



BREMERTON'S DRINKING WATER

Upgrades provide advanced treatment for Bremerton's drinking water

Addition of ultraviolet and conversion from gas to liquid chlorine is a wise investment



I heard Bremerton was using light to treat water!

Ultraviolet light along with chlorine will provide advanced treatment and allow the City to continue to supply high quality drinking water while keeping water rates down and still being one of the few unfiltered surface supplies in the United States.



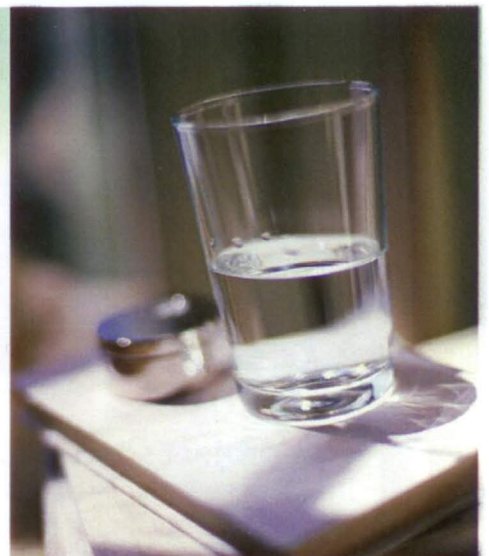
Why is Bremerton making changes to how it treats its drinking water?

The Environmental Protection Agency (EPA) has strict regulations for drinking water systems that use surface water. A new rule requires surface water systems like Bremerton to increase monitoring and use two disinfectants. Bremerton, along with most water systems, has effectively been using chlorine for disinfection. However, chlorine is not as effective against a particular microscopic organism called *Cryptosporidium*. Bremerton has tested for this organism for 15 years and has never found it. Protection of the City's 3,000-acre watershed safeguards the source of Bremerton's drinking water. Even so, Bremerton is still required to enhance the disinfection treatment of its drinking water and has selected ultraviolet light in addition to chlorine to do so.



How can "light" disinfect water?

Ultraviolet light water treatment technology has been around for over 50 years and its effectiveness has been well documented. The sun radiates energy over a broad spectrum of wavelengths including ultraviolet light, which has a shorter wavelength than visible light. Ultraviolet is invisible to the human eye and is what causes sunburn. Optimum germicidal action occurs at 260 nm which is achieved when electrical energy is converted to ultraviolet light in a specialized quartz lamp. Ultraviolet light penetrates through the cell wall and disrupts a microorganism's DNA, which prevents it from reproducing. If the cell cannot reproduce, it is harmless and cannot cause illness.

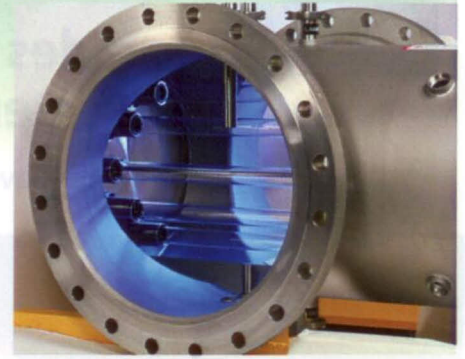




Why did Bremerton choose ultraviolet light treatment?

Advantages of ultraviolet light for water treatment include:

- No chemicals added to the water, making ultraviolet light more environmentally friendly
- No change in taste, odor, or other physical nature of the water
- Safe to use since there are no chemicals to handle or store; can't add too much
- Lower capital and operating costs when compared to other treatments like ozone or filtration
- It works fast with treatment occurring in seconds
- Most important, it is effective against nearly all organisms in water



Will chlorine still be used?

Yes, chlorine will still be used for additional disinfection. EPA requires two disinfectants and Bremerton has selected chlorine and ultraviolet light. An important change is that Bremerton will move from using gas chlorine to liquid sodium hypochlorite. Using a liquid compound for disinfection is safer for workers, more secure, eliminates the risk of a chlorine leak, and simplifies regulation.



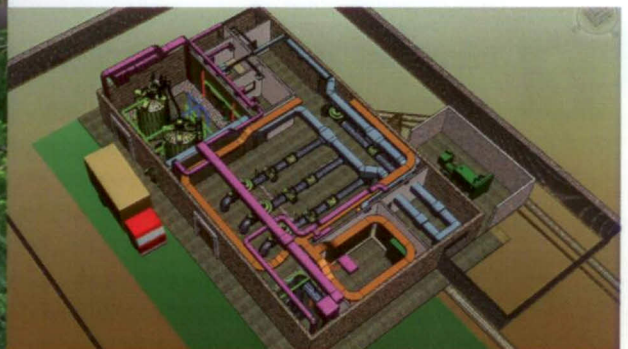
How will Bremerton pay for this advanced treatment?

The American Recovery and Reinvestment Act of 2009 was enacted to stimulate the national economy and Bremerton received a \$6 million grant to install advanced water treatment. Investing in our tap water systems is a smart, safe, common sense investment that will pay off for generations to come. What's good for our health and safety is also good for our economy.



When will this project be completed?

The project is scheduled to be constructed through 2010, and is anticipated to be on line in early 2011.



This project sounds like a wise investment!

This project will provide water treatment by both ultraviolet light and chlorination. The project allows the City to replace the use of gas chlorine for disinfection of its surface supply with liquid sodium hypochlorite, a more secure alternative. This new treatment will add additional safeguards to the City's existing multiple-barrier approach to providing high quality drinking water while adding flexibility and reliability in protecting water quality for Bremerton's citizens.