
Revised Total Coliform Rule

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PUBLIC HEALTH DIVISION
Drinking Water Services

Presentation Overview

1. Brief Overview of current Total Coliform Rule (TCR)
2. Development of Revised Total Coliform Rule (RTCR)
3. Core Elements of the RTCR
4. Comparison of Current TCR vs. RTCR
5. Benefits of new rule
6. Resources
7. Timeline
8. Time permitting – EPA data portal update.

This Rule Affects All Public Water Systems!



Current Total Coliform Rule

- Published in 1989, effective in 1990
- The only microbial drinking water regulation that applies to all public water systems nationally (PWSs)
- Rule objectives:
 - Determine the integrity of the distribution system
 - Evaluate the effectiveness of treatment
 - Signal the possible presence of fecal contamination
- Public Notification if TC or *E. coli* are confirmed

Current TCR - Monitoring Requirements

- The number of routine samples required per month varies based on the source type, system type and the number of people served
- Although not adopted in Oregon, Federal Rule allowed reduced monitoring of non-community systems to annual, and community systems to quarterly if criteria was met.
- Repeat and additional routine samples are required based on routine sampling results
 - For each TC+ sample, the system must collect 3 repeat samples (4 if $\leq 1,000$ people served)
 - Must also collect 5 additional routine samples the month following a TC+ sample

Current TCR – Maximum Contaminant Levels

- Total Coliform MCL
 - More than 5.0% of samples collected are TC+ for a system collecting at least 40 samples per month,
 - Two or more samples are TC+ for a system collecting fewer than 40 samples per month
 - Public Notice required within 30 days
- *E. coli* MCL
 - Any *E. coli* positive (EC+) repeat sample, or any TC+ repeat sample following an EC+ routine
 - Boil Water Advisory public notification required within 24 hours

Rule Revision Process

- 6 year review: EPA is required to review and revise, as appropriate, each National Primary Drinking Water Regulation no less often than every 6 years
- **The net effect of the rule revision must be to maintain or improve public health protection**
- EPA and industry experts conducted workshops and developed issue papers
- EPA convened the Total Coliform Rule Distribution System Advisory Committee in 2007, comprised of representatives from 15 organizations

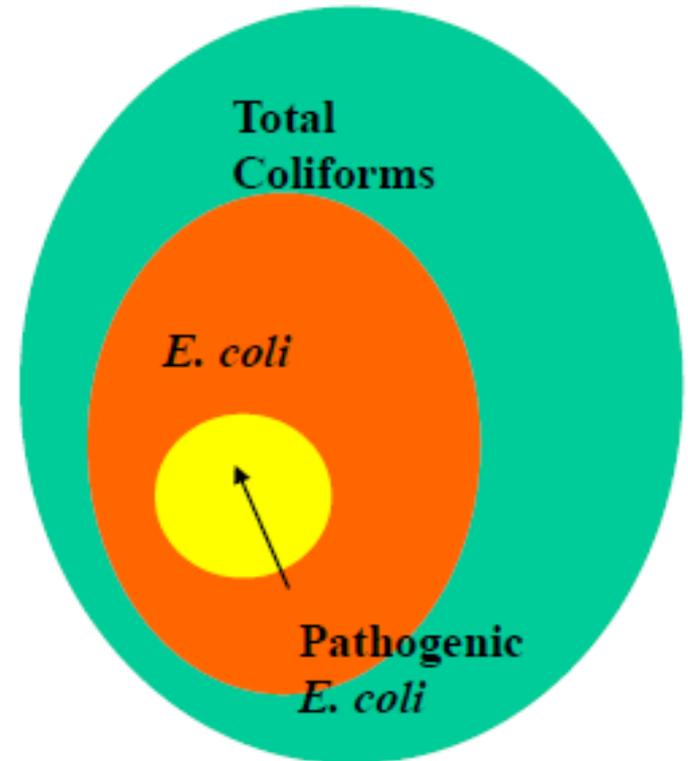
The Advisory Committee Process

- Committee charge: Recommend revisions to the Current TCR and consider distribution system issues
- A Technical Work Group provided technical support and data analyses to inform perspectives on the various rule recommendations that were considered
- Compiled, analyzed, and discussed:
 - TC and *E. coli* occurrence data, system inventories, violation data, state and system responses to violations, and cost information



Committee Deliberation of Issues

- How to improve public health protection by building on actions already being taken by well-run systems – “find-and-fix” assessments and corrective action
- How to use total coliform as a more suitable indicator of system operation since it is not an immediate public health concern
- Is Public Notification for TC+ samples causing confusion and erosion of consumer confidence in drinking water?



Committee Deliberation of Issues, cont'd

- Are the number of routine, repeat, and additional routine samples appropriate and effective, especially for small systems?
- How to hold small systems on reduced monitoring accountable and ensure these systems demonstrate continuing eligibility
 - Only systems that are well-operated should qualify for reduced monitoring
 - Increased monitoring for higher risk systems?
 - Balancing the benefits of monitoring and state involvement (i.e., site visits, sanitary surveys, consultations)

Final Rule development

- EPA published a proposed RTCR based on the Advisory Committee recommendations
- Involved States and other stakeholders in the rule development process
 - Final rule language
 - Guidance and training materials
- Final rule published: **February 13, 2013**
- **Effective date: April 1, 2016**

Major objectives of RTCR

- Maintain objectives of the original TCR
- Reduce the potential pathways of contamination into the distribution system
- Use total coliform as an indicator of system condition and operations since it is not a health concern
- Use *E. coli* as the public health indicator
- Require more stringent standards for systems on reduced monitoring
- Require increased monitoring for systems with increased risk

Comparison of TCR and RTCR: Rule Construct

Current TCR

- TC MCLG of zero
- TC monthly MCL based on the number of TC+ samples in a month
- *E. coli*/fecal coliform acute MCL based on EC+/FC+ samples
- Public Notice required for MCL violations

Revised TCR

- No MCL/MCLG for TC. Confirmed TC+ triggers investigation and corrective action.
- *E. Coli* MCL based on TC/*E. coli* monitoring results (Fecal coliform is no longer used) 
- Public Notification:
 1. Not required for only TC+ results
 2. Required for *E. coli* MCL violation
 3. Required for failure to conduct investigation or take corrective action

Focus on *E. coli* as a fecal indicator

- *E. coli* is a group of bacteria that **almost always originate in the human or animal gut.** (*E. coli* = poop)
- An *E. coli* positive sample indicates fecal contamination, but not necessarily the presence of pathogens.
- There are about 700 *E. coli* strains, about 10% of which are pathogenic to humans.
 - *E. coli* O157:H7 is the most well known but ~ 15% of cases are from water
- There is a general association of fecal contamination and pathogens, therefore *E. coli* is considered a meaningful indicator of potential presence of pathogens.

Routine Monitoring

Current TCR	Revised TCR
<ul style="list-style-type: none">• For NCWS (GW) $\leq 1,000$ collect 1 sample per quarter• For NCWS (SW) $\leq 1,000$ and all CWS $\leq 1,000$ collect 1 sample per month• For all PWS $> 1,000$, sampling is monthly based on population	<ul style="list-style-type: none">• Same as current TCR• Exception: Seasonal systems using groundwater that depressurize must sample monthly

Repeat Monitoring

Current TCR	Revised TCR
<ul style="list-style-type: none">• PWS serving $\leq 1,000$ must take 4 repeat samples for every TC+ routine sample• For GW PWS, 1 sample can be a source water sample to also comply with the Ground Water Rule (GWR) triggered monitoring requirement	<ul style="list-style-type: none">• Reduce repeat monitoring for PWS $\leq 1,000$ from 4 samples to 3• Systems serving > 1000 must still collect 3 repeat samples• GW PWS must take a triggered source sample at same time as repeat sampling

Additional Routine Monitoring

Current TCR

- PWS taking <5 routine samples per month (PWS serving $\leq 4,100$) must take at least 5 routine samples in the month after a TC+ sample

Revised TCR

- For PWS sampling quarterly, reduces the number of samples required the month after a TC+ from 5 to 3
- For PWS sampling monthly, no extra routine sampling is required

Investigations and Corrective Action

- Since TC indicates a potential pathway of contamination into the system, the RTCR takes a preventative approach by requiring an investigation after a confirmed TC or EC+
- Two levels of investigation: Level 1 and Level 2
- On-site inspection – identify **sanitary defects** that may allow pathway for contamination
- Corrective action when a sanitary defect is found after a TC or EC+ can prevent future incidents of contamination and/or waterborne pathogens.

Investigation Elements – Levels 1 & 2

Current TCR	Revised TCR
<ul style="list-style-type: none">• None required	<ul style="list-style-type: none">• Atypical events that may affect distributed water quality or indicate that distributed water quality was impaired• Changes in distribution system maintenance and operation that may affect distributed water quality, including storage water• Source and treatment considerations that bear on distributed water quality• Existing water quality monitoring data• Inadequacies in sample sites, sampling protocol, and sample processing

Level 1 Coliform Investigation

Current TCR	Revised TCR
<ul style="list-style-type: none">• None required	<ul style="list-style-type: none">• Called Assessments by EPA• Conducted by the PWS• Must be completed within 30 days• A basic examination of the source water, treatment, distribution system and relevant operational practices• Includes likely cause, corrective action plan, and schedule.• Form will be available on DWS website

Level 1 Coliform Investigation, cont'd

Current TCR	Revised TCR
<ul style="list-style-type: none">• None required	<ul style="list-style-type: none">• <u>Triggers:</u><ul style="list-style-type: none">• For a system collecting at least 40 samples per month, more than 5.0% of samples collected are TC+• For a system collecting few than 40 samples per month, more than 1 sample is TC+• The PWS fails to take every required repeat sample after any single routine TC+• The TC+ sample is not analyzed for <i>E.coli</i>

Level 2 Coliform Investigation

Current TCR	Revised TCR
<ul style="list-style-type: none">• None required	<ul style="list-style-type: none">• A more in-depth examination of the system and its monitoring and operational practices• Includes likely cause, corrective action plan, and schedule.• Must be completed in 30 days• Conducted by the Regulating Agency (DWS, County, Ag)

Level 2 Coliform Investigation, cont'd

Current TCR	Revised TCR
<ul style="list-style-type: none">• None required	<ul style="list-style-type: none">• <u>Triggers:</u><ul style="list-style-type: none">• Violation of the MCL for <i>E. coli</i><ul style="list-style-type: none">- TC+ routine plus EC+ repeat- EC+ routine plus TC+ (or EC+) repeat- Failure to take all repeats following a routine EC+• Two Level 1 triggers in a 12 month period

Level 1 Coliform Investigation Form

Oregon Health Authority, Drinking Water Services

PWS Name:		PWS ID #:	41
	Name	Telephone #	
Operator in Direct Responsible Charge			
Person(s) that collected samples if different than above			
Date of Investigation:			

INVESTIGATION DETAILS

Did any of the following events occur prior to collection of the positive total coliform samples?	Yes/No	N/A	If Yes, describe issue
1. Loss of pressure anywhere in the system	Y <input type="checkbox"/> N <input type="checkbox"/>		
2. Maintenance on the system that could have introduced contamination	Y <input type="checkbox"/> N <input type="checkbox"/>		
3. Repair of broken water lines	Y <input type="checkbox"/> N <input type="checkbox"/>		
4. New water lines or service connections added to the system	Y <input type="checkbox"/> N <input type="checkbox"/>		
5. Vandalism or unauthorized access to facilities	Y <input type="checkbox"/> N <input type="checkbox"/>		
6. Water line flushing or fire fighting event	Y <input type="checkbox"/> N <input type="checkbox"/>		
7. Low chlorine or chloramine residual anywhere in the system	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
8. Failure of chlorination/UV equipment or minimums not met	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
9. New or different source of water introduced (example: backup well)	Y <input type="checkbox"/> N <input type="checkbox"/>		
10. Loss of electrical power	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
11. Unprotected connection to non-potable water discovered (example: private well, irrigation line, fire sprinkler system)	Y <input type="checkbox"/> N <input type="checkbox"/>		
12. Failure to test all backflow prevention devices within the last year	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
13. Discovery of water system components submerged in water (example: well or valves in a flooded vault)	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
Wells & Springs - Inspect each groundwater source for physical defects and report:	Yes/No	N/A	If Yes, describe issue
1. Cracks or holes in well seal or casing	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
2. Repair/replacement of well/spring components (example: well pump)	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
3. Wellhead flooded or water puddled near well	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
4. Screen for well vent missing or damaged	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
5. Feces, fecal source or other unsanitary conditions at the well/spring	Y <input type="checkbox"/> N <input type="checkbox"/>		
6. Leaking sewer lines or septic tanks near well/spring	Y <input type="checkbox"/> N <input type="checkbox"/>		
7. Cracks or holes in springbox	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
8. Water flowing or puddled on the ground around springbox	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	

Level 1 Coliform Investigation Form

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Storage Tanks - Inspect each storage tank for physical defects and report:	Yes/No	N/A	If Yes, describe issue
1. Vent screens missing or damaged	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
2. Roof access hatch or other openings poorly or not sealed	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
3. Screen or flap valve on overflow pipe outlet missing or damaged	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
4. Tank in poor condition	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
5. Tank has not been cleaned in recent memory	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
6. Presence of contamination in tank (example: dead animals, insects)	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
7. Recent maintenance or work done on the tank	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
Sampling Protocol - Review and report:	Yes/No	N/A	If Yes, describe issue
1. Tap flushed for less than 3 minutes	Y <input type="checkbox"/> N <input type="checkbox"/>		
2. Aerator, screen, hose, or other attachment present during sampling	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>	
3. Leaky or swivel faucet used	Y <input type="checkbox"/> N <input type="checkbox"/>		
4. Samples not kept cool during storage/transportation	Y <input type="checkbox"/> N <input type="checkbox"/>		
5. Inside of bottle/lid touched or lid set down	Y <input type="checkbox"/> N <input type="checkbox"/>		
6. Heavy rainfall or wind at time of sampling	Y <input type="checkbox"/> N <input type="checkbox"/>		
7. Sampled at site not on sampling plan or at a previously unused site	Y <input type="checkbox"/> N <input type="checkbox"/>		
8. Other sampling problems	Y <input type="checkbox"/> N <input type="checkbox"/>		
Other	Yes/No		If Yes, describe issue
Any other issues/problems/sources of contamination that may have caused the positive coliform result	Y <input type="checkbox"/> N <input type="checkbox"/>		

SUMMARY: Based on the results of your investigation and any other available information, what do you believe to be the cause(s) of the positive total coliform sample(s) from your water system? (Do not leave blank)

CORRECTIVE ACTIONS: What actions have you taken to correct the above mentioned issue(s)? (Do not leave blank)

CERTIFICATION: I certify that the information submitted in response to the questions above is accurate to the best of my knowledge.

NAME: _____

TITLE: _____

DATE: _____

Additional comments:

Level 2 Coliform Investigation Form

Oregon Health Authority, Drinking Water Services

PWS Name:		PWS ID #:	41
	Name	Telephone #	
Operator in Direct Responsible Charge (DRC)			
Person that collected samples if different than DRC			
Date of Investigation:			

INVESTIGATION DETAILS

Groundwater Source Inspect each groundwater source for physical defects and report:	Well/Spring Name	Well/Spring Name	Well/Spring Name	Well/Spring Name	N/A	If Yes, describe issue
1. Cracks or holes in well seal or casing	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
2. Wellhead lacks a watertight seal	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
3. Screen for well vent missing or damaged	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
4. Wellhead subjected to flooding or standing water near well	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
5. Leaking sewer lines or septic tanks near well/spring	Y <input type="checkbox"/> N <input type="checkbox"/>					
6. Feces, fecal source observed near well/spring	Y <input type="checkbox"/> N <input type="checkbox"/>					
7. Unsanitary conditions at the well/spring	Y <input type="checkbox"/> N <input type="checkbox"/>					
8. Contamination during pump repair/replacement or other wellhead/spring repair	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
9. Use of an unapproved or untested source	Y <input type="checkbox"/> N <input type="checkbox"/>					
10. Indication of surface water entering springbox	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
11. Cracks or holes in springbox	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				

Treatment and Disinfection Inspect each treatment plant for physical defects and report:	Plant Name	Plant Name	Plant Name	Plant Name	N/A	If Yes, describe issue
1. Inability to maintain residual throughout the distribution system	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
2. Failure of disinfection equipment	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
3. Failure to monitor and replace chlorine supply	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
4. Improper chlorine residual measurements (method or frequency)	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
5. Failure to meet required minimum chlorine residual at the entry point (GW only)	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
6. Failure to meet CTs at all times (SW only)	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
7. Failure to meet turbidity standards (SW only)	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				
8. Failure to meet filtration requirements (SW only)	Y <input type="checkbox"/> N <input type="checkbox"/>	<input type="checkbox"/>				

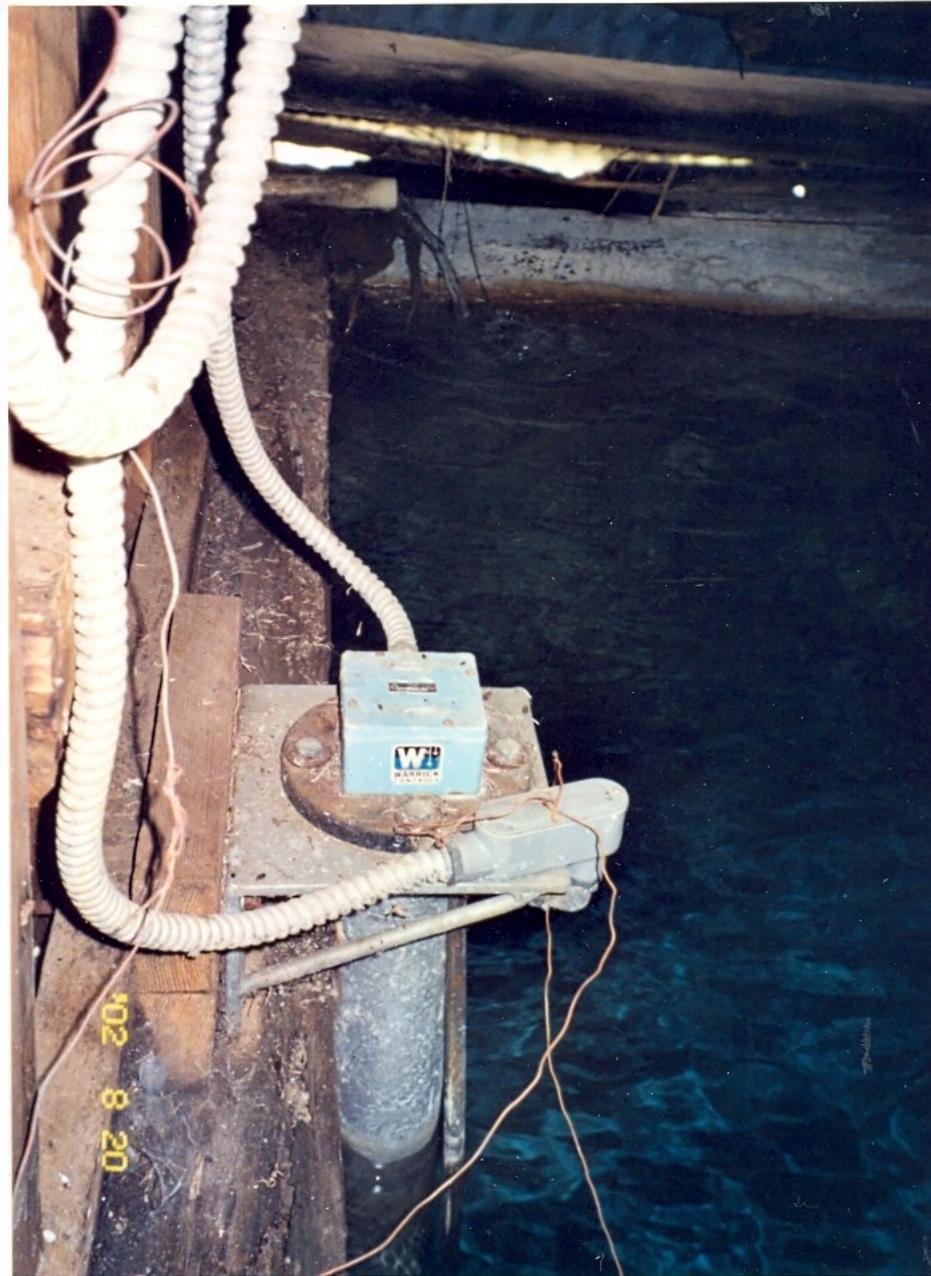
Rev. 12/31/14

Investigation includes review of incidents that may introduce contamination to distribution system

Main Break and Repair



Sanitary
defect:
Gaps in
reservoir
roof



Sanitary defects: (L) Standing water near well, (R) Wellhead not watertight



Mice in the tank ☹️



Corrective Action

- Preventative approach
- Total coliform can indicate a potential pathway exists through which fecal contamination can enter the distribution system.
- On-site inspection of the system is necessary to look for sanitary defects that may allow the pathway.
 - Level 1 and Level 2 Coliform Investigations (more later)
- Defects found must be corrected (eliminate the pathway).

Corrective Action Requirements

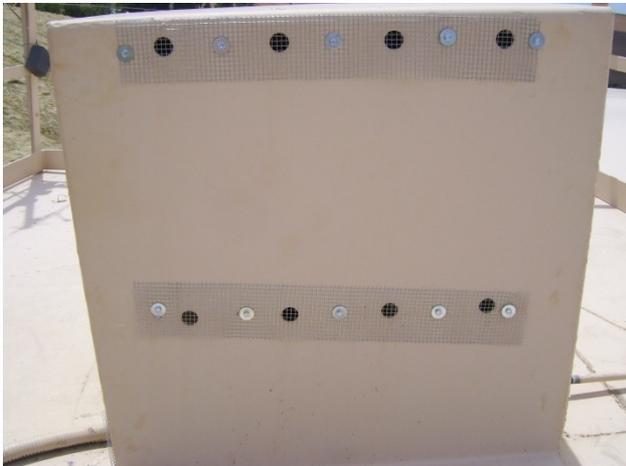
Current TCR	Revised TCR
<ul style="list-style-type: none">• None required	<ul style="list-style-type: none">• The PWS must correct all sanitary defects found during the investigation• Sanitary defects and corrective actions must be described in the Investigation form• The PWS must submit the form to the State within 30 days of the investigation trigger• A timetable for any corrective actions not already completed must also be indicated in the form; DWS must agree• DWS determines if the investigation is sufficient

Corrective action: Flap valve on reservoir overflow



(Enter) Division of Office (mixed case)

Owl nest!



(Enter) DEPARTMENT (ALL CAPS)
(Enter) Division or Office (Mixed Case)

Increased Monitoring

Current TCR	Revised TCR
<ul style="list-style-type: none">• No criteria for remaining on or losing reduced monitoring	<ul style="list-style-type: none">• NCWS (GW) $\leq 1,000$ increase from quarterly to monthly monitoring if they meet these criteria:<ul style="list-style-type: none">• Triggered Level 2 investigation or two Level 1 investigations in 12 months• <i>E. coli</i> MCL violation• Treatment Technique violation• Two RTCR monitoring violations with 12 months if on quarterly monitoring• Stringent criteria to return to quarterly monitoring

Seasonal Systems

Current TCR	Revised TCR
<ul style="list-style-type: none">• Seasonal PWS has the same requirements as other systems of the same size and type	<ul style="list-style-type: none">• Seasonal PWS is defined as “a water system operated as a non-community public water system only part of each year and that is shut down at the end of each operating season.”• Seasonal PWS that de-pressurizes during off-season must demonstrate completion of a start-up procedure• Seasonal systems that de-pressurize must sample MONTHLY

Coliform Sample Plan

Current TCR	Revised TCR
<ul style="list-style-type: none">• All systems must have a coliform sampling plan	<ul style="list-style-type: none">• Routine sites must be identified on plan• Site plan may propose repeat sites other than 5 up- and down- stream<ul style="list-style-type: none">- alternative site that represents a likely pathway (such as reservoir outlet)- all sites must represent WQ in system• Dedicated sampling stations acknowledged• DWS must review and approve sampling plans (during survey)

You need to revise your plan if you operate:

- A Community system serving less than 4100 population
 - No longer need to take additional routines after a TC+
 - If serve < 1000, need 3 repeats instead of 4
- A PWS sampling for coliform quarterly
 - Number of temporary routine samples reduced to 3 the following month
- Any system who wants to change the location of their repeat sampling sites to a location that better represents water quality, rather than 5 connections up/downstream.
- A Seasonal water system that depressurizes part of the year
 - Need to sample for coliform monthly
- Plan must be current / accurate on April 1, 2016!

Violations, Public Notice (PN), and Consumer Confidence Reports (CCR)

Current TCR	Revised TCR
<ul style="list-style-type: none">• Violation of EC/FC MCL – acute violation, Tier 1 PN• Violation of monthly TC MCL – Tier 2 PN• M&R violation – Tier 3 PN• PWS must notify State re: single EC+/FC results	<ul style="list-style-type: none">• Violation of EC MCL – Tier 1 PN (boil)• Failure to take repeat samples following a EC+ routine sample is also a MCL violation (boil)• PWS must notify DWS re: single EC+ result• When a PWS fails to conduct required Investigation or Corrective Action – PN within 30 days• M&R violations – PN within a year• PN/CCR language: TC health effects language changed to reflect failure to conduct Investigation or Corrective Action

Persistent Total Coliform

- Water suppliers must install and utilize treatment for disinfectant residual maintenance if:
 - 3 or more coliform investigations are triggered within a rolling 12-month period or 4 or more coliform investigations are triggered within a rolling 2-year period
 - Coliform investigations triggered for monitoring violations do not count.
 - Treatment must be installed and operating within six months unless the Authority approves an alternate schedule.
 - Disinfectant residuals must be monitored twice per week and with coliform sampling.

Reduced Monitoring option

- The Federal Rule allows if the following are true:
 - An annual site visit for non-community systems, certified operator for community systems
 - A clean compliance history for at least 12 months
 - Free of sanitary defects
 - Have a protected source and meet construction standards
- Reduced frequency:
 - NC systems < 1000 to sample annually
 - Community systems to sample quarterly
- Oregon chose not to implement this option (TCR or RTCR)
 - Feedback from operators: variability of water quality, minimal applicability, cost of site visit.

Qualitative Benefits

EPA is unable to quantify health benefits - Insufficient data reporting the co-occurrence of the fecal indicator *E. coli* and pathogenic organisms

Qualitative evaluation of benefits:

- An **increase** in investigations and corrective actions should lead to a **decrease** in TC and *E. coli* occurrence
- A **decrease** in *E. coli* occurrence may be associated with a **decrease** in pathogenic bacteria, virus, and protozoa from fecal contamination and therefore an **increase** in public health protection.

Qualitative Benefits, cont'd

- Non-quantified non-health benefits include:
 - increased operator knowledge of system operation,
 - avoided costs of outbreaks,
 - accelerated maintenance and repair, and
 - reductions opportunities to avoid confirmation
 - with the TCR, systems could avoid taking repeats after an EC+ and only get a M/R violation; under the RTCR that would be an EC MCL violation requiring a tier 1 PN (boil and Level 2 investigation)

POP QUIZ!

True or false:

An operator must conduct a Level 1 Coliform Investigation whenever a routine sample is positive for total coliform.

False!

2 or more (or >5%) samples need to be positive to trigger the Investigation. (However, failure to collect repeat samples triggers an Investigation.)

POP QUIZ!

True or false:

A Level 2 Coliform Investigation must be done whenever a routine sample is positive for *E.coli*.

False!

Repeat sample must be TC+ or EC+ to trigger the Investigation. (However, failure to collect repeat samples triggers an Investigation.)

POP QUIZ!

True or False:

The Lab and the operator still need to contact the State or County within 24 hours if you get a TC+.

True!

The regulating agency needs to know so we can review next steps with the operator. Also, the direct lab reporting requirement still applies.

POP QUIZ!

The RTCR (Choose all that apply):

A. Requires all systems to monitor more frequently.

B. Prevents seasonal systems from de-pressurizing their lines during the off season.

C. Emphasizes resolution of problems rather than more sampling.

Answer: C

Be ready April 1, 2016!

- Check your coliform sampling plan
 - Revise if necessary
 - Train all employees on proper sampling protocol
 - Ensure lab/sampler is following plan and protocol
- Write procedure on how Level 1 investigations will be completed
 - Consider trial run prior to April 1, 2016
- Establish routine inspections of system to look for sanitary defects (and significant deficiencies)
 - Monthly or Quarterly?

Resources

- Pipeline newsletter articles:
 - Rule Overview, spring 2015
 - Details of rule (coliform investigations, sampling plans), Fall 2015
 - Seasonal system requirements, Spring 2016
- Watch for:
 - New coliform sampling plan template for PWS < 1000 pop, website Fall 2015
 - Seasonal system checklist, direct mail
 - Coliform investigation forms on website, Summer 2015

Timeline

- Draft rules to EPA, February 2015
- Training ongoing around the state
- Proposed Rule Hearings, October 2015
- Adopt rules, late 2015
- Oregon gets Primacy, early 2016
- Rule becomes effective April 1, 2016

Questions about RTCR?



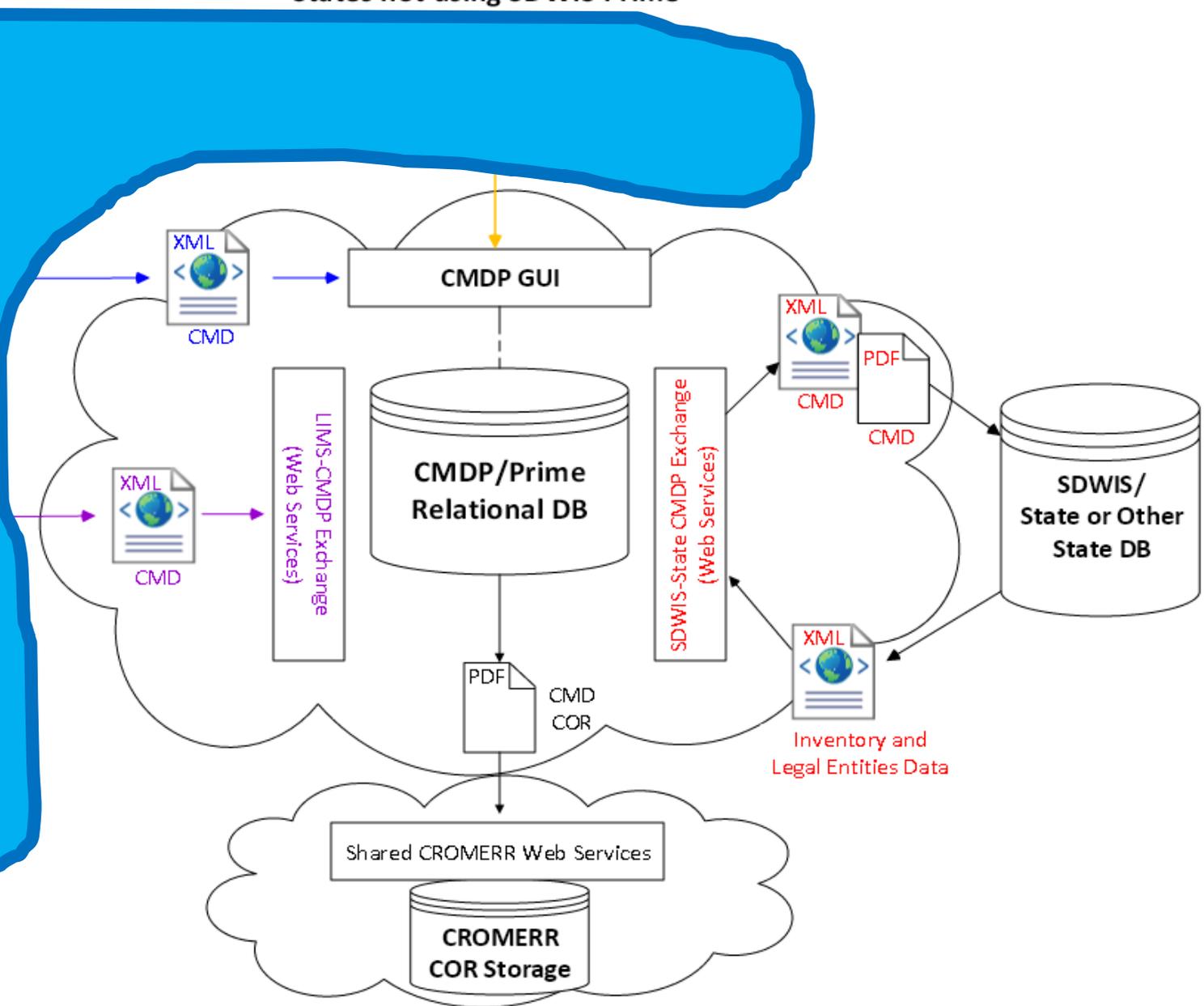
- CMDP -

Compliance Monitoring Data Portal

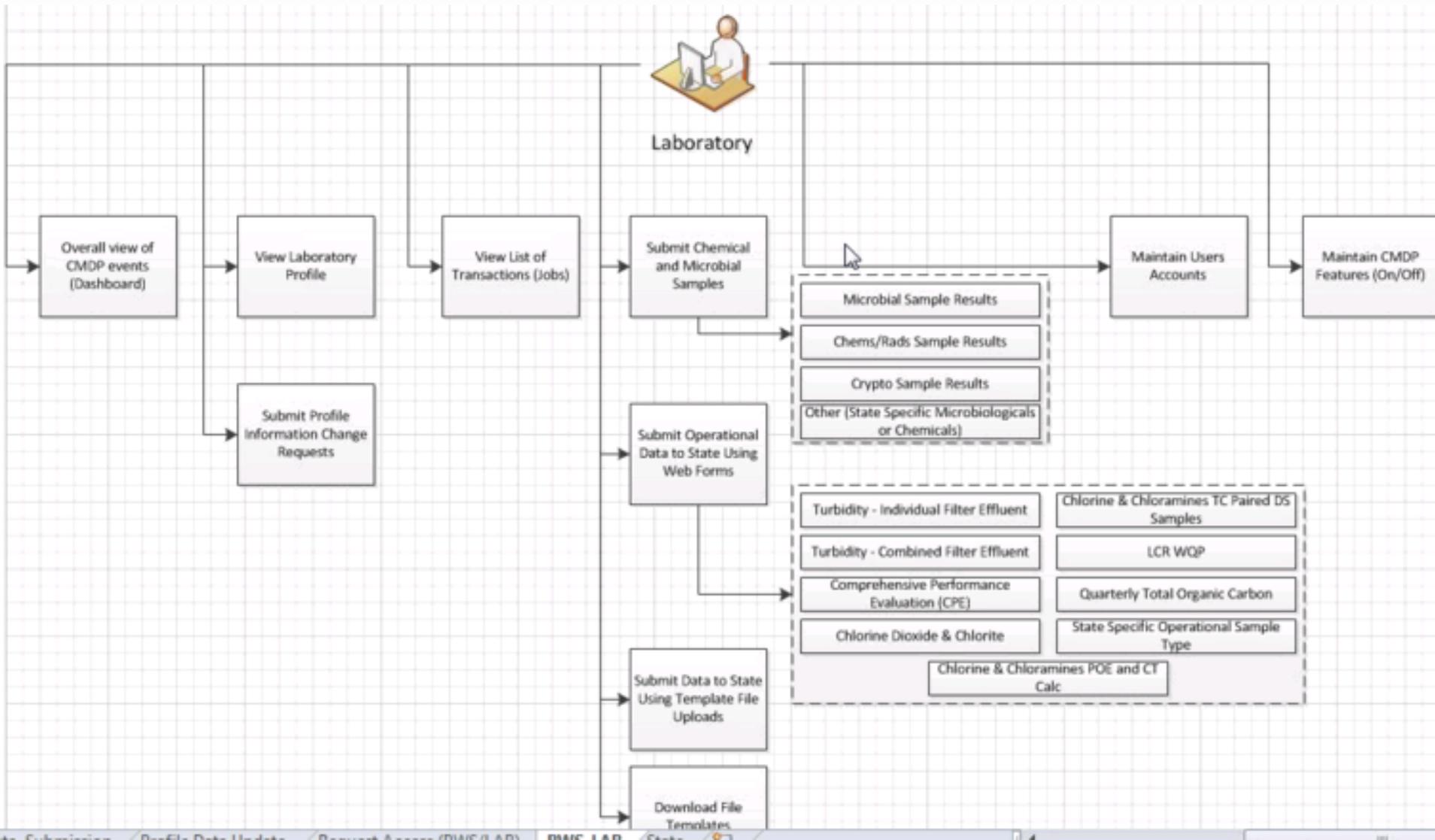
- Goal: to have 1 national standard method to submit data to state Drinking Water Programs.
- 3 Methods to have the data submitted:
 - Directly from LIMS database
 - Direct data entry (i.e. lab staff logs into webpage and enters data)
 - Submittal of an approved Excel Template that will automatically transfer data into database
- After passing data quality checks, data will move through portal and into the state's database – a CROMERR approved copy will also be stored.

CMDP Reporting Process Flow Diagram

States not using SDWIS Prime



Flow chart



Lab Dashboard

CMD PORTAL

http://www.cmdp.com

Home

Laboratory Profiles

Batch File Uploads

Individual Records

System Administration

CMDP

Login: emily.smith@lababc.com

Organization: Laboratory ABC

Primary Agency: Virginia

[Log Out](#)

Useful Links

[state.deq.gov](#)

[nrca.org](#)

[epa.gov](#)

etc.

My Laboratories

Lab ID	Lab Name	Address	Status
LBVA01	Laboratory ABC	123 Main Street Fairfax, VA, 22030	Active

Example

My Work in Progress

ID	Category	Date	Time	WS ID	Status
SP01	Microbial	12/4/2014	13:34	VA0192030	In Progress
					In Progress
					In Progress
					In Progress
					In Progress

Grid will display all records (Sample Results/Operational Data) saved with an "In Progress Status"

Example

Changed Requests (Submitted to State)

Request ID	Date	Organization	User ID	Status
001	12/1/2014	Laboratory ABC	janesmith	Pending

User can change the State to which they are submitting data. This feature is important for multi-state laboratories.

Example

All File Submissions (to State)

Job ID	File Name	User ID	Date	Status

Will display all submissions made by the water system

Example

Pending User Requests

<input type="checkbox"/>	User ID	First Name	Last Name	Organization	Roles	Status
<input type="checkbox"/>	john@lababc.com	John	Doe	LBVA01-Laboratory ABC	Preparer	Pending

Available Only For Administrators

Example

- CMDP -

Compliance Monitoring Data Portal

- Webinars in February 2015 – outline of process that states, labs or water systems will use to submit data
- Webinar in July 2015 – For LIMS providers – how to structure the data set for submittal
- Software development in 6 “Sprints” between 3/20/15 and 12/21/2015. 2nd Sprint started 5/18/15.
- Testing and End User Assessments
- Goal: to have bugs fixed by 9/30/16



Questions?



Chuck Michael

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Oregon
Health
Authority

