



Appleton Water Treatment Facility
Recommendation to Utilize an Ultraviolet Light Process
FAQ Summary
January 2014

Water standards from the State and Federal government were studied and updated over the last ten years. Standardized, specific requirements now exist for drinking water treatment processes and are incorporated into design calculations for removal of Cryptosporidium, Giardia, and viruses. Mayor Hanna appointed a Technical Advisory Group (TAG) to review current and alternative processes to meet these new regulatory code requirements. The TAG recommendation includes minor modifications to the plant and utilizing an ultraviolet light process to meet updated federal and state drinking water standards in lieu of membranes. Listed below are frequently asked questions (FAQs) regarding this recommendation.

1. Q: I have read that membranes used to produce water are the best way to produce safe water, why would you change to ultraviolet light.
A: The purpose of membrane filtration is to reduce health risks associated with Cryptosporidium and Giardia. Technology has advanced greatly over the past decade and competitive treatment alternatives exist to remove or deactivate these microorganisms. The ultraviolet light process being considered will achieve a greater removal value for Cryptosporidium than the current ultrafiltration membrane process.
2. Q: Will the water look and taste the same?
A: The current proposed changes should not affect either the taste or appearance of your water. The AWTF utilizes processes that remove taste and odor compounds. These processes are not being modified.
3. Q: Can I get cancer from ultraviolet light?
A: No, the water at your tap will not pose a health risk from being treated with ultraviolet light. The ultraviolet light process does not produce an ultraviolet light residual or emit radiation. Ultraviolet light at the point of application does require safety procedures to be followed by plant staff due to light intensity and wave length.
4. Q: What if the power goes out? Will the water plant still be able to produce water?
A: The City of Appleton has power generating facilities at its water producing and distribution facilities. If these redundant systems were to fail, the ultraviolet light process would be shut down along with water production. System designs take into consideration these types of incidents and engineering incorporate safeguards and software programming to mitigate equipment and process failures.

5. Q: What was the makeup of the Technical Advisory Group (TAG) that recommended this ultraviolet light process?

- Chairperson, Appleton Utilities Committee
- Drinking Water Division Engineer, Department of Natural Resources
- Microbiologist, USDA
- Professional Engineers (Technical Experts)
- Technical Services Manager, AWTF
- Operations Supervisor, AWTF
- Director and Deputy Director, AWTF

6. Q: Will the water be safe for my baby or elderly parent to drink?

A: Water will continue to meet all applicable state and federal drinking water standards. Regardless of which treatment alternative is selected, some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection are available from the Safe Drinking Water Hotline, 1-800-426-4791, and the Centers for Disease Control (CDC) www.cdc.gov.

7. Q: Are there other benefits of utilizing the ultraviolet light process?

A: Yes, plant capacity will be increased which benefits the community by being able to produce greater volumes of water in a shorter period of time. This can aid fire fighters with greater water quantities at higher pressures for fire fighting. In addition the chemicals used to clean the membranes will not be required which will lower operating costs.

Q: Does the ultraviolet light process use large amounts of electricity? Wouldn't we want to be more sustainable?

A: The ultraviolet process does use electricity. However, the use is much less than the current ultrafiltration membrane process where water needs to be pumped and recirculated in order to facilitate production and satisfy customer demand. The benefit of an ultraviolet process to the community is a more sustainable process that reduces energy consumption.

Prepared by Appleton Utilities Director Chris Shaw. If you have any questions regarding this FAQ summary feel free to contact Chris Shaw at ph: 832-5945.