REVISED TOTAL COLIFORM RULE (RTCR) – LEVEL 1 ASSESSMENT
Groundwater System with Chlorination and Storage

This form is intended to assist public water systems in completing the investigation required by the federal revised Total Coliform Rule (rTCR) [effective April 1, 2016] and may be modified to take into account conditions unique to the water system. **To avoid a violation, an assessment report must be completed and returned to your local regulatory agency no later than 30 days after the trigger date.**

ADMINISTRATIVE INFORMATION

Entity Name: PWSID NUMBER: System Type:	Name	System Address & Email	Telephone Number
Operator in Responsible Charge (ORC)			
Person that collected TC samples			
System Owner			
Certified Laboratory for Microbiological Analyses			
Date Investigation Completed:			
Month(s) of Coliform Treatment Technique Trigger:			

INVESTIGATION DETAILS

SOURCE	**WELL (name)**	**WELL (name)**	**WELL (name)**	**WELL (name)**	**COMMENTS** (attach additional pages if needed)
1. Inspect each well head for physical defects and report					
a. Is raw water sample tap upstream from point of disinfection?					
b. Is wellhead vent pipe screened?					
c. Is wellhead seal watertight?					
d. Is well head located in pit or is any piping from the wellhead submerged?					
e. Does the ground surface slope towards well head?					
f. Is there evidence of standing water near the wellhead?					
g. Are there any connections to the raw water piping that could be cross connections? (describe all connections in comments)					
h. Is the wellhead secured to prevent unauthorized access?					
i. To what treatment plant (name) does this well pump?					
j. How often do you take a raw water total coliform (TC) test?					
k. Provide the date and result of the last TC test at this location					

TREATMENT	**PLANT (NAME)**	**PLANT (NAME)**	**PLANT (NAME)**	**PLANT (NAME)**	**COMMENTS** (attach additional pages if needed)
1. If you provide continuous chlorination, was there any equipment failure?					
a. Did this result in a loss of chlorine residual at the entry point to distribution system? If Yes, how long?					
b. Was emergency chlorination initiated? If Yes, how long?					
c. Did the distribution system lose chlorine residual?					
2. If you **do not** provide routine chlorination, was emergency chlorination initiated? If Yes, when?					

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TREATMENT	**PLANT (NAME)**	**PLANT (NAME)**	**PLANT (NAME)**	**PLANT (NAME)**	**COMMENTS** (attach additional pages if needed)
3. Inspect each point where disinfectant is added and report					
a. Is the disinfectant feed pump feeding disinfectant?					
b. What is the feed rate of disinfectant in ml/minute?					
c. What is the concentration of the disinfectant solution being fed? (percent or mg/l of chlorine as HOCl)					
d. By what method was the concentration of solution determined? (ex: measured, manufacturer's literature)					
e. What is the age (days) of the disinfectant solution currently being used at this treatment location?					
f. What is the raw water flow rate at the point where disinfectant is added in gallons per minute?					
g. What is the **total** chlorine residual measured immediately downstream from the point of application?					
h. What is the **free** chlorine residual measured immediately downstream from the point of application?					
i. What is the contact time in minutes from the point of disinfectant application to the first customer?					

SAMPLE SITE EVALUATION (Complete for all TC+ or EC+ findings)	Routine Site TC+ or EC+	Upstream Site	Downstream Site	4th Repeat Sample (specify)
1. What is the height of the sample tap above grade? (inches)				
2. Is the sample tap located in an **exterior** location or is it protected by an **enclosure**?				
3. Is the sample tap threaded, have a swing arm (kitchen sink) or an aerator (sinks)?				
4. Is the sample tap in good condition, free of leaks around the stem or packing?				
5. Can the sample tap be adjusted to the point where a good laminar flow can be achieved without excessive splash?				
6. Is the sample tap and areas around the sample tap clean and dry (free of animal droppings other contaminants or spray irrigation systems)?				
7 Is the area around the sample tap free of excessive vegetation or other impediments to sample collection?				
8. Describe how the tap was treated in preparation for sample collection (ran water, swabbed with disinfectant, flamed, etc.).				
9. Is this sample tap designated on the bacteriological sample siting plan (BSSP) as a routine or repeat site?				

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SAMPLE SITE EVALUATION (Complete for all TC+ or EC+ findings)	Routine Site TC+ or EC+	Upstream Site	Downstream Site	4th Repeat Sample (specify)
10. Were the samples delivered to the laboratory in a cooler and within the allowable holding time?				
11. What were the weather conditions at the time of the positive sample (rainy, windy, and sunny)?				

STORAGE	**TANK (name)**	**TANK (name)**	**TANK (name)**	**TANK (name)**	**COMMENTS**
1. Is each tank locked to prevent unauthorized access?					
2. Are all vents of each tank screened down-turned to prevent dust and dirt from entering the tank?					
3. Is the overflow on each tank screened?					
4. Are there any unsealed openings in the tank such as access doors, water level indicators hatches, etc.?					
5. Is the roof/cover of the tank sealed and free of any leaks?					
6. Is the tank above ground or buried?					
a. If buried or partially buried, are there provisions to direct surface water away from the site.					
b. Has the interior of the tank been inspected to identify any sanitary defects, such as root intrusion?					
7. Does the tank "float" on the distribution system or are there separate inlet and outlet lines?					
8. What is the **measured** chlorine residual (total/free) of the water exiting the storage tank **today**?					
9. What is the volume of the storage tank in gallons?					
10. Is the tank baffled?					
11 Prior to the TC+ or EC+, what was the previous date item #1-6 were checked and documented?					

PRESSURE TANK	**TANK (name)**	**TANK (name)**	**TANK (name)**	**TANK (name)**	**COMMENTS**
1. What is the volume of the pressure tank?					
2. What is the age of the pressure tank?					
3. Is the pressure tank bladder type or air compressor type?					
4. Did the pressure tank(s) deviate from normal operating pressure?					
5. Is the compressor pump running more often than normal?					
6. Is the tank bladder(s) is water logged?					

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PRESSURE TANK	TANK (name)	TANK (name)	TANK (name)	TANK (name)	COMMENTS
7. Is the tank(s) damaged, rusty, leaking, or has holes?					
8. Was there any recent work performed?					
9. Is the air relief vent (if there is one) on the pressure tank screened and facing downwards?					
10. Can the inside of the pressure tank be visually inspected thru an inspection port? If so, when was the last time it was inspected?					

DISTRIBUTION SYSTEM	SYSTEM RESPONSES
1. What is the minimum pressure you are maintaining in the distribution system?	
2. Did pressure in the distribution system drop to less than 5 psi prior to positive bacti?	
3. Has the distribution system been worked on within the last week? (taps, hydrant flushing, main breaks, mainline extensions, etc.) If yes, provide details.	
4. Are there any signs of excavations near your distribution system not under the direct control of your maintenance staff?	
5. Did you inspect your distribution system to check for mainline leaks? Do you or did you have a mainline leak?	
6. If there was a mainline leak, when was it repaired?	
7. On what date was the distribution system last flushed?	
8. Is there a written flushing procedure you can provide for our review?	
9. Do you have an active cross-connection control program?	
10. What is name & phone number of your Cross-Connection Control Program Coordinator?	
11. Have all backflow prevention devices in the distribution system been tested annually and repaired/replaced if they did not pass and retested afterwards?	
12. When was the last physical survey of the system done to identify cross-connections?	

BOOSTER STATION	Response
1. Do you have a booster pump? How many?	
2. Do you have a standby booster pump if the main pump fails?	
3. Prior to bacteriological quality problems, did your booster pump fail?	
4. Do you notice standing water, leakage at the booster station?	

GENERAL OPERATIONS:	Response
1. Has the sampler(s) who collected the samples received training on proper sampling techniques? If yes, please indicate date of last training.	
2. Does the water system have a written sampling procedure and was it followed?	

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GENERAL OPERATIONS:	Response
3. Where there any power outages that affected water system facilities during the 30 days prior to the TC+ or EC + findings?	
4. Were there any main breaks, water outages, or low pressure reported in the service area from which TC+ or EC+ samples were collected?	
5. Does the system have backup power or elevated storage?	
6. During or soon after bacteriological quality problems, did you receive any complaints of any customers' illness suspected of being waterborne? How many?	
7. What were the symptoms of illness if you received complaints about customers being sick?	

SUMMARY: Based on the results of your assessment and any other available information, what deficiencies do you believe to have caused the positive total coliform sample(s) within your distribution system? *(DO NOT LEAVE BLANK)*

Deficiency #	Deficiency Description
1.	
2.	
3.	
4.	
5.	

CORRECTIVE ACTIONS: What actions have you taken to correct the above mentioned deficiencies? If additional time is needed to correct a deficiency, indicate the date that it will be corrected. *(DO NOT LEAVE BLANK)*

Deficiency #	Corrective Action	Completion/Proposed Date
1.		
2.		
3.		
4.		
5.		

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CERTIFICATION: I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

NAME:_____ **TITLE:**_____ **DATE:** _____

Upon review of the Level 1 Assessment Form, the local regulatory agency may require submittal of the following additional information:

- Sketch of system showing all sources, all treatment and chlorination locations, storage tanks, microbiological sampling sites and general layout of the distribution system including the location of all hazardous connections such as the wastewater treatment facility.
- A set of photographs of the source, pressure tanks, and storage tanks in the system may be submitted if they would show that the contamination is directly related and changes have been made since the last inspection by the local regulatory agency.
- Name, certification level and certificate number of the Operator in Responsible Charge.
- Copy of the last cross connection survey performed that identifies the location of all unprotected cross connections.