Handling & Delivery

A certified water system operator representing the PWS receiving bulk water must be present at the time of delivery. If bulk water is from an approved source that is not a CWS, the bulk water provider needs to provide a copy of the most recent analytical results for the water to the operator representing the PWS during delivery.

Prior to allowing delivery of bulk water into the PWS, the operator representing the PWS receiving the bulk water must measure the free chlorine residual in the bulk water being delivered to ensure that a concentration between 0.2 mg/l and 4.0 mg/l is present in the bulk water. If the free chlorine residual is not in this range, the operator representing the PWS must add the appropriate amount of sodium hypochlorite to make the concentration between 0.2 and 4.0 mg/l.

The concentration of residual chlorine in mg of chlorine per liter of water (mg/l) can be determined by using a test kit, such as the examples shown below. A tablet or powder dissolved in the water sample produces a red color in proportion to the amount of chlorine present. The color can then be measured digitally **(A)**, or the color can be compared with the standard colors on a color wheel **(B)**.

(A)

(B)

Bulk water should be delivered into a storage tank or pumphouse tap. Water delivered directly into a well is a violation of Env-Wq 404 Underground Injection Control.

Notification & Record-Keeping

The owner of the receiving PWS is responsible for keeping proper records and making sure that DES is notified within two business days after emergency bulk water is delivered to customers using the Bulk Water Delivery Notification Form, which can be obtained at http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-18-2.pdf. The form should be signed by the certified operator representing the PWS. This includes, but is not limited to, the following information:

- Written records of the names and contact numbers of the hauler(s) and PWS operator.
- The quantity delivered per trip.
- The source of the water delivered.
- Dates and times of delivery, free chlorine residual at point of delivery.
- Description of tank inspections, cleaning and disinfection methods used.

CWSs shall list any bulk water deliveries in their annual consumer confidence reports.

FOR MORE INFORMATION

Drinking Water and Groundwater Bureau
NH Department of Environmental Services
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095
(603) 271-2472
(603) 271-5171 (Fax)
luis.adorno@des.nh.gov

des.nh.gov

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

NH Dept. of Environmental Services
Drinking Water & Groundwater Bureau

Guidelines for EMERGENCY BULK WATER SUPPLY for Public Water Systems

Guidelines for EMERGENCY BULK WATER SUPPLY

The following guidelines are for public water systems (PWSs) and bulk water haulers that will be receiving or transporting potable water to the public during emergencies. Although the New Hampshire Department of Environmental Services (DES) does not encourage this method of supplying water, trucked water may be the only viable alternative in some situations. When trucking water, there are important considerations for protection of public health.

A PWS or hauler that plans to use trucked water in response to an emergency should first understand current requirements for transporting bulk water [see **Administrative Rule Env-Dw 304** at www.des.nh.gov; quick links "Administrative Rules"].

A certified water system operator representing the PWS receiving bulk water that is from an approved source must be present at the time of bulk water delivery. The operator must also measure the free chlorine residual in the bulk water being delivered to ensure that a concentration between 0.2 mg/l and 4.0 mg/l is present. The PWS must notify DES within two business days after bulk water is delivered to customers.

Sources of Water

An acceptable source of bulk water is defined as finished water from an approved community water system (CWS). Groundwater sources that are not approved CWSs can be used as long as they have been inspected, meet specific sampling requirements and are approved by the DES Drinking Water and Groundwater Bureau (DWGB) prior to use of the source. Surface water cannot be used for emergency bulk water unless it is finished water from an approved CWS.

Transport Equipment

Equipment surfaces that come into contact with water during transport of bulk water must be well maintained and be made of material that is smooth, impervious, nonabsorbent, corrosion-resistant and non-toxic, such as stainless steel. Tanks must be of the type that can be closed to exclude all foreign matter. Vents on tanks should be protected to prevent bulk water contamination during filling and emptying. Bulk water must be stored, transported, and unloaded in a way that prevents contamination.

Tank Sanitation

Before changing the use of a tank from hauling any non-food products, toxic substances, or petroleum products to hauling bulk drinking water, the tank must be cleaned using the following procedures.

- Rinse and flush previous tank products using appropriate sanitation methods.
- Fill tank with water from an approved source.
- Test the tank water for presence of contaminants associated with the products previously stored in the tank and the cleaners used to sanitize the tank.
- Repeat as often as necessary until the testing shows no trace of contaminants.
- Pipes, hoses, fittings, and valves associated with tanks that have hauled these substances must be replaced.
- DWGB must approve the tank prior to its use.

Tanks and equipment that have been used to haul substances other than approved drinking water must be disinfected by one of the following methods.

- A chemical sanitizer having an equivalent bactericidal action to 50 mg/l available chlorine for 2 minutes at 57°F as an immersion or circulating solution for the entire tank volume.
- A chemical sanitizer having an equivalent bactericidal action to 100 mg/l available chlorine at 57°F applied as a spray or fog.
- An ozone water solution with a concentration of 0.1 mg/l of ozone for 5 minutes as an immersion or circulating solution to sanitize the tank.

Amount of Liquid Sodium Hypochlorite (5.25% Available Chlorine) to Obtain Resulting Chlorine Solution

	Amount of Water		
Resulting Solution Concentration (mg/l) ↓	500 gal.	1,000 gal.	5,000 gal.
1	7.5 tsp.	2.5 oz.	12.5 oz.
50	2 qts.	1 gal.	5 gal.
100	1 gal.	2 gal.	10 gal.