April 26, 2016

Information from the Environmental Protection Agency (EPA) for Reducing Lead in Drinking Water in Schools

Lead Exposure:

Lead is a toxic metal that remains in the bloodstream and body organs for a few months and what is not excreted is absorbed into the bones. Lead exposure is more risky to children under the age of 6 because their nervous systems are undergoing development and they have frequent hand-to-mouth activity. Lead can affect almost every organ and system in your body. Harm from lead depends on the frequency, duration, amount of exposure and susceptibility factors of an individual (age, nutrition, exposure history).

Sources of Lead Exposure:

1) Lead based paint
2) Lead in the air from industrial emissions
3) Lead in the soil
4) Lead industry – byproducts brought home by industrial workers on their clothes and shoes
5) Lead in consumer products and food, such as imported candies, medicines, dishes, toys, jewelry and plastics
6) Lead in water through corrosion of plumbing products containing lead

Lead in Drinking Water:

Lead can get into the water by being present in the water source, such as coming from contaminated runoff or water pollution, or through an interaction between the water and plumbing materials containing lead, such as through corrosion.

Most sources of drinking water have no lead or very low levels of lead (i.e., under 5 parts per billion). However, lead is a naturally occurring metal and, in some instances, can get into well water. Lead can enter surface waters (from rivers, lakes, or streams) through direct or indirect discharges from industrial or municipal wastewater treatment plants or when lead in the air settles into water or onto streets and eventually, via rain waters, flows into storm sewers or waterways, which may enter the water supply. Lead from these sources can easily be removed by existing treatment plant technologies.

Most lead gets into drinking water after the water leaves the local well or treatment plant and comes into contact with plumbing materials containing lead. These include lead pipe and lead solder (commonly used until 1986) as well as faucets, valves, and other components made of brass. The physical/chemical interaction that occurs between the water and plumbing is referred to as corrosion. The extent to which corrosion occurs contributes to the amount of lead that can be released into the drinking water.

The corrosion of lead tends to occur more frequently in “soft” water (i.e., water that lathers soap easily) and acidic (low pH) water. Other factors, however, also contribute to the corrosion potential of the water and include: water velocity and temperature, alkalinity, chlorine levels, the age and condition of plumbing, and the amount of time water is in contact with plumbing. The occurrence and rate of corrosion depend on the complex interaction between a number of these and other chemical, physical, and biological factors.

The critical issue is that even though the public water supplier may deliver water that meets all federal and state public health standards for lead, we may end up with too much lead in our drinking water because of the plumbing. The potential for lead to leach into water can increase the longer the water remains in contact with lead in plumbing.

What is our plan?

Water Testing:

The following information was taken from the Village of Newark website Home Page at https://villageofnewark.com/home.html: *Canandaigua Lake is our raw water supply. This high quality water flows by gravity from the lake to the Water Treatment Plant located in Shortsville, NY. This facility, built in 1951, has a capacity to produce up to 3.4 million gallons of water per day, (MGD), with actual production averages 2.1 MGD. Due to the high quality of our raw water, the Village is able to use Slow Sand and Diatomaceous Earth (D.E.) filtration. After filtration, chlorine is added as a disinfectant and fluoride is added at levels known to reduce tooth decay.*

After treatment, water flows, by gravity, to the Allerton Hill Reservoir on the western edge of the Village. Water is also pumped from the Route 96 pump station to the Villages of Clifton Springs and Phelps and into the South Hill Standpipe on the southern edge of Newark. Newark is the sole supplier to Clifton Springs, Phelps, Shortsville, and Lyons.

In accordance with New York State regulations, the Village of Newark routinely monitors your drinking water for numerous contaminants. We test for coliform bacteria, turbidity, inorganic contaminants, lead, copper, nitrate volatile organic contaminants, total trihalomethanes, and synthetic organic contaminants. To view the annual Water Quality Report, visit www.villageofnewark.com, click on Village Departments and then Water Treatment Plant.

The Manchester-Shortsville Central School District is currently undergoing the State required Building Condition Survey (BCS), which will include developing a plumbing profile for each building and conducting comprehensive water testing of all consumption areas first (i.e., drinking fountains, kitchen sinks), hygiene areas (i.e., showers) and then non-consumption areas (i.e., utility and restroom sinks) by a Certified Independent Environmental Testing Agency.

What are we doing in the meantime?

In the short term, we will begin implementing the following routine control measures recommended by the EPA to err on the side of safety even though testing has not yet begun:

1) We have created an aerator (screen) cleaning maintenance schedule to clean debris from all accessible aerators.

2) We will only use cold water for food and beverage preparation. If hot water is needed, it will be taken from the cold tap water and heated on a stove or in a microwave oven. Hot water is likely to contain increased lead levels if lead is present.

3) We have asked staff and students to run the water for at least 30 seconds before drinking it as a safety precaution. The interior of faucets are often a source of lead, so running the water for a minimum of 30 seconds prior to drinking it, decreases the potential for exposure.

4) Restroom sinks will contain placards with notices that water should not be consumed.

5) A flushing program may be implemented if we determine there is a localized problem in an area where water is consumed. "Flushing" involves opening suspect taps every morning before the facility opens and letting the water run to remove water that has been standing in the interior pipes or outlets.

6) If sample results from an outlet exceed 15 ppb (EPA recommended threshold for schools), we will shut off problem outlets until the problem is resolved.

7) We will keep the public informed on our website at www.redjacket.org as we learn more information.

What will we do for a permanent remedy?

If test results warrant, we will continue using precautionary measures and take further action, such as treatment for corrosion control or taking water outlets for consumption out of service, until replacement of pipes, fittings, fixtures, etc. can occur. If it is determined large scale work is required to remedy the problem, it will be a priority need going into our next capital improvement project. The capital project will allow us to take advantage of State Aid to meet industry and NSF International Standard 61 (sections 4, 8 and 9), which includes replacing pipes, fittings, drinking water storage devices, tubing, hoses, screens, water meters, valves, meter stops, backflow preventers, faucets, water dispensers, fountains, ice makers, supply stops, and endpoint control valves, as needed, with the goal of permanently eliminating any sources of lead in drinking water and eliminate or reduce other non-consumable sources of lead that originate in our school plumbing.

The safety and the welfare of our students, staff, and public is our priority at Red Jacket.