

# Oregon Drinking Water Program Best Management Practices for Service Outages Due to Reduced Pressure Events

## Example Service Outage Scenarios:

- Pump Station Failure
- Water Storage Outage
- Source Water Outage
- Main Transmission Pipeline or Intertie Failure (see water main BMPs)
- Electrical Malfunction

## Service Interruption Thresholds:

1. Maintain normal service pressure
2. Maintain positive pressure throughout affected service area
3. Loss of positive pressure

## Management Scenarios:

### 1. Prevent service outages with backup facilities and power, maintain normal operating pressure - *best*

- Recognize service interruption immediately, either directly or through auto monitoring/alarms
- Engage standby facilities/power or activate interties to restore service
- Verify service pressure, and chlorine residuals if applicable

### 2. Recognize service outage and correct as soon as possible, maintaining positive service pressure - *desirable*

- Recognize service interruption, either directly or through auto monitoring/alarms
- Advise affected users to conserve water to maintain positive pressure, if applicable
- Make temporary or permanent corrective actions to restore service
- Verify service pressure, and chlorine residuals if applicable
- Advise users to resume normal water use
- Inform state drinking water program

### 3. Loss of service pressure, chlorinated systems

#### a. Shut off service meters before complete loss of service pressure, and re-establish pressure - *less desirable, applicable mainly to service outages affecting few users*

- Recognize loss of service pressure
- Shut off customer services before positive pressure is lost
- Notify affected water users of service outage, if practical
- Make temporary or permanent corrective actions to restore service
- Flush affected area to remove any infiltrated water and restore chlorine residuals
- Restore service, verify service pressure and chlorine residuals
- Collect a coliform bacteria sample to provide a record of corrective action effectiveness. Mark as a special sample" and retain in utility records for 2 years.
- If the post-corrective action coliform sample result shows the presence of coliforms, resample per coliform sampling procedures. If second sample results show presence of coliforms, contact state drinking water program to consult on corrective action.

**b. Complete loss of service pressure, notify users to take personal protective action, and re-establish pressure - *least desirable***

- Recognize loss of service pressure
- Notify affected users to take personal protective action (do not use water, boil water, or use bottled water). Unless all affected users can be quickly notified, conduct additional wider notification by media or other means
- Notify and consult with state drinking water program
- Make temporary or permanent corrective actions to restore service
- Flush affected area to remove any infiltrated water and restore chlorine residuals
- Restore service, verify service pressure and chlorine residuals
- Collect coliform samples to demonstrate water safety, obtain coliform-absent results before proceeding
- Consult with state drinking water program
- Notify users that water is safe to use after they flush their household plumbing

#### **4. Loss of service pressure, non-chlorinated systems**

**a. Shut off service meters before complete loss of service pressure, re-establish pressure and apply temporary chlorination-- *less desirable***

- Recognize loss of service pressure
- Shut off customer services before positive pressure is lost
- Notify affected water users of service outage, if practical
- Make temporary or permanent corrective actions to restore service
- Flush affected area to remove any infiltrated water, apply temporary chlorination
- Restore service, verify service pressure and chlorine residuals
- Collect a coliform bacteria sample after chlorine residual returns to zero to provide a record of corrective action effectiveness. Mark as a "special sample" and retain in utility records for 2 years.
- If the post-corrective action coliform sample result shows the presence of coliforms, resample per coliform sampling procedures. If second sample results show presence of coliforms, contact state drinking water program to consult on corrective action.

**b. Complete loss of service pressure, notify users to take personal protective action, and re-establish pressure - *least desirable***

- Recognize loss of service pressure
- Notify affected users to take personal protective action (do not use water, boil water, or use bottled water). Unless all affected users can be quickly notified, conduct additional wider notification by media or other means
- Notify and consult with state drinking water program
- Make temporary or permanent corrective actions to restore service
- Flush affected area to remove any infiltrated water
- Restore service, verify service pressure
- Collect coliform samples to demonstrate water safety, obtain coliform-absent results before proceeding
- If coliform samples are coliform-present, apply temporary chlorination
- Consult with state drinking water program
- Notify users that water is safe to use after they flush their household plumbing