |
|  |  |
|  |  |
|  |  |
|  |  |

## vi Response Resources

Provide an inventory of available resources (e.g., equipment, supplies) either maintained on site or readily available off site (e.g., neighboring water system) in the table below, or insert an existing inventory sheet.

| **Resources** | | | |
| --- | --- | --- | --- |
| **Kind** | **Type** | **Quantity** | **Location** |
| *Generator* |  |  |  |
| *Fuel* |  |  |  |
| *Pump* |  |  |  |
| *Other* |  |  |  |

## vii Key Local Services

Note the closest locations of key logistical and medical services that you or mutual aid and assistance providers may need during an incident. Include a map if available.

| **Essential Services** | |
| --- | --- |
| **Facility** | **Location/Description** |
| *Hospital* |  |
| *Gas station* |  |
| *Pharmacy* |  |
| *ATM* |  |
| *Grocery store* |  |
| *Other service* |  |

# 1 RESILIENCE STRATEGIES

This section contains strategies and resources to improve the resilience of the system, including the physical security and cybersecurity of the system.

## 1.1 Emergency Response Roles

Describe the roles and responsibilities for key utility and external response partner personnel in the table below. You can add, edit or delete rows as necessary.

| **Water Utility and Partner Roles** | | |
| --- | --- | --- |
| **Name/Title** | **Emergency Response Role** | **Responsibilities** |
| *Wendy Smith/ Superintendent* | *Emergency Response Lead* | *Responsible for all incident response activities, including developing strategies and tactics and ordering and releasing resources.* |
| *John Doe/Operations Chief* | *Alternate Emergency Response Lead* | *Perform duties as assigned by ER Lead; assumes duties listed above when ER Lead is not available.* |
| *Jim Rogers/County Public Affairs Officer* | *Public Information* | *Responsible for leading the public information effort based on information supplied by either the ER or Alternate ER Lead.* |
| *Jane Kelly/Chief of Police* | *Security* | *Will provide incident security as needed once notified by ER Lead.* |
| Other | Other | Other |

| **External Response Partner Roles** | | |
| --- | --- | --- |
| **Name/Title** | **Organization** | **Responsibilities During an Incident** |
| Local Partners | | |
|  | *County Emergency Management/EOC* |  |
|  | *911* |  |
|  | *Police* |  |
|  | *Fire/HazMat* |  |
|  | *LEPC* |  |
|  | *Elected officials* |  |
|  | *Neighboring Wastewater utility* |  |
|  | *Neighboring Water utility* |  |
|  | *Power utility* |  |
|  | *Health department* |  |
|  | *Contractor/vendor* |  |
|  | *Industry representative* |  |
|  | *Mutual aid* |  |
|  | Other |  |
|  | Other |  |
| State Partners | | |
|  | *Primacy Agency* |  |
|  | *Health department* |  |
|  | *Police* |  |
|  | *WARN* |  |
|  | *Laboratories* |  |
|  | Other |  |
|  | Other |  |
| Federal Partners | | |
|  | *EPA regional office* |  |
|  | *FBI field office* |  |
|  | *CDC* |  |
|  | Other |  |
|  | Other |  |

## 

## 1.2 Incident Command System (ICS) Roles

ICS is used to organize both near-term and long-term field-level operations for a broad spectrum of emergencies, from small to complex incidents, both natural and manmade. An ICS Incident Organization Chart (ICS Form 207), available at FEMA’s [ICS Resource Center](https://training.fema.gov/emiweb/is/icsresource/index.htm), may be completed for your utility and inserted here or attached to your ERP.

## 1.3 Communication

Communication during an incident is critical to relay information to employees, response partners and critical customers about potential risks to health, infrastructure, and the environment.

### 1.3.1 Internal Communication

List all utility emergency response team members, their response role, title and contact information.

| **Contact List** | | | | |
| --- | --- | --- | --- | --- |
| **Name** | **Role/Title** | **Phone** | **Alternate Phone** | **Email** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

### 1.3.2 External Response Partner Communication

List all external response partners, their response role or position as well as contact information.

| **External Response Partner Contact List** | | | | |
| --- | --- | --- | --- | --- |
| **Organization or Department** | **Point Person Name or Position** | **Phone** | **Alternate Phone** | **Email or Website** |
| **Local Partners** | | | | |
| *County Emergency Management/EOC* |  |  |  |  |
| *911* |  |  |  |  |
| *Police* |  |  |  |  |
| *Fire/HazMat* |  |  |  |  |
| *LEPC* |  |  |  |  |
| *Elected officials* |  |  |  |  |
| *Wastewater utility* |  |  |  |  |
| *Water utility* |  |  |  |  |
| *Power utility* |  |  |  |  |
| *Health department* |  |  |  |  |
| *Contractor/vendor* |  |  |  |  |
| *Industry rep.* |  |  |  |  |
| *Mutual aid* |  |  |  |  |
| Other |  |  |  |  |
| **State Partners** | | | | |
| *Primacy agency* |  |  |  |  |
| *Health department* |  |  |  |  |
| *Police* |  |  |  |  |
| *WARN* |  |  |  |  |
| *Laboratories* |  |  |  |  |
| Other |  |  |  |  |
| **Federal Partners** | | | | |
| *EPA regional office* |  |  |  |  |
| *FBI field office* |  |  |  |  |
| *CDC* |  |  |  |  |
| Other |  |  |  |  |

### 1.3.3 Critical Customer Communication

List critical customers below who should be given priority notification due to their reliance on the water supply either for medical reasons, based on usage, public health mission or because they may serve customers considered to be sensitive sub-populations.

| **Critical Customer Contact List** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **Organization or Department** | **Point Person Name or Position** | **Contact Instructions** | **Phone** | **Alternate Phone** | **Email or Website** |
| *Wholesale customer* |  |  |  |  |  |
| *Senior living center* |  |  |  |  |  |
| *Nursing home* |  |  |  |  |  |
| *Hospital* |  |  |  |  |  |
| *Dialysis clinic* |  |  |  |  |  |
| *Hotel* |  |  |  |  |  |
| *Transportation center* |  |  |  |  |  |
| *School* |  |  |  |  |  |
| *University* |  |  |  |  |  |
| *Daycare center* |  |  |  |  |  |
| *Factory* |  |  |  |  |  |
| *Government building* |  |  |  |  |  |
| *Large water user* |  |  |  |  |  |
| Other |  |  |  |  |  |

### 1.3.4 Communication Equipment Inventory

Inventory your utility’s communication equipment below.

| **Communication Equipment** | | | |
| --- | --- | --- | --- |
| **Type** | **Assigned to** | **Location** | **Number/Frequency/Channel** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## 1.4 Media Outreach

List contact information for all media outlets that your utility may coordinate with during notification efforts. Additionally, include existing risk communication procedures, such as composing and delivering messages (e.g. message mapping), or reference an existing Risk Communication Plan.

| **Contact List** | | | | |
| --- | --- | --- | --- | --- |
| **Organization or Department** | **Point Person Name & Position** | **Phone** | **Alternate phone** | **Email or Website** |
| *Utility social media coordinator* |  |  |  |  |
| *Newspaper - Local* |  |  |  |  |
| *Newspaper – Regional/State* |  |  |  |  |
| *Radio station* |  |  |  |  |
| *TV station* |  |  |  |  |
| *Advertising agency* |  |  |  |  |
| Other |  |  |  |  |
| Other |  |  |  |  |

## 1.5 Public Notification Templates

Insert your templates for public notifications here, or reference where they may be found. Ensure that your templates are consistent with the regulatory requirements for public notification contained in the Public Notification Rule (see 40 CFR 141, Subpart Q) and all relevant state regulations.

# 2 EMERGENCY PLANS AND PROCEDURES

This section contains plans and procedures that can be implemented in the event of a malevolent act or natural hazard that threatens your utility’s ability to deliver safe drinking water.

## 2.1 Core Response Procedures

Core procedures are the “building blocks” for incident specific response procedures, as they are typically implemented across a broad variety of incidents (e.g., hurricane, earthquake, flood). List all your core procedures here.

| **Access** | |
| --- | --- |
| **Item** | **Description** |
| *Debris clearing* | *List or reference here any supplies or equipment your utility owns to help with debris clearing; this includes safety items/personal protective equipment, chainsaws, and debris/earth moving equipment. If you do not have it, list where you will get it from.* |
| *Alternate routes* | *List or reference here alternate routes (e.g., if there is a bridge that connects your community, what are your travel options if the bridge becomes impassable?). If the alternate routes are too long, consider staging similar critical equipment and resources in different areas of your community.* |
| *Identification badges* | *Provide personnel with an official utility ID for access through police barricades or hazmat contaminated zones. If your jurisdiction has an identification program for first responders, be sure to participate.* |
| Other |  |

| **Physical Security** | |
| --- | --- |
| **Item** | **Description** |
| *Access control procedures* | *List or reference your facility access control procedures here, such as key cards are required to access all buildings. Also, list any lockdown procedures as appropriate as well as the process for establishing a security perimeter following a major incident.* |
| *Restricted areas* | *List or reference any restricted areas of your facilities here, such as chemical rooms and electrical closets. Also list who may access those areas.* |
| *Evidence protection measures* | *Describe or reference your procedures for working with law enforcement if an incident is declared a crime scene.* |
| *Security culture* | *Increase organizational attentiveness to security to help reduce vulnerability and enhance preparedness. For example, a “See Something, Say Something” campaign for your utility. List measures your utility implements here.* |
| Other |  |

| **Cybersecurity** | |
| --- | --- |
| **Item** | **Description** |
| *Disconnect procedure* | *If possible, disconnect compromised computers from the network to isolate breached components and prevent further damage, such as the spreading of malware.* |
| *Notification* | *List who should be called in the event of a cyber incident, such as your utility information technology (IT) supervisor or your contracted IT service provider. Also list any external entities that may have remote connections to your network.  Include any state resources that may be available such as State Police, National Guard Cyber Division or mutual aid programs, as well as the Department of Homeland Security National Cybersecurity and Communications Integration Center (NCCIC) (888-282-0870 or NCCIC@hq.dhs.gov).* |
| *Assess procedure* | *Assess any damage to utility systems and equipment, along with disruptions to utility operations.* |
| *Implementation processes* | *Implement actions to restore operations of mission critical processes (e.g., switch to manual operation if necessary) and provide public notification (if required).* |
| *Documentation* | *Include forms to document key information on the incident, including any suspicious calls, emails, or messages before or during the incident, damage to utility systems, and steps taken in response to the incident (including dates and times).* |
| Other |  |

| **Power Loss** | |
| --- | --- |
| **Item** | **Description** |
| *Backup power systems* | *List or reference your auxiliary power sources (fixed and portable) if you have not already done so elsewhere in your ERP. Provide a summary of critical facility power requirements, generator siting requirements, and the location and capacity of any existing on-site generators at all critical infrastructure components.* |
| *Power utility* | *Coordinate with your power utility for expected restoration priorities and timing. Power utility contact information should be listed in Section 3.2 above.* |
| *Fuel plan* | *Provide an inventory of on-site fuel supplies and list or reference your procedures to obtain additional fuel from vendors for your backup generators during an incident.* |
| *Maintenance plan* | *Maintaining generators during extended outages is critical. List your maintenance procedures for each generator, who is responsible for implementation and include lists of on-hand items such as spare parts and filters.* |
| Other |  |

|  |  |
| --- | --- |
| **Emergency Alternate Drinking Water Supplies\*** | |
| **Item** | **Description** |
| *Bottled water* | Provider name:  Phone:  Contract No. (if applicable):  Available supply:  Distribution point (notify public of location): |
| *Bulk water (check with your state first for licensed water haulers)* | Provider name:  Phone:  Contract No. (if applicable):  Available supply:  Distribution point (notify public of location): |

\* Interconnections are listed and described in Section 3.1

| **Sampling and Analysis** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **Item** | | **Description** | | | |
| *Sampling procedures* | | *Identify proper sampling procedures for different types of contaminants and attach those procedures to your ERP or reference where they can be found. Determine the quantity of required samples.* | | | |
| *Pre-identified sampling locations* | | *While some sampling sites will be dictated by the emergency, you can pre-plan your ideal sampling locations such as tanks and reservoirs or entry and exit points from pressure zones.* | | | |
| *Sampling containers and preservatives* | | *Obtain and inventory all sample containers and preservatives and list or reference them here.* | | | |
| *Sample collection* | | *Confirm who will be responsible for sample collection during an emergency and who can take over if that person is not available. List those names here.* | | | |
| *Sample transportation* | | *Confirm who will be responsible for transportation during an emergency and who can take over if that person is not available. List those names here.* | | | |
| *Laboratory capabilities* | | *Confirm what contaminants can be analyzed and your lab’s surge sampling capacity. It may be helpful to have several backup laboratories in case your utility’s lab or preferred contract lab are overwhelmed with high sample volume. Identify contract laboratories in the following table.* | | | |
| *Interpreting results* | | *Work with the appropriate lab, utility and regulatory agency personnel to interpret sample results. List those names here.* | | | |
| Other | |  | | | |
| **Local Contract/State/Federal Laboratory Contact List** | | | | | |
| **Name** | **Address** | | **Analytes/Methods** | **Phone** | **Email or Website** |
|  |  | | *Metals, VOCs and SVOCs* |  |  |
|  |  | |  |  |  |
|  |  | |  |  |  |
|  |  | |  |  |  |
|  |  | |  |  |  |

|  |  |
| --- | --- |
| **Family and Utility Personnel Well Being** | |
| **Item** | **Description** |
| *Family disaster plan* | *Implement your family plan to ensure their well-being during an incident.* |
| *Assembly area* | *List all the assembly areas and evacuation procedures for personnel.* |
| *Supplies* | *List the supplies necessary to maintain personnel health and well-being during an incident (e.g., food, potable water, cots, first aid kit, sanitary products).* |
| *Alternate work and shelter locations* | *Personnel may need to work from home. Or, they may need to shelter at a hotel or your utility if conditions do not permit travel home. List conditions for which work at home provisions will be triggered and list sheltering locations and procedures here.* |
| *Extreme temperatures* | *List or reference here any supplies or equipment your utility owns to mitigate extreme temperatures such as cold weather items (e.g., sand, salt, ice melt, tire chains, snowshoes) and hot weather items (e.g., pop-up shade canopies, water coolers, broad-brimmed hats).* |
| Other |  |

## 2.2 Incident-Specific Response Procedures

Insert applicable Incident-Specific Response Procedures (ISRPs), specialized procedures tailored to an incident type. Incidents may include, but are not limited to, the following:

| * Cybersecurity * Drought * Earthquake * Extreme Cold and Winter Storms * Extreme Heat * Flooding * Harmful Algal Bloom | * Hurricane * Tornado * Tsunami * Volcanic Activity * Wildfire * Source Water Contamination * Distribution System Contamination |
| --- | --- |

EPA’s website provides a number of [incident action checklists](https://www.epa.gov/waterutilityresponse/incident-action-checklists-water-utilities) (IACs) that you can use to help develop your own ISRPs. EPA also published the [Prepared for Contamination in Your Distribution System?](https://www.epa.gov/sites/production/files/2018-12/documents/planning_for_contamination_primer_2.pdf) guidance that can help you develop a distribution system contamination ISRP.

# 3 MITIGATION ACTIONS

This section contains actions, procedures, and equipment which can obviate or significantly lessen the impact of a malevolent act or natural hazard on the public health and the safety and supply of drinking water provided to your community and individuals, including the development of alternative source water options, relocation of water intakes, and construction of flood protection barriers.

## 3.1 Alternative Source Water Options and Interconnected Utilities

List information on alternative source water options and interconnected utilities to mitigate impacts during incidents.

| **Alternative Source Water Options** | | |
| --- | --- | --- |
| **Type** | **Location** | **Comments** |
| *Well* | *Municipal golf course* | *This irrigation well can be used to supply water under emergency approval from state. Chlorination is needed and the well can produce up to 300 gpm.* |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

| **Interconnected Utilities** | | | |
| --- | --- | --- | --- |
| **Utility Name** | **Location** | **Contact Information** | **Comments** |
| *ABC Water* | *Town next door* | *Jane Doe: 555-555-1234* | *Plans on file in engineering to construct emergency connection if needed.* |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## 3.2 Other Mitigation Actions

List any mitigation procedures or projects implemented at your utility, such as raising facilities and controls or constructing berms to protect against flood damage.

| **Mitigation Actions** | | |
| --- | --- | --- |
| **Type** | **Location** | **Comments** |
| *Water intake relocation* | *Intake 1* | *This intake was moved further offshore and deeper to better avoid surface spills and low river levels during drought* |
| *Watertight doors* | *Treatment plant* | *These doors were installed to help ensure floodwaters cannot enter the treatment building and damage control systems* |
| *Earthquake* | *All facilities* | *Anchored equipment (e.g., computers, bookshelves) as well as laboratory equipment and chemical and fuel tanks* |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# 4 DETECTION STRATEGIES

This section contains strategies that can be used to aid in the detection of malevolent acts or natural hazards that threaten the security or resilience of the system.

List the detection strategies and methods your utility uses to aid in the detection of malevolent acts or natural hazards. Also list the corresponding procedure to be used if the threat is detected.

| **Detection Strategies** | | |
| --- | --- | --- |
| **Threat** | **Detection Method** | **Procedure** |
| *Unauthorized entry* | * *Alarm from intrusion detection system* | *Call 911* |
| *Source water contamination* | * *National Response Center notifications* * *Notification from 911 for releases resulting from transportation accidents* | *Source Water Contamination Incident Response Plan* |
| *Distribution system contamination* | * *Customer complaint surveillance* * *Public health surveillance* | *Distribution System Contamination Response Procedure* |
| *Cyber intrusion* | * *Automated IT and operation technology (OT) system intrusion detection monitoring* * *Notification from utility staff* | *Cyber Incident Action Checklist* |
| *Hazardous chemical release* | * *Chlorine gas in air monitors* | *Call fire department* |
| *Hurricane* | * *Weather Service alerts* | *Hurricane Incident Action Checklist* |
| *Flood* | * *Notification from Army Corp* | *Flood Incident Action Checklist* |
| *Power outage* | * *Notification from energy provider* * *Alarm from line power sensor* | *Generator Start-up Checklist* |
| Other |  |  |
| Other |  |  |