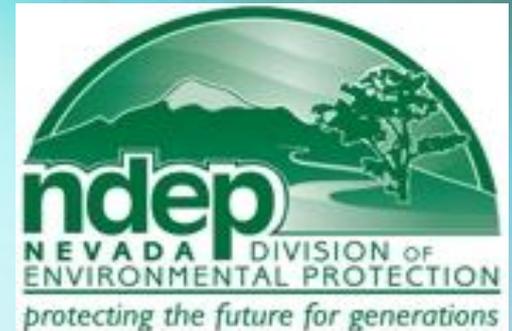


Loss of Pressure and Public Notification – What to Do and What to Expect



Ross Cooper – Environmental Scientist III
Bureau of Safe Drinking Water



What's on the list?

- Loss of Pressure – First Steps
- Assessing Risk
- Who to contact?
- Getting the Word Out
- Working With BSDW
- Resuming Normal Operations

Other potential causes for Public Notification:

- Flooding
- Chemical spill near a source water intake or groundwater well
- Treatment plant failure
- Other

So You Just Lost Pressure... What Now?



The Obvious Answer is to Determine the Problem!

- Get on Scene to Assess the Issue.
- How Much Help Will You Need?
- What Are Your Equipment Needs?
- Where is the Emergency Notification List?
- How Many Homes/Businesses/People are affected?
- How Long Before Water Service is Restored?

You Are The First Line Of Defense

- Is there/what is the **health risk?**
 - Back-siphonage/contamination entry, etc.
- If a health risk exists, the priority needs to be immediate public notification
 - Be conservative. Better to be cautious than sorry.
- BSDW can assist with health risk assessment and public notification (templates, resources, etc.)

Notification Order.

- Your Staff (If you're not a one person show)
- NDEP – Bureau of Safe Drinking Water
 - 775-687-9521 - during business hours
 - 1-888-331-6337 – after business hours
 - This is the Nevada Spill Hotline, report as normal. Please give your contact info and ask them to contact the BSDW call-down list.
- The Customers
 - This is always a complex issue for larger systems
 - Coordinate with BSDW as soon as possible.
 - When water service is restored, they **immediately** need to know water is not potable. = 'Boil Water Order'
- NVRWA has been available for technical assistance and has provided substantial help in these situations

Nevada Rural Water Association

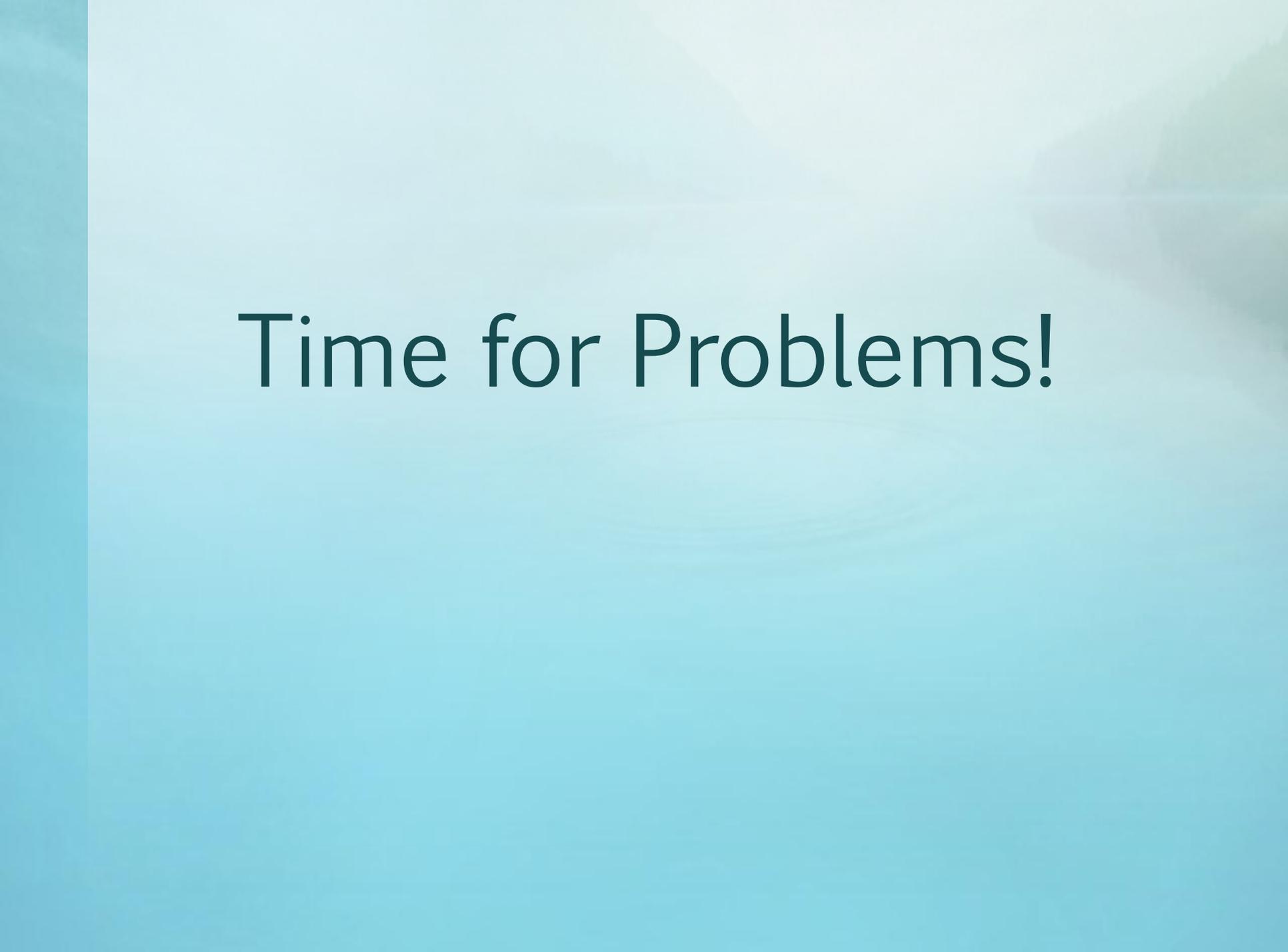
NvRWA Office

363 Fairview Drive
Carson City, NV 89701

P: (775) 841-4222

F: (775) 841-4243

frontdesk@nvrwa.org



Time for Problems!

- Scenario 1 – Intruder Alert

It's a Tuesday evening and you're the operator on call for a 350 resident community system. Your SCADA system shows a entry alarm for your main tank. These tanks are kept locked. The local sheriff and you respond to investigate. The locks on the fence and hatch have been destroyed, there were individuals spotted on the tank with the hatch open, and it appears they entered the water in the tank. The tank is an inlet/outlet tank and the supplying well can flow to the tank and distribution system simultaneously.

What do you do? What do you tell your customers?
When can you declare the water potable?



Washoe County
Department of
Water Resources
4930 Energy Way
Reno, NV 89502-4106
Tel: (775) 934-4600
Fax: (775) 934-4610

Washoe County is an Equal Opportunity Employer

Drinking Water Advisory Unauthorized Entry into Drinking Water Storage Tank

On Wednesday, August 15, 2012, three teenagers entered the drinking water storage tank for the [REDACTED] public water system and made contact with the water supply. The Washoe County Department of Water Resources has isolated the tank from the water system and is currently flushing and disinfecting the tank.

The water storage tank security system detected the unauthorized entry. Upon confirmation of the entry, the Washoe County Department of Water Resources isolated the tank from the water system and began to flush and disinfect the tank. The entry into the tank was detected before any water could be served to customers. The Department of Water Resources immediately notified the Washoe County District Health Department and Washoe County Sheriff's Department of this illegal activity.

The Department of Water Resources and District Health Department have prepared a plan which will return the tank to service within the next 24-48 hours. The tank will not return to service until a laboratory has confirmed that the water within the tank is safe to drink. If you have any questions regarding this incident or your drinking water quality please contact:

Washoe County Department of Water Resources
Water Representative - 987-6543

OR

Washoe County District Health Department
Health Representative - 123-4567

The Washoe County Department of Water Resources is committed to providing water that meets all State and Federal standards, and appreciates the support of our community in safeguarding the water infrastructure. Any residents with knowledge of this incident are encouraged to contact the local authorities by contacting the Washoe County Sheriff's Department at (775) 328-3001.

Please note that unauthorized entry into any water facility is a criminal offense and is inherently dangerous. The persons who entered the facility may be prosecuted and may be responsible any additional costs incurred to return the water system to normal operating conditions.

Department of

Water Resources

□

Additional costs incurred include:

- Personnel time + overtime
- All repairs (locks, fencing, access hatch, screening, painting and telemetry antennae)
- 350,000 gal of water (at a minimum)
- Cleaning of tank + dive crew
- Washoe County charges + federal investigation and an FBI file

A Few Regulations...

The baseline requirements for pressure loss are found in **NAC 445A.67265**. They essentially state that:

- You must notify the customers in the affected portion that they need to boil their water
 - Must be done ASAP!
 - Need to coordinate with BSDW
- 2 consecutive days of coliform samples must be collected and both must be absent of coliform bacteria.
 - Required number of samples depends on system size, and normal coliform schedule
 - This also needs to be coordinated with BSDW

What if Water Service Cannot Be Quickly Restored?

- **NAC 445A.66655** concerns the responsibilities of the supplier of water and customer.
- Essentially, you must deliver potable water regardless of the system condition.
- If the system will be without water for an extended amount of time, it is the **system's** responsibility to provide another potable source of water.
 - Water Hauler
 - Bottled
- Obviously, if the system can be repaired in a timely fashion, this is not necessary.
- Some people may not be able to leave their house and it is your responsibility to accommodate them.

What is expected of the PWS during pressure loss situations?

- We understand this is a difficult and often times, complex problem
- BSDW needs to be notified ASAP
 - What is the situation?
 - How many homes/people are affected?
 - How long before the problem is fixed?
 - What is your plan?
- Public Notification should begin before or at the same time as service restoration
- BSDW will lift boil water order when all coliform requirements have been met
 - Water system must receive approval from BSDW

So What is Required for Public Notice?

- This is a **TIER 1** Issue (Immediate notice):
- This tier is for violations and situations with significant potential to have serious and immediate adverse effects on human health as a result of short-term exposure. Notice is required within **24 hours**.
- Notification needs to be a priority! You do not want sick customers!
- Failure to provide notification is a serious violation and is a huge risk!

How Do I Get The Word Out?

- Best and most effective method is to go door to door, but
 - Time intensive
 - Often do not have staff to do so
- Door Hangers/Postings – Required
- Local News – Urgent Situations (television, radio, print media)
- Reverse911 system
- E-mail alert (for those members in the system)

How Do I Get The Word Out?

- Sheriff – PA system on vehicles
- NDOT – Highway signs
- Boy Scouts/Girl Scouts/Volunteers – Can go door to door
- County Emergency Management Agency – Urgent Situations

What Needs To Be On The Notice?

- What happened and when
- What is being done to correct the problem
- What the customers need to do (boil water etc.)
- The estimated time required to fix the issue
- That you have notified state and local health officials
- You will let the customers know when they no longer need to boil the water
 - Do not put a date or time!
- If you must provide an alternative source, where and how to obtain it

Here are some FAQ...

- Why do I have to issue public notice?
 - There is the *possibility* of a health risk
- Do you have a template?
 - Yes, BSDW has templates and can send them if necessary.
- What is the affected area?
 - Usually, the pressure zone. Please work with BSDW to determine the affected area.
- What are the health risks?
 - Negative pressure usually associated with increased bacteriological issues.

- Scenario 2 – Murphy's Law

It's 6:00PM on Sunday on a holiday weekend. You have one well supplying your lower pressure zone. The main between the well and tank ruptures catastrophically. SCADA shows the tank has less than 2 feet of water in it. You cannot open the valve to the upper zone because there is no pressure relief valve and pressure will be 120psi+. There is a well which has not been sampled or used in years attached to the lower system. 750 homes are without water, it is 100 degrees and these homes are cooled with evaporation coolers.

You have two other people on staff available to you.

What do you do? Who do you notify? How do you contact the customers? What do you tell them?
What do you do?

No, you don't shoot the hostage



“Indication of activities taken, or to be taken, by PWS personnel to correct the problem.”

- System formulated a plan, in conjunction with BSDW, to
 - 1) begin immediate disinfection of the well,
 - 2) Public Notification through reverse 911 phone messaging, an “e-mail burst”, and contacting the local media,
 - 3) contacting the consecutive connection (NV000XXXX), their additional source water provider
 - 4) attempt to determine cause of contamination.

Date: July 9, 2012

DO NOT DRINK

DRINKING WATER WARNING
For the NEVADA water system, ID# NV0001234

WE RECOMMEND THAT YOU DO NOT DRINK THE WATER
UNTIL FURTHER NOTICE

What has happened? What is being done?

Because of the need for additional water to supply the town after a water main break, NEVADA WATER GID is putting a well in service for which the water quality is unknown. Because the water quality is unknown, we cannot guarantee that it does not contain bacteria or other contaminants that might make people ill if they drink the water.

We are in the process of repairing the water main break. When the water main is repaired and we are able to take this well offline and test your water, we will inform you when it is safe to drink. We will restore normal service as soon as possible.

*** For more information please contact _____ with NEVADA WATER GID at _____ and/or the Bureau of Safe Drinking Water at 775-687-9521.
<http://www.epa.gov/safewater/disinfection/index.html>

Date: 9/1/12

BOIL WATER ORDER RESCINDED

for [REDACTED] Water

PWS# NV00 [REDACTED]

The voluntary precautionary BOIL ORDER issued for [REDACTED] Water has been rescinded.

YOU MAY NOW DRINK YOUR TAP WATER WITHOUT BOILING IT FIRST. We apologize for any inconvenience this has caused you and thank you for your patience in this matter.

If you should have any questions or comments regarding this matter or for the message, please contact [REDACTED] with the [REDACTED] at 775-2 [REDACTED].

Fernley Flood January 5, 2008



MARILYN NEWTON/RCJ

Truckee Canal was breached in the early morning, causing flooding in multiple subdivisions.

Approximately 800 homes affected by the flood waters and 3,800 people evacuated.

Bush declares flood zone a disaster area

[SANDRA CHEREB](#)

ASSOCIATED PRESS WRITER

Posted: 1/8/2008



Image may be subject to copyright AP

President Bush declared part of northern Nevada a national disaster area Tuesday, making federal relief available to victims of flooding that damaged hundreds of homes...

Lessons Learned

- As heavy chlorination is required in any loss of pressure scenario, the water system should have in place (hopefully, in the ERP), a procedure for obtaining the approval for disposal in an emergency of heavily chlorinated waters from the BWPC
- Have a tapping sample and repair clamps on hand or available



Lessons Learned

- Internal notification system works. The opportunity of the Nevada WARN system is an invaluable option.
- Getting information about the disaster is difficult. You will have to actively pursue leads to make informed decisions. Your presence in the field can be critical.

Lessons Learned

- Notification to your system works to a degree. Response takes time, taxes your man-power, is limited, and even in those cases you do everything feasible, there are still complaints.
- The first week of the disaster almost everyone is grateful you are doing something to help. The third week of the disaster almost everyone second guesses the decisions you made the first week.

Questions

