MOUNTAIN STATE WATER LINE

A Publication of the West Virginia Rural Water Association

Fall 2023

WEST VIRCHNIZA RURAL WARDER ASSOCIATION

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- When Unusual Problems Occur
- Aeration Efficiency in WWTP

West Virginia Rural Water ASSOCIATION



Fall 2023

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Cory Weese, Apprenticeship Coordinator		of rural and small publicly owned water and wastewater systems. The vision
Adam Conant, Energy Efficiency Technician		of the WVRWA is to be the recognized leader and respected voice for water
Jamie Nichols, Lead & Copper Prog. Tech.		and wastewater systems. The mission or purpose of WVRWA is to provide
Marybeth Altizer, Lead & Copper Prog. Tech.		and promote the highest level of utility service, technical assistance, training
Mountain State Water Line is published by: WVRWA, 100 Young Street,		and advocacy for all West Virginia water and wastewater systems.
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By Michael Hersman, Water Circuit Rider



Simple Ways to Secure Your Water System

There are effective ways of securing your water system without spending much, if any, money at all. Here are a few and inexpensive ways of making your system secure.

Lock your doors – This is probably the most effective way for you to increase your security. Locking vehicles, fence gates, and buildings can make them more secure and also save the utility on insurance premiums if they have to be repaired or replaced due to theft or vandalism. Buildings house tools, maps, chemicals and other items that can cause the utility problems if in the wrong hands.

Neighbors of your facilities – Ask your neighbors that live near your critical components to call utility personnel if they see suspicious activity or a strange vehicle at the site. Provide them with after regular business hour phone numbers. You can also work with local law enforcement, make them aware of your critical components and ask them to assist in patrolling the sites, especially if sites are isolated with no houses or traffic nearby.

Signage – Post signs on fences and gates of critical facilities; signs can be a good deterrent. Some may argue that signs can identify and draw attention to your facilities. Many utilities are making efforts to make buildings look more like normal houses and to make them look less conspicuous. Signs are very inexpensive and are probably very effective at protecting from spur-ofthe-moment acts of vandalism. And, in reality, most utilities are much more likely to experience these types of threats than the other ones, such as disgruntled customers or terrorists.

Vegetation – All vegetation and overhanging trees and limbs should be trimmed or removed. Fence lines should be cleared of all vegetation and avoid installing any landscaping that will permit trespassers to hide. This will enhance the visibility of your water system's critical components. And don't forget to clear tall vegetation away from any fire hydrant that may be in remote areas. It not only increases their security, but it makes it much easier for firemen should they need to use them.

Objects that can be used as tools - When making your daily rounds to the tanks or booster stations, look for objects that can be used as tools for gaining entry into a facility, such as large rocks, bricks, and other objects. Frequent and random patrolling of the water system's critical components may discourage potential tampering. If you patrol a site at 11am on Monday, visit the site at 1pm on Tuesday. The idea is not to visit the same site at the same time each day. If a vandal or thief is watching a certain component and you are patrolling that component at the same time each day, then it creates a window of opportunity for the vandal.

Adequate lighting – Consider installing lighting; lighting can be a great deterrent at your facilities. People doing bad things don't want to get caught, and the best way to catch them is to shine a light on them and their activities. Exterior floodlights and motion detectors can be purchased and installed in place of existing fixtures. Nothing stops a vandal, especially in well–populated areas, better than some floodlights coming on in or around the building when they get nearby.

Control you keys - The easiest way for someone to get into your facilities is to use a key. I know it's more convenient to give personnel from other utilities, contractors, consultants, and other personnel keys so that you don't have to accompany them all the time; however, any time you give out a key, you lose control over it. Also change your locks periodically, especially if you've had employee turnover or terminated an employee. Locks can be fairly inexpensive to replace, and new ones guarantee that you know where your keys are. While you're at it, you can also make and install simple guards yourself that make it much more difficult for someone to break in.

Do employee background checks – Background checks conducted by local law enforcement can prevent you from hiring an inside thief or vandal. It can protect the utility and other employees.

Doing these simple, inexpensive tasks will not prevent a terrorist from entering your facility if they are committed in doing so. But it will most likely stop a vandal or disgruntled customer. And while you may also not be able to stop them if they really have their mind made up, you have made their task more difficult. ■











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By Shane Altizer, Water Circuit Rider



When Unusual Problems Occur

ave you ever had a pressure relief valve (PRV) stop working in your system causing hot water tanks and sink fixtures to explode and leak all over customers' houses? That very thing happened in a small system in Mason County.

New Haven is a system in Mason County that has around 670 customers, including one purchase system. They are a ground water system that has no need for filters due to the quality of the aquifer they pump from. They have one tank that supplies their entire system and multiple PRVs that regulate the pressure throughout the system.



New Haven recently drilled a new well because one of the two original wells was starting to collapse, but shortly after putting the new well in service, they began having debris getting stuck in the PRVs causing too much pressure in most of the system. They cleaned the PRVs and flushed the system, but were still having problems, so they called me to see if the debris was possibly in the tank.

I came and inspected the tank and, as you can see from the pictures, there was quite a lot of sediment around the inlet on the floor. The Operator Specialists, Buzzy Duncan, Teresa Gibbs, and Charles Estep and the Mayor, Phil Serevicz, discussed with me how they might fix the problem. It was decided that, most likely, the debris was coming from the new well and the first thing they should do was to stop using that well. We believe the new well was drilled too close to the well that was collapsing and debris from the original well casing was getting pulled into their water system.

The next thing that needed to be done was to have the tank cleaned; however, with only one tank, it wasn't an easy job. New Haven called Pittsburg Tank to see if they could send a diver to clean the tank without draining, but being that it needed done as quickly as possible,



they were going to charge \$40,000 unless New Haven wanted to wait two months and then the company would only charge \$20,000. Unsure what to do, Teresa, Charles and Phil talked with their local health department to have more ideas for fixing this problem. Teresa and Charles



had an idea to use a PRV at a fire hydrant near their tank to keep the system in water and allow them to drain the tank. The health department agreed that was a good idea and gave them the okay to proceed.

It was all hands on deck as they had to work around the clock keeping an eye on their PRVs while draining the tank. It took about a day and a half to drain the tank and have everything ready for the cleaners to come clean the tank. Summit Environmental came to clean the tank with all new hoses to ensure a safe, clean tank. From start to finish, it took Summit around four hours to set up, clean the tank, and leave.

After they were done, it was time to start filling the tank. New Haven raised their chlorine level and filled the tank slightly before draining it again to make sure the tank was disinfected, and they used dichlorination tablets in the water drained from the tank and PRV. They filled the tank and, before putting it back in operation, they took Bac-T samples and waited for a negative result. After a 5-day project, the tank was clean and full and New Haven was back to normal operation.

Summit Environmental charged \$3,200, plus the extra labor and pump cost for working around the clock was much cheaper than the \$20,000 they would have had to pay using divers. Though the work was more difficult and more stressful, Teresa and Charles, along with the rest of the field crew, saved the Town of New Haven a lot of money and kept a quality water supply to their customers, and they have had no more issues with their PRVs or debris in their system.

Sometimes, unusual problems occur in our water systems and, even with years of experience, might make an operations specialist have no idea what to do. When problems arise, don't hesitate to call your area circuit rider. Though we might not have all the answers, West Virginia Rural Water has a great staff with years of experience and we are looking forward to helping you any way we can.









By Jim Johnson, Wastewater Technician



Attending the WVRWA Annual Conference

This is West Virginia Rural Water Association Wastewater Technician Jim Johnson. Today, I am sitting here with Gary "Bud" White, the Chief Wastewater Operator with the City of Salem and Bill Fury, the Chief Water Operator for the City of Salem. Bud and Bill recently attended the West Virginia Rural Water Association Annual Technical and Training Conference and wanted to talk about their experience.

Jim- How many times have you all been to the conference before?

Bud- This was our first WVRWA Conference.

Jim- Was the conference a worthwhile experience?

Bill- The conference was absolutely worthwhile because the knowledge was endless and the classes were more than helpful. You learned things in the classes you did not know you even needed to know.

Bud- The West Virginia Rural Water staff were extremely helpful and very friendly and knowledgeable.

Jim- How did you like the experience with the vendors in the exhibit hall?

Bud- We met a lot of people and made a lot of valuable contacts. One of the contacts we made has already been down to visit us and given us a quote on an apparatus we badly need to replace. Bill- The updated technology they had was very important for us to see, and to get an idea of what direction other utilities are going in to determine the direction Salem needs to go in the future. The overall exhibit hall was put on very nicely, very educational, enjoyable and very nice to be involved in. The exhibit hall showed us that there is a whole world of vendors, technologies and choices out there, not just the ones we have been using for years. We brought back so many phone numbers and cards.

Bud- We also went to an evening gathering one of the vendors put on. It was fun, but also, we met a lot of people and made some contacts at this. This was a very nice experience. We met other operators who were willing to offer advice, too.

Jim- What did you guys think of the classes?

Bill- Rural Water did such a good job of working in a variety of classes. The focus was not on one thing, but a large variety of things that had to do with this industry. The classes with the regulators and government officials give you a face for these people we are dealing with. It helped to make connections with these people. No one seemed to be in a hurry and, when class was over, if you wanted to talk after, they would stay and talk to you. Bud- The classes were just a great place to connect and it got us somewhat excited about the potential for our system's future. Sometimes, it was hard to decide what class to take and it would have been nice to be able to go to more than one.

Bill- A couple of vendors even offered to come down to our plant or office and put on a private class for just our staff.

Jim- How did you like the Lun-cheon?

Bud- The Luncheon was good food, and good people. We set at a table with other operators and made some friends. The award ceremony was great and it was great to see system people get recognized for their achievements.

Jim- What was your favorite part?

Bud- The vendors' show was my favorite; I just made so many contacts. It was a lot of fun and you could win stuff. I even won a fishing pole.

Bill- It was a work experience, but it did not feel like a work experience; it was a lot of fun.

As you can see from me talking to these two first time attendees, the West Virginia Rural Water Conference is a very worthwhile event. The contacts you make are very useful and valuable. So, make plans to come to the conference in 2024. ■

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Midge Flies, Not Again!

ave those temporary residents moved in to your wastewater treatment plant this summer? If so, you're not alone and if not, you're lucky. I have never really encountered midge flies and red worms in the past until this summer. If your plant is special enough to have midges, here are some of the conditions that attract them.

They love a DO above 2.0 mg/l, and they also thrive in lightly loaded systems and the red worm that forms the midge enjoys the nutrient rich environment of the wastewater and feed on the bacteria and sludge.

Midge flies' life cycle is only 10 days, which doesn't sound that bad; however, if not treated, it's just a never-ending cycle. The adult flies lay eggs in the water, the eggs form the red worm, and, finally, the red worm form the pupa, which hatches the midge flies.

The brown mass of what looks like sludge along the walls of aera-

tion tanks, clarifiers, and weirs that have a red tint to it are the areas the red worms grow into flies. Cleaning the sides of your tank walls is always a good idea and you would think this would take care of the problem, but no, this will just cause the formation in another area of the tank. About the only way to rid the plant of midge flies and red worms is to use very expensive larvicide. I understand most systems are on a limited budget, but this is the most effective way to eliminate the problem.

On the flip side, some systems have said that their solids were decreasing without wasting. Not having to waste sludge for 2-3 months sounds good, but, left unchecked, the midge flies will overtake the plant. This will cause increasing TSS results and cause loss of ammonia removal efficiency. Although you may not have to waste sludge for a while, the increasing

TSS and ammonia results may cause excursions on the DMR. There are more issues that the plant will experience if the problem is not corrected, such as clogged pipes and equipment within the plant, becoming a nuisance to the plant staff and even surrounding environments, depending on where the plant is located, this could become a big issue. I have been told that operators have had to clean the floor of buildings every morning because the amount of dead midge flies have covered the entire floor of the building.

If your MLSS suddenly just starts dropping for no apparent reason, look closer; chances are you will see clumps of sludge with red worms on the side of your tanks.

The one that will kill midge flies is the weather; 45 degrees, they slow down and 32 degrees, they die, so come on fall/winter and take care of this issue. ■



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September 14, 2023

The Town of Cairo is extremely grateful to the West Virginia Rural Water Association for their recent and ongoing assistance to the Town.

Recently, the Town of Cairo has had assistance from Mike Hersman with leak detecting and hydrant pressure testing. He was extremely helpful and professional. We look forward to working with the WV Rural Water Association in the future.

Again, thank you for providing a much needed resource to small utilities in West Virginia.

Harry SHaugh

Gary S. Haugh Mayor



By Adam Conant, Energy Efficiency Technician

Aeration Efficiency in WWTP

eration plays a vital part in the biological process in wastewater treatment plants. Every operator should know their aeration needs at their WWTP. Aeration is the easiest place in the WWTP to waste energy, which makes it the first place I usually look when I visit a system.

This article is going to cover 3 items that I feel are very important when it comes to aeration efficiency in WWTP. All types of wastewater treatment are affected by aeration, whether it is extended aeration plant, MBR, SBR, Vertical loop reactor, oxidation ditch, package plants or even a lagoon. No matter the type of treatment, they need aeration to help speed up the biological process that needs to take place in order to have quality effluent. Aeration efficiency can have major impacts on our motors, pumps, budgets, biological health, sampling, and many other factors. Let's discuss the following:

- Basic definitions of aeration and facts
- Types of aeration
- Is my WWTP aeration efficient

The basic definitions of aeration and facts: According to WasteWaterDigest.com, "Aeration is critical because it allows for the aerobic biodegradation of the organic materials found in wastewater." To understand the importance of aeration and how efficient it is, we need to start at the basics and understand why aeration is not just on or off. Understanding that there is an efficient way to operate aeration, and that we need to research and find out most efficient way for our WWTP to operate. Aeration is what allows the treatment of sewer to be processed in a much smaller footprint area and much faster. "Aeration is the process by which air is circulated through, mixed with or dissolved in a liquid or substance," according to wwdmag.com.

Some facts to remember when dealing with aeration: aeration accounts for 40 to 80% of the WWTP energy cost. The fact is that fine bubble diffusers can produce "twice as much oxygen mass" as a course bubble diffuser. Your knowledge of aeration and the efficiency of your system matters and affects many factors in your treatment.

Types of aeration: Types of aeration that are used in WWTP can be mechanical mixing or circulating air into the water by blowers. Mixing can be done on the surface or subsurface of the water level. Mixing is done mechanically with a motor moving the mixer at a set speed. Mixing can be beneficial in certain types of treatment systems and the location of the mixing is important during the process. Circulating air is usually done by type of blower, which pushes air through airlines and then through diffusers allowing water and air to mix. This process allows the WWTP to speed up the breakdown of the bacteria. Types of aeration are not all equal when it comes to the efficiency of the aeration; it depends on the type of treatment system you have as to what will best work for your aeration.

Is my WWTP aeration efficient: This is more complex than just saying yes, I have enough DO and my sampling is good each month, so I have nothing to worry about. If you have the time to really analyze your treatment plant's aeration, you should take the time to do so. According to watertechonline.com, "The proper performance of an activated sludge plant is enhanced with knowledge of five biological and physical elements that determine the efficiency of the process." These factors include:

- Organic and hydraulic loading on the aeration tank
- Dissolved oxygen (DO) in the aeration tank
- Biosolids wasting rate
- Return activated sludge rate
- Solids settling and compaction characteristics

All these factors help determine how much aeration is needed, because too much or too little aeration can waste energy and also hurt the biological process. There is an optimal amount of aeration for your plant; it takes some leg work to figure out the



best way to track and record your aeration needs. Then, in return, use the information collected to help



you adjust the aeration to its optimal performance. Whether you're tracking DO readings, MLSS concentrations, wasting rate, and/or RAS rate, all information is important to track and record for decision making and to monitor once decisions are made

Remember Aeration Efficiency matters at your WWTP. If aeration is not efficient, it can affect blower motor efficiency, budgets, repairs and maintenance cost, issues with sampling, labor and many other factors. We need to make sure at our treatment plants that our aeration is efficient and we have enough monitors in place to know if it's not.













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Update Reminders 2

I n the next few articles, we're going to go over and look at reminders for plan updates, and items that we, as operators, sometimes overlook or forget. With all the chaos in our jobs of providing the best drinking water in the world and the finest protection of our environment, we are starting off with an Emergency Response Plan.

An emergency response plan is a document that outlines the crucial steps in the first few minutes of any dire situation. The initial response to any emergency is critical in containing the threat, minimizing further damage, and saving lives. The emergency plan should be consistent with your performance objectives. At the very least, every facility should develop and implement an emergency plan for protecting employees, visitors, contractors, and anyone else in the facility. This part of the emergency plan is called "protective actions for life safety" and includes building evacuation ("fire drills"), sheltering from severe weather such as tornadoes, "shelter-in-place" from an exterior airborne hazard such as a chemical release and lockdown. Lockdown is protective action

when faced with an act of violence. When an emergency occurs, the first priority is always life safety. The second priority is the stabilization of the incident. There are many actions that can be taken to stabilize an incident and minimize potential damage. First aid and CPR by trained employees can save lives. Use of fire extinguishers by trained employees can extinguish a small Containment of a small fire chemical spill and supervision of building utilities and systems can minimize damage to a building and help prevent environmental damage.

As water and wastewater operators, it is dire that we are number one in participating in this plan and take on the role as community leaders as each emergency situation comes our way. As I travel the state assisting our water and wastewater systems, I find more operators that are also volunteer firemen, emergency medical technicians, and part-time and retired military personnel. These personnel are vital to the system and to their local communities and work very well inside these Emergency Response Plans.

The actions taken in the initial minutes of an emergency are critical. A prompt warning to employees to evacuate, shelter or lockdown can save lives. A call for help to public emergency services that provides full and accurate information will help the dispatcher send the right responders and equipment. Employees trained to administer first aid or CPR can be lifesaving. Action by employees with knowledge of buildings and process systems can help control a leak or turn on or off power to minimize damage to the facility and the environment. The first step when developing your ERP is to conduct a risk assessment to identify potential emergency scenarios. I will write more about Risk Assessment in the next article.

Don't forget to review and update your ERP annually with the date changes added. You also should recertify your EMP every 5 years. If you don't have an ERP, give your WVRWA circuit riders or techs a call and we will be happy to assist. There are also templates for download on www.epa.gov, www.ready.gov, and your local health dept.

Thanks for reading my article! Ref: epa.gov and ready.gov



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8		2		4	1		5	7
						4		9
	6	3		5	7			
1		7						2
6			5				3	
					8			
3							7	
		6		9	4		8	5
2				8			4	3

The aim of the canonical puzzle is to enter a numerical digit from 1 through 9 in each cell starting with various digits given in some cells (the "givens"). Each row, column, and region must contain only one instance of each numerical. Completing the puzzle requires patience and logical ability.

Answers can be found on page 38.



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Answers to Soduko Puzzle

8	9	2	6	4	1	3	5	7
5	7	1	8	3	2	4	6	9
4	6	3	9	5	7	8	2	1
1	8	7	4	6	3	5	9	2
6	2	4	5	1	9	7	3	8
9	3	5	2	7	8	6	1	4
3	4	8	1	2	5	9	7	6
7	1	6	3	9	4	2	8	5
2	5	9	7	8	6	1	4	3







By Bertis M. McCarty, Water Circuit Rider



Assembly of PVC Stick Pipe

he stick pipe joint assembly is a push-on assembly in which the **lubricated spigot end** is inserted under the rubber gasket and into the bell. The joint assembly provides for the completion of tight, dependable joints in minimum time when the following procedure is adhered to.

1. Make certain that the gasket and bell is clean, with no dirt or foreign material that could interfere with proper seating of the gasket or assembly. If necessary, wipe the gasket and bell with a clean, dry cloth. Lubricating the gasket is not recommended.

2. Make sure pipe end is clean. Wipe with a clean dry cloth around the entire circumference from the end to 1 inch beyond the reference mark.

3. Lubricate the spigot end of the pipe, using only approved pipe lubricant (NSF approved). Do not use non-approved lubricant, which may harbor bacteria or damage the gaskets or drinking water. An example of an unapproved lubricant would be "Petroleum Jelly." Never use any lubricant that contains petroleum! Be sure to cover the entire spigot end circumference, with particular attention paid to the beveled end of the spigot. (See Figure 1.) The coating should be the equivalent of a brush coat of enamel paint. Lubricant can be applied to the pipe by hand, cloth, pad, sponge or glove. Lubrication of the gasket and/or ring groove may result in displacement during assembly.

Shoving a dry pipe into a lubricated gasket could

possibly dry up the gasket and twist or misplace it, causing a leak.

Caution: After spigot end is lubricated, do not allow it to contact the bedding material. Small pieces of stone or soil may adhere to the lubricant and may become lodged between the spigot and the gasket upon assembly, resulting in a possible leak.



Figure 1

4. Insert the beveled spigot end into the bell so that it is in contact with the gasket. Hold the pipe lengths being joined close to the ground (as shown below) and keep the lengths in proper alignment. Brace the bell, as shown in Figure 2, while the spigot end is inserted under the gasket, so that previously completed joints in the line will not be closed up or over-assembled. Push the spigot end in until the reference mark on the spigot end is flush with the end of the bell, as seen in Figure 3. Stabbing is not recommended and should be avoided to prevent damage to the gasket and joint. One recommendation to make this job easier is to use a tool such as the Eagle Claw by Propipe Solutions.



Figure 2

Caution: If joint is over-assembled, causing the spigot to jam into the neck of the bell, flexibility of the joint is lost. Uneven settlement of the trench or additional loading may cause this type of joint assembly to leak or crack. Most distribution operators have seen joints of pipe split from one end to the other, hence the previous statement.

DO NOT ASSEMBLE BEYOND THE REF-ERENCE MARK!



Figure 3

If undue resistance to insertion of the beveled end is encountered or the reference mark does not reach the flush position, disassemble the joint and



check the position of the gasket. If it is twisted or pushed out of its seat, do not attempt to realign gasket, replace with another piece of pipe. Be sure both lengths are in proper alignment.

NOTICE: Should a spigot or bell end become deformed under load at higher temperatures, it will be necessary to exercise more care in assembling the joint in order to prevent fish-mouthing of the gasket.

5. No deflection at joint is allowed on 12-inch and smaller pipe. Pipe curvature should be accomplished by bending the pipe rather than deflecting the joints.

NOTICE: If a pry bar or backhoe is used for any assembly, a wood plank should be placed between the pipe and the machine to prevent damage. In addition, the force applied must be steady and constant. Do not ram or hit the pipe. For all pipe, a come-a-long jack is recommended over a backhoe. The method of attachment to the pipe must not abrade or damage the pipe in any way. Steps must be taken during installation using these methods to maintain correct alignment of the pipe. As well, a helper should be present in all cases to assist the operator in knowing when the reference mark is reached properly. Again, another reason to use a tool such as the Pipe Claw.

Cited: JM Eagle pipe assembly manual





Using Microexpressions to Become a Better Communicator

f you have ever been on the wrong end of a communication situation - and no doubt you have - you know poor communication can lead to frustration, disappointment and confusion. We know this is true in both our personal and professional lives. One study found that 42% of workers have left an employer because of bad communication in the workplace and over 65% of divorced people blame lack of communication as the number one reason the marriage did not last. Understanding microexpressions is one of many tools to have in your toolbelt to become a better communicator. (Side bar - look for a class near you called Communicating Success to become a rockstar communicator; the class is worth six CEH for both water and wastewater).

Let's begin by defining exactly what a microexpression is. The Science of People describes a microexpression as:

a very brief, involuntary facial expression humans make when experiencing an emotion. They usually last 0.5–4.0 seconds and cannot be faked.

Microexpressions are not a new concept. As early as the 1830s, Charles Darwin believed that there were certain universal emotions and facial expressions that all humans have in common. He hypothesized that these were across all cultures and generations. In 1967, clinical psychologist Dr. Paul Ekman agreed with Darwin's observations and set out to prove the theory by traveling to multiple continents to study a variety of people and their microexpressions. He found that people make incredibly similar facial expressions to express the same emotions, regardless of where and how these people did live. Ultimately, he landed on seven emotions that are revealed as microexpressions and each emotion has its own specific facial expression qualities. Here is a breakdown of the microexpressions characteristics with photos from some of the WVRWA Staff.



Surprise

SURPRISE MICROEXPRES-SION

Eyebrows raised and curved

- Eyelids open to show the white of eyes all around
- Jaw drops but mouth is not tense



Fear

FEAR MICROEXPRESSION

- Eyebrows raised and drawn together
- Upper eyelid raised, lower eyelid tense
- Mouth open, lips are stretched and drawn back



Disgust

DISGUST MICROEXPRES-SION

- Eyes narrowed
- Upper lip raised and teeth exposed
- Nose wrinkled, cheeks raised MOUNTAIN STATE WATER LINE 41



Anger

ANGER MICROEXPRESSION

- Eyebrows lowered and drawn together
- Eyes in a hard stare
- Lower jaw juts out



SADNESS MICROEXPRES-SION

- Eyes draw inward
- Lower lip pouts
- Inner corners of eyebrows are drawn in, then up



HATE MICROEXPRESSION

- Eyes close together
- One side of the mouth is drawn up



HAPPINESS MICROEXPRES-SION

- Corners of lips drawn up and back
- Mouth parted, cheeks raised
- Crows feet show on outside of eyes

So, how does the knowledge of microexpressions help you become a better communicator? Microexpressions are the spit second facial cues that take place when we take in information from somewhere. You may have been approved for a day off weeks ago, but when your boss says, "See you tomorrow" at the end of the day and you have to stop and remind them that you will not be there, you may see a flash of anger right before they say, "that's right, have a good day off." The microexpression does not match the words that were said. This could be a good time to dig a little deeper and ask questions about why the boss is frustrated. Seeing that microexpression and making assumptions could lead to unnecessary conflict. You may think the boss is mad because you are taking a day off, but the boss might just be frustrated because they forgot and planned the next work day based on you being there.

Another situation in which micro-

expressions may prove useful is instructing a coworker how to do a new task. The coworker may say they understand, but catching a microexpression of fear or surprise when you question if they understand the new assignment should clue you in to ask some open-ended questions in order to clarify understanding.

Or if you are out to dinner with your spouse and the server asks if you would like a piece of chocolate cake for dessert, which causes an immediate flash of happiness to come across your spouse, but they decline dessert, make sure you order the cake! Even share a piece and just have a bite or two, but seeing that initial surge of joy on their face is a great indicator to order the deliciousness.

The biggest hurdle in communication is not the words that we say, it is reading our audience and gauging if what we are saying is being communicated correctly. Being aware of microexpressions is an effective way to tune into the people around us and raise awareness of what they are thinking and feeling.

Special thanks to the following West Virginia Rural Water Association staff for using your beautiful and handsome faces to help explain microexpressions: Amanda Cochran, Membership Coordinator; Lamar Godbey, EPA and Information Specialist; Shawn Strain, Wastewater Technician; Elizabeth Fletcher, Wastewater Compliance Technician

For more information on microexpressions: www.scienceofpeople. com/microexpressions ■

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