

WATER ODOR PROBLEMS CAN BE ALLEVIATED

by The City of Dover Water Department

Do you have an odor problem with your water? Before this question can be thoroughly answered, it is necessary to know how and where Dover gets its water.

Water is supplied from 14 deep wells which produce between 200 and 1,000 gallons per minute for a total capacity of 10 million gallons per day. This is used both for domestic consumption and fire protection. Elevated storage tanks provide an additional 3.6 million gallons. These tanks are connected to the City's 110 miles of distribution system. The wells pump into the distribution system, and the elevated storage tanks float on the distribution system which keeps the water pressure constant. An automatic control system calls for wells to operate when customer demand causes the level to fall in the elevated tanks. The water does not undergo any treatment, but is supplied to the customer as it comes from the wells.

Water supplied by the City of Dover meets all the requirements of the State of Delaware Drinking Water Standards as revised on September 27, 1977, and is continually monitored for quality. There are trace amounts of hydrogen sulfide found in Dover's water which is the cause of the odor (similar to rotten eggs) found in some locations.

The odor problem is more acute in newly built areas and developments and tends to increase in dead-end mains. There are two ways the problem can be alleviated:

1. The City regularly schedules the flowing of fire hydrants and blow offs on dead-end mains.
2. By the customer periodically draining their hot water heater, as it acts as an accumulator causing the problem to magnify.

To assist the customer, the following information is supplied concerning hot water heaters:

It is necessary to be familiar with the construction of the average hot water tank and follow the steps outlined herein to thoroughly drain and purge the hot water heater of accumulated noxious and odorous material.

As shown in the sketch on the following page, a typical hot water heater has three design features that make it difficult, but not impossible, to minimize the odor problem.

The cold water supply line enters the top of the tank and extends to the bottom where the cold water enters. This is to prevent diluting the hot water which has risen to the top of the tank for use. It also makes it impossible to drain the tank without turning off the cold water supply. If it is not turned off, the hot odorous water which has accumulated excess hydrogen sulfide will stay at the top of the tank.

The hot water discharge line extends down into the tank several inches to prevent air or floating material from entering the hot water. It also acts as a reserve for odorous water and makes it

impossible to drain and purge the tank completely by simply opening a hot water tap and letting the water run.

Some of the newer models of hot water tanks are built with anode rods inside the tank to give cathodic protection. These can have a reaction with the water which will increase the odor problem. Dover's water is not corrosive, and the anode rods can be removed.

The following 12 steps are instructions for flushing and cleaning of hot water heaters to eliminate accumulations of sediment and/or odor producing material.

Step 1. Turn off the power source to the hot water tank, i.e., electrical circuit breaker, gas valve or oil burner, or safety switch. *NOTE: If tank is drained with power still on, MAJOR damage will occur.*

Step 2. If possible, fill bathtubs and basins with hot water to be used. Run remaining hot water in tank to waste until water temperature is lukewarm.

Step 3. Turn off the cold water fill valve to the hot water tank (C).

Step 4. Connect ordinary garden hose to the hot water tank drain valve (J).

Step 5. Route hose to basement drain, sump pump, or outside. Hose must be lower than drain valve. If it is not, the tank will not drain completely.

Step 6. Open hot water tank drain valve (J), and let water start to drain.

Step 7. To break vacuum in tank, open hot water faucets. This will speed the draining process. Let the tank drain completely.

Step 8. Turn fill valve (C) back on, and fill tank until you get water from the faucets. Turn fill valve (C) off, and let tank drain a second time.

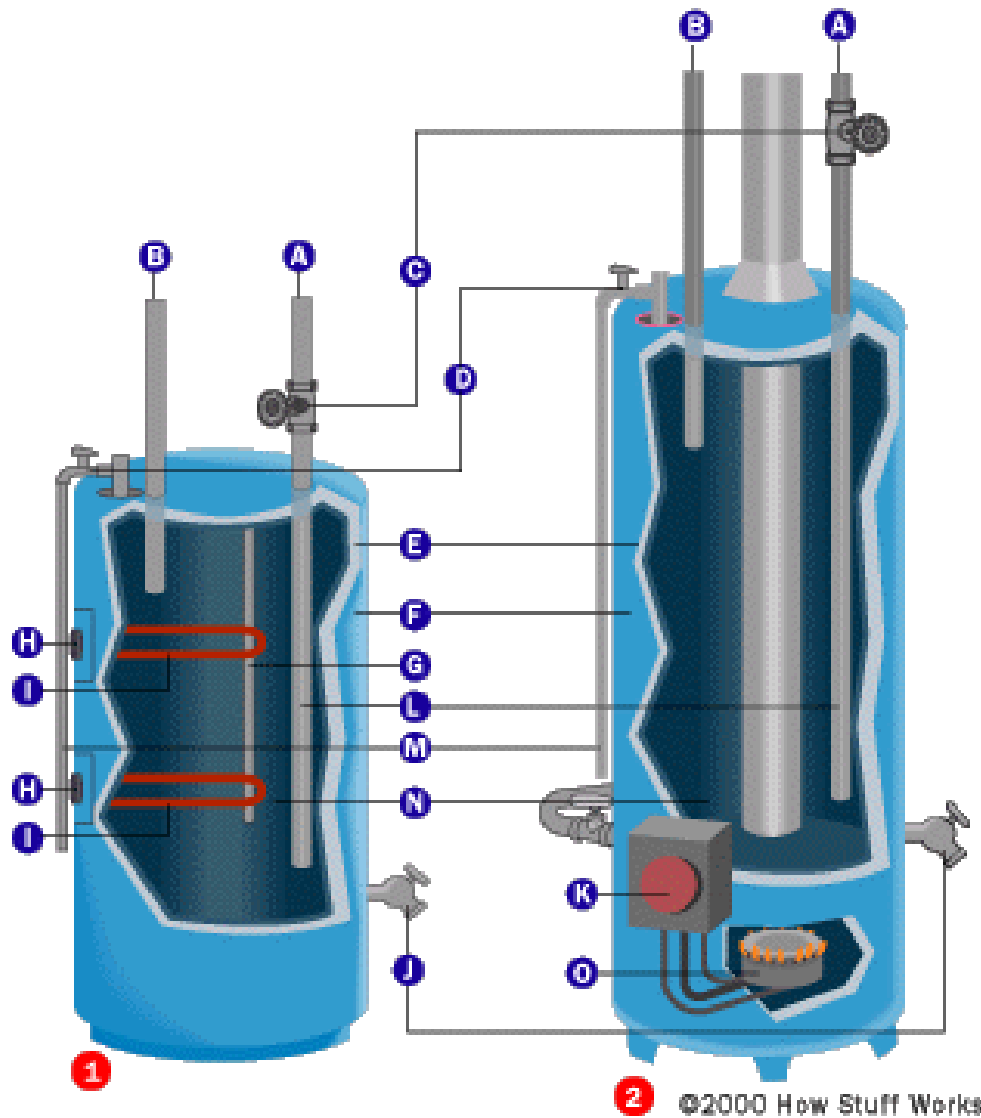
Step 9. Turn off drain valve (J) and disconnect hose. Turn off hot water faucets and/or pressure release valve (D).

Step 10. Open cold water fill valve (C), and let tank fill. Bleed air from tank as it is filling running a hot water faucet.

Step 11. With tank full and air pressure bled off, turn power back on.

Step 12. Repeat this process at least twice a year or as often as manufacturer suggests. This will both improve the hot water quality and extend the life of your hot water tank.

For further information, contact the City of Dover Water Department at (302) 736-7060.



- 1** Electric
- 2** Gas
- A** Cold In
- B** Hot out
- C** Shutoff valve
- D** Temperature /pressure relief valve
- E** Insulation
- F** Outer case
- G** Anode rod
- H** Thermostat
- I** Electric heating elements
- J** Drain Valve
- K** Burner control
- L** Dip tube
- M** Overflow
- N** Steel tank
- O** Burner