The "Water Guy" Steals the Show at Career Day!

by

Kara Bane Luckett

2141 Bittel Road

Owensboro, Kentucky 42301

(270) 570-1751

karabaneluckett@gmail.com

12th Grade

Owensboro High School

1800 Frederica Street

Owensboro, Kentucky 42301

(270) 686-1110

"Welcome to Career Day 2022 at Owensboro High School! Students, we are going to hear from several interesting speakers today," Mrs. Luttrell, our principal, then asks us to please give a warm welcome to our guests.

After a smattering of polite applause from the students, Mrs. Luttrell continues . . . "First, we have Kim Hayden, Field Agent with the Federal Bureau of Investigation. Next is Jeff Lyons, Chief Meteorologist with NBC affiliate, 14 WFIE News. Then we will hear from Dr. Hillary Watkins, emergency room doctor at Mercy Hospital; and, last, but not least, is Mike Adams, Water Protection Technician with Owensboro Municipal Utilities."

I think to myself . . . "those first three speakers ought to have some pretty good stories, and then there's a guy here to talk about water? Well, three out of four isn't too bad."

As expected, I sat attentively listening to stories about FBI training and investigations, deadly storms, the rigors of medical school and traumatic injuries coming into our ER. Now all that stands between me, and lunch is this water guy from OMU.

Mr. Adams starts by asking a thought-provoking question. "What would our daily lives be like without clean water?" He adds, "Think through your daily routine and how many times you depend on clean water." Water is treated for microorganisms, bacteria, toxic chemicals, viruses, and fecal matter. "Drinking raw, untreated water can cause gastrointestinal problems such as diarrhea, vomiting or fever and could even lead to death" (Potable Water, 1). It didn't take me long to engage in serious thought about just how important clean water is to basic quality of life. Okay, this talk might not be too bad after all.

"How many people know what potable water means?" Mr. Adams asks. Potable is a weird sounding word, but he tells us that it comes from the Romans and means "to drink."[1] Basically, it's water that has been treated, so it's safe for drinking and other household uses such as bathing and cooking.[2]

After explaining the process of treating water so it's clean enough to be considered potable, he tells us that each of our families can be a risk to the safe drinking water system. What? How in the world could my family be a threat to the potable water system?

"I see several puzzled faces," says Mr. Adams. "How many of you have heard of cross connections?" To no surprise, not one single hand goes up. "The American Backflow Prevention Association defines a cross-connection as "any connection between a public water system or consumer's potable (i.e., drinking) water system and any source or system containing nonpotable water or other substances."[3] "So, basically any water piping that is connected to OMU's system is a cross-connection and can be a source of contamination," Mr. Adams explains.

Then, the first hand goes up and Mr. Adams calls on one of my classmates. "What's an example of a family being a risk to OMU's system?" "Sure," Mr. Adams replies. "Anybody have a garden hose hooked up to a spigot at their house? Has your mom or dad ever connected a bottle of insecticide or mosquito repellant to the garden hose and sprayed it in the yard? What about putting the hose in the pool to bring the water level up?" He then explains how back-

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[1] Tuser, Christina, What is Potable Water, 1.
[2] Keyashian, Mark, Water Systems for Pharmaceutical Facilities, 1.
[3] American Backflow Prevention Association webpage, Q&A Section, www.abpa.org.

siphonage or back pressure could result in these sources of contaminants mixing with the potable water system.

Another hand is raised. "How does OMU prevent pollution or contamination of our drinking water system?" Mr. Adams tells us that OMU started a Cross-Connection Control Program in 1996 and spends lots of hours and money each year carrying out the program. He further explains that the program's main objective is "containment of non-potable water sources from OMU's potable water system. This containment is achieved mainly through equipment called backflow preventers."[4]

Mr. Adams continues to explain that the program identifies three types of cross connection installations: 1) residential, 2) special case residential and 3) non-residential. Each type of installation has different requirements to prevent backflow and potential contamination of the water system.[5]

Residential installations with customers using water solely for purposes normally associated with household use, are not required to install an approved backflow prevention device under the program. These customers typically have a meter size of 1-1/2 inches or less. The customer has the primary responsibility of preventing pollutants and contaminants from entering their potable water system or the public water system.[6]

Special Case Residential installations are determined by OMU when an unacceptable degree of hazard is posed by the water uses at a residential premises. OMU will require the customer to install an approved backflow prevention assembly.

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[4] OMU Cross-Connection Control Program, 17.
[5] OMU, 13.
[6] OMU, 13.

"What's an example of a special case residential installation?" asks the kid sitting next to me. Mr. Adams gave the following examples: a permanently installed lawn irrigation system, a solar heating system, or if a business is operated out of the home where water is used in a way as to warrant a backflow prevention device. "OMU will tell the customer the type of device required, and they'll have 90 days to install the device. If a backflow has occurred, immediate action may be required by OMU."[7]

"The last type of installation is called non-residential installations," says Mr. Adams. "Generally speaking, these types of installations business such as manufacturing and industrial facilities, medical facilities, restaurants, car washes and so on. The program specifically lists 35 types of installations that require backflow prevention devices.[8] The only exception a backflow preventer is if the water usage essentially is the same as a residential installation like a small professional office."[9]

I jump into the conversation and raise my hand. "How does OMU keep track of these cross-connections and enforce the requirements of the program? It seems like a lot to track." You're right, Mr. Adams quips. He explained that all new water system installations from 1996 forward must meet the requirements of the program. Backflow preventers are tested at the time of installation and once a year to ensure the equipment is working properly. For pre-existing installations, OMU conducts customer surveys, inspections, looks at records of other agencies, and other information to determine whether a backflow preventer is required.[10]

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[7] OMU, 13.
[8] OMU, 16.
[9] OMU, 13.
[10] OMU, 13.

"What happens if a customer refuses to install a backflow preventer?" Mr. Adams tells us that OMU takes water safety very seriously. "If a customer fails to comply, OMU will terminate their water service."[11]

Before I know it, Mr. Adams concludes his talk and Career Day 2022 is over. To my surprise, the "water guy" was the most interesting speaker. I was surprised how much I learned. Now, it's time for lunch, so I walk to the cafeteria. As I pull my water bottle out, I think about the important work that goes on behind the scenes at OMU so that I can fill my bottle with potable water each day. I know I will never look at my bottle of water in the same way!

CERTIFICATION

I certify this essay is my own work. Any ideas or quotations from the work of other people, published or otherwise, are fully referenced.

[11] OMU, 17.

REFERENCES

American Backflow Prevention Association webpage, Question and Answers section, www.abpa.org.

Keyashian, Mark, "Water Systems for Pharmaceutical Facilities." *Science Direct*, 2014, www.sciencedirect.com.

"OMU Cross-Connection Control Program." 29 October 1996, www.omu.org.

"Potable Water." *Water Education Foundation*, www.watereducation.org

Tuser, Christina. "What Is Potable Water." *Water & Wastes Digest*, 3 November 2021, www.wwdmag.com.