Overview of Presentation

1. Types of Boil Water / Do Not Drink Notices
2. Advisory WebForm Refresher
3. Regulator Responsibilities
4. Public Notices
5. Level 2 investigations and Lifting
6. Zero pressure boil Advisories
7. Localized Advisories
8. Questions and Answers?
Types of Advisories – Boil Water

• *E. coli* MCL in distribution
• Loss of Positive Pressure
• *E. coli* confirmed in groundwater source without 4-log inactivation of viruses
  – Or loss of chlorination as above
More extreme advisories

Do not Drink:
• Nitrate or other Chemical contaminant > MCL
• Harmful algae bloom / Cyanotoxins
• Others?

No Contact:
• Serious chemical contamination
Reasons for Advisory WebForm

- Information is entered directly into database – no delay or double work
- Check status of advisories
- Historical record
- System’s data on-line page indicates system is on a boil water notice with link for details at top
- Ensure notices are lifted
- Hopefully more WebForms coming soon(ish)!
Boil Water Notice Advisory WebForm

Replaces contact reports for any advisory

WATER ADVISORY: BOIL WATER - Loss of Pressure - See details
How to Enter a New Advisory

• DWS County Contracts May 5, 2017 email
• Log in required:  https://yourwater.oregon.gov/webforms/
• Data Online home page – Staff/Partner Login at bottom
Advisory WebForm Login

• **User name**: First letter of first name followed by last name – no spaces or symbols, all lowercase

• **Temporary password**: Same password for Partners website & related documents

• **Change your password**: Must do this – Passwords must be at least 8 characters long (not more than 16) and contain at least one uppercase letter, number, and symbol

• **If you forgot your password** – [DWS.Countycontracts@state.or.us](mailto:DWS.Countycontracts@state.or.us)
## Advisory Tracking

**NEW ADVISORY / SEARCH**

Choose a water system to enter a new advisory or find an existing advisory:

- **PWS Number:** OR41

  or **Search by PWS Name:**

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### Your Advisories

<table>
<thead>
<tr>
<th>PWS</th>
<th>PWS Name</th>
<th>Begin Date</th>
<th>Date Lifted</th>
<th>Type</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>00524</td>
<td>LOCUST MOBILE VILLAGE</td>
<td>May 12, 2016</td>
<td><strong>Open</strong></td>
<td>Boil Water</td>
<td>E. coli, Cor Source Wit</td>
</tr>
<tr>
<td>05998</td>
<td>WESTRIDGE SUBDIVISION</td>
<td>Apr 29, 2016</td>
<td><strong>Open</strong></td>
<td>Boil Water</td>
<td>E. coli, Cor Source Wit</td>
</tr>
<tr>
<td>00784</td>
<td>PIONEER PARK CO-OP INC</td>
<td>Jan 20, 2016</td>
<td><strong>Open</strong></td>
<td>Boil Water</td>
<td>E. coli, Cor Source Wit</td>
</tr>
</tbody>
</table>
## Lift Advisory

**BOIL WATER - E. coli, Confirmed in Distribution**

**Begin Date:** 03/24/2017  
**Area Affected:** System-wide

**Details - Begin:** Spoke with David about three E. coli positive repeat samples collected in the distribution system - Cramer Camp - on Thursday, March 23rd, following an E. coli positive routine collected on Tuesday, March 21st. A triggered sample collected at the well on the 23rd was coliform absent. We discussed the boil water notice, investigating the source of contamination, disinfection protocols and follow-up sampling. Emailed David the boil water notice template and disinfection instructions. He will contact the county health department on Monday to discuss steps to lift the boil water notice. Corrective action is needed, followed by sampling to verify absence of coliform in the distribution system. Consultation with county regulator.

**Updates:** 04/03/2017: David called. He shocked the system last week and collected a sample today.

**Date Advisory Lifted:** 4/6/2017

**Advisory Lift Details:**

> A sample collected on April 3rd was coliform absent and the boil water notice has been lifted.

*Choose words carefully and check for typos. Full text will appear online when the "Submit Data" button is clicked.*
Simple tips for Live data

• Avoid or explain acronyms
• Write only what you would feel comfortable being quoted in a newspaper
• Stick to the facts of the matter
• Be clear but concise

Details: A ten inch water main broke and they were not a will distribution door-hangers and repair the line 1 morning of 6/8, with results expected 6/9. if all ne
Lifted 06/09/2017: As of this morning the four sa Linn have come back negative and WS will be lif by the loss of pressure.
Regulator Responsibilities

• Assess whether advisory is necessary
• Ensure system uses appropriate notification content
• Discuss plan / process / methods to notify all customers within 24 hours
• Review corrective action steps (shock, flush)
• Provide support as water system resolves situation and advisory is lifted
• Document in webform
Tier 1 Public Notice Templates

• Direct operators to templates
  – Explain what happened,
  – What to do
  – Mandatory health effects language
  – Importance of notifying others
  – Water system contact information

• Ensure DWS (compliance.dw@state.or.us) receives a copy of notice within 10 days of water system issuance

• Other resources: Shock chlorination procedures and calculation tools
Delivery Methods / Options

- All persons served must be notified within 24 hours
- One or more of the following forms of delivery must be used:
  - Broadcast media, such as radio or television;
  - Posting of notices throughout area served; or
  - Hand delivery; or
- Consider sensitive populations
- Addressed in ERP?
Location of Templates Online
• Main Drinking Water Services Page (www.healthoregon.org/dwp) – Water System Operations – Public Notice Resources & Templates
Follow-up of Boil Advisory

- If source issue, verify adequate treatment
- If distribution issue and Ecoli MCL exceeded, Level 2 investigation needed
  - Do not lift advisory until investigation completed and defects corrected
  - OR if operator inspects, identifies a problem, fixes, other corrective measures, provides photo documentation, OK to lift first
Lifting the notice

• Review sample number, location, and results
  – Chlorine residual returned to normal
  – Marked Special

• Water systems to notify all customers when notice is lifted explaining:
  – Need to flush internal plumbing to remove any bad water
  – OK to drink water without boiling

• Update WebForm with Lift info
Note about Localized Zero Pressure Boil Advisories

• Best Management Practices
• Template language available
• Door hangers with simple language also acceptable
Pressure loss and contamination

- Leaky pipes can allow contamination to enter pipes during pressure changes
- Study: Microbial contamination found in 56% of soil and water surrounding pipes

<p>| Table 1. Determination of the Intrusion Volume (in gallons) During a 30 Second Negative Pressure Event |</p>
<table>
<thead>
<tr>
<th>Orifice Diameter (in.)</th>
<th>Power Loss</th>
<th>Main Break</th>
<th>Fire Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 ft</td>
<td>10 ft</td>
<td>1 ft</td>
</tr>
<tr>
<td>1/32</td>
<td>0.01</td>
<td>0.08</td>
<td>0.04</td>
</tr>
<tr>
<td>1/8</td>
<td>0.2</td>
<td>1.2</td>
<td>0.6</td>
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<tr>
<td>1/2</td>
<td>3</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>58</td>
<td>23</td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>185</td>
<td>55</td>
</tr>
</tbody>
</table>

From Kirmeyer et al. 2001. 1ft and 10 ft refers to the height of the external water table above the pipe.
Location of Service Outage BMP

- DWS home page – Water System Operations – Fact Sheets & BMPs - BMPs

Fact Sheets & Best Management Practices

Best Management Practices (BMPs)

Developed and prepared by the Drinking Water Advisory Committee (DWAC), these and water suppliers. Systems and suppliers are encouraged to incorporate these BI

- Cutting Into or Repairing Existing Water Mains (pdf)
- Service Outages Due to Reduced Pressure Events (pdf)
Localized versus System-Wide Boil Water Notices

• OAR 333-061-0042(1)(b) requires:
  “Violation in a portion of the distribution system that is physically or hydraulically isolated from other parts of the distribution system”

• No possible way for water with *E. coli* to physically travel to section to be exempt from boil water notice for *E. coli*

• Need positive pressure readings or continuous water service in a section to be exempt

• Consider hydraulics of system: reservoir, pumps, pressure zones

• Master plan or other existing documentation required to limit the extent of a system wide boil water notice
Documentation for Localized Boil Water Notice due to Loss in Positive Pressure
Questions?
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www.healthoregon.org/dwp