



EPA Region 8 Drinking Water Unit Finished Water Storage Tank Checklist

For either a **Tank Inspection/Cleaning Report** or an **Unknown Integrity Significant Deficiency**

Fill out one checklist per storage tank & submit labeled photos of each tank component with this form.

- ☐ **Inspection/Cleaning Checklist:** Submit labeled photos of each cleaning/disinfection step.
- ☐ **Unknown Integrity Checklist:** Submit labeled photos of each tank component inspected.

PWS Name:	PWS ID:		
Tank Name:	Tank ID:		
Proposed Cleaning/Inspection Date:	Actual Cleaning/Inspection Date:		
Name of Person Filling Out Form:	Title of Person Filling Out Form:		
I certify that this information is complete & accurate:		Date:	

Inspector Qualifications: fill out regardless of which type of Checklist you are completing (answers to questions in this section should be "yes")

Name & contact information of inspector (if water system personnel) or inspection company:

- | | |
|--|---|
| ☐ Yes ☐ No | Has the inspector completed confined space training? |
| ☐ Yes ☐ No | Did the inspector have a confined space entry permit? |

I. Inspection/Cleaning Checklist

Cleaning & Disinfection Methods Used (See attached summary of AWWA C652 Disinfection Methods)

AWWA C652 states "The record of compliance shall be the bacteriological test results certifying that the water held in the storage facility is free of coliform bacteria contamination."

Which cleaning method specified in AWWA C652 was used?

- ☐ Tank Drain & Clean (attach System's Process report with Photos)
- ☐ Divers (attach Diver Report with Photos)

If using a dive team, attach copies of all appropriate certifications.

Attach copies of all chlorine residual, turbidity & bacteriological analyses associated with this cleaning & inspection.

Which of the 3 basic disinfection methods of AWWA C652 was used (see attached simplified AWWA C652 instructions)?

- ☐ Method 1 ☐ Method 2 ☐ Method 3

Tank Cleaning Details

Describe any other items noted by the inspector that could cause finished drinking water contamination:

What repairs are suggested to prevent or eliminate the source of contamination?

Sediment depth in tank before cleaning (inches):

List objects found in the tank that may have introduced contamination into the system (e.g., debris, animals, etc):

If animal carcasses or other animal debris were found, was EPA notified immediately? ☐ Yes ☐ No
If not, why not?

Was the entry point for the carcass or debris eliminated? ☐ Yes ☐ No
Explain:

Attach tank as-built drawings or a sketch of the tank's configuration & dimensions including the location, layout & dimensions of all major components (i.e., access hatch, vent, overflow, drain)

Overall Tank Condition				
Significant Deficiency		Required Correction	Proposed Completion Date	Actual Completion Date
☐ Yes ☐ No	Are there issues with the tank foundation? Describe:	If "Yes", what repairs does tank inspector recommend?		
☐ Yes ☐ No	Does the tank appear structurally sound? If not, describe:	If "No", what repairs does the tank inspector recommend?		
☐ Yes ☐ No	Are there tank unprotected openings (breaches, leaks, daylight coming through tank in spots, etc).	If "Yes", explain type of breach & how it will be repaired.		
☐ Yes ☐ No	Is there corrosion developing in or on the tank?	If "Yes", explain where the corrosion is & how it will be repaired.		

AWWA C652 Tank Cleaning & Disinfection Simplified Instructions

All materials used shall comply with Safe Drinking Water & other federal regulation requirements for potable water systems. Water used for cleaning, solution preparation, & tank filling shall be potable water.

Scaffolding, planks, tools, rags, & other materials that are not part of the structural or operating facilities of the tank shall be removed. Then the surfaces of the walls, floor, & operating facilities of the storage facility shall be cleaned thoroughly using a high-pressure water jet, sweeping, scrubbing, or equally effective means. Any water, dirt, foreign material accumulated in this cleaning operation shall be discharged from the storage facility or otherwise removed.

The chlorine forms that may be used in disinfecting operations are liquid chlorine, sodium hypochlorite solution, or calcium hypochlorite granules or tablets. Wear appropriate Personal Protective Equipment when using these products.

Tank Drain & Clean

AWWA C652 Disinfection – Returning a Tank to Service (Method 1, 2, or 3 is fine)

3 chlorination methods are explained herein. Typically, only 1 method is used, but a combination method is allowable.

Method 1: Chlorination of the full storage facility such that, at the end of the retention period, the water will have a free chlorine residual of ≥ 10 mg/L.

1. Add liquid sodium hypochlorite to the influent pipe while filling, or
2. Place calcium hypochlorite tablets on the tank bottom before filling.
3. Target chlorine residual > 10 mg/L after the retention period:
 - a. 6 hours required for (1)
 - b. 12 hours required for (2)
4. Drain the high chlorine residual water or blend it with distribution system water.
 - a. Must be certain to meet local discharge requirements.
5. Conduct bacteriological testing.
6. If it passes & water is acceptable aesthetic quality, it may be delivered to the distribution system.

Method 2: Spray or paint all storage facility water-contact surfaces with a solution of 200 mg/L available chlorine.

1. Spray solution of 200 mg/L available chlorine onto all surfaces that would be in contact with water
2. Contact time at least 30 minutes
3. Fill any drainpipes with a chlorine solution of 10 mg/L.
4. Fill the storage facility with potable water.
5. Conduct bacteriological testing
6. If it passes & water is acceptable aesthetic quality, it may be delivered to the distribution system.

Method 3: A 2-step chlorination process of the bottom of the storage facility with 50 mg/L available chlorine followed by filling to overflow & maintaining a free chlorine residual of at least 2 mg/L for 24 hours.

1. Add chlorine & water to the storage facility.
 - a. Target initial chlorine dose of 50 mg/L
 - b. Fill approximately 5% of total storage volume
2. Hold for at least 6 hours
3. Fill to overflow level & hold for at least 24 hours.
4. Purge highly concentrated water from the drainpipes.
5. Conduct bacteriological testing
6. If it passes & water is acceptable aesthetic quality & chlorine residual is > 2 mg/L, it may be delivered to the distribution system.

Diver Clean & Inspect

Hold a pre-job meeting with the contractor & facility representatives to ensure clarity on:

- Tank configuration
- Disinfection procedures
- Underwater appurtenances that might be encountered during the dive
- Time restrictions
- Diving conditions
- Safety procedures
- Inspection & cleaning requirements and report generation

Personnel Requirements

Diving clothing must be of the dry-suit type with no imperfections that impair its integrity. Air can be externally supplied or SCUBA. The diver's head must be fully encapsulated with no bare skin exposed.

All personnel on the dive team must be properly trained, including OSHA Confined Space Certification & Red Cross CPR & First Aid certification. Divers must have formal certification of proper training & experience. All certificates should be verified by facility representatives.

All members of the dive team must be healthy & free of any communicable diseases or other health impairments for at least 7 days prior to the dive.

The contractor must have a comprehensive safety manual onsite.

Tank Disinfection Pre-Dive

The tank should be isolated from the water system. Facility representatives must establish the tank water chlorine residual (if storing treated water) & turbidity prior to entry by taking samples from several depths & locations.

Dirt & other material on the tank roof & hatch area can contaminate equipment. Prior to opening the access hatch, the hatch & immediate area must be cleaned of all loose dirt & debris.

All equipment & personnel that will enter the storage tank must be disinfected immediately prior to entry. Any equipment that contacts the tank roof must be disinfected again prior to entry into the water. Disinfection shall be by submersion in, spraying with, or sponging with disinfectant solution with at least 200 mg/L available chlorine.

Tank Disinfection Post-Dive

Samples should be collected for chlorine residual & turbidity during the dive. Satisfactory bacteriological & chlorine residual results are required before the tank can be placed back into service.