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UTILITY ARBORIST NEWSLINE

FOCUS ON SAFETY

LEARN HOW TO CREATE A SAFER WORK PLACE

INCREASE CAPACITY FOR SAFETY INTO YOUR WORK PLANS

UAA
UTILITY ARBORIST ASSOCIATION

"Safety is a VALUE. If someone classifies it as a priority, I believe they may be in the wrong line of work."

Joshua Pressley, Account Manager

OUR STORY IS SAFETY

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Turn to **page 12** to learn about field safety mitigation measures that you might not think about.

We interviewed five experts across the industry to hear about their thoughts on safety trends, challenges, and successes. Turn to **page 20** to read more!

Do you have a heat-stress management program in place? Turn to **page 32** to learn the proper procedures and reporting involved to be prepared for this summer.

This is a list of common industry terms and acronyms frequently used in this magazine.

- Best Management Practices (BMPs)
- Centers for Disease Control and Prevention (CDC)
- Corporate Social Responsibility (CSR)
- Environmental, Social, and Corporate Governance (ESG)
- Equal Employment Opportunity (EEO)
- General foreperson (GF)
- Integrated Vegetation Management (IVM)
- Light Detection and Ranging (LiDAR)
- Low-Volume Foliar (LVF)
- Minimum Approach Distance (MAD)
- National Institute for Occupational Safety and Health (NIOSH)
- Occupational Safety and Health Administration (OSHA)
- Personal Protective Equipment (PPE)
- Rights-of-Way (ROW)
- Subject Matter Expert (SME)
- Utility Vegetation Management (UVM)
- Vegetation Management (VM)

President's Message

Geoff Kempter

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I probably speak for most of you when I say that I think more about safety than the average person; it's because of our industry. Safety is our ever-present, underlying foundation. We start our daily activities with safety messages. At our educational events, safety is always on the agenda.

Whether we work in the field or an office, we are part of an industry that has made safety a core value. It spills out of our work life and into our personal lives. And this is for a good reason: the work carries inherent risk. And reducing it as much as possible is imperative.

There are plenty of benefits to strive for a safe work environment, most of which boil down to a few key points:

MORAL

If our fellow employees are hurt or killed because of our actions, or because we failed to provide them with a safe workplace, that responsibility is squarely on our shoulders.

FAMILY, FRIENDS, AND COWORKERS

We all have people who love and depend on us and who will suffer if we are hurt or killed.

REPUTATION

The talented people we want to attract must be confident that they are not putting themselves at undue risk—for our companies and our entire industry.

COST

The cost of an incident in terms of medical bills, increased insurance, lost time, and liability is staggering.

OURSELVES

Staying healthy and injury free is an important part of leading a happy and fulfilling life.

Since I started in this industry more than 30 years ago, we have steadily improved our understanding of safety management. And this is reflected in the overall improvement in our industry's safety performance. But the risk will always be there. We cannot drive risk to zero without stopping work altogether. And as incident rates fall, we still must maintain our vigilance and instill safety values across our operations. This can be a challenge.

It is well established that human societies tend to underprepare for low-probability, high-consequence events, such as natural disasters. This phenomenon is described in a book called *The Ostrich Paradox: Why We Underprepare for Disasters* by Howard Kunreuther and Robert Meyer of the University of Pennsylvania. They point out that even though we know that something awful could happen, we underestimate the likelihood that it will happen—especially to ourselves. We still build the subdivision in the floodplain, site the city on the fault line, don't build the levees high enough, allow development in areas prone to wildfire . . . you get the picture.

> **"Be present in every moment—and if there is any doubt, don't take the chance."**

But, why does this happen? As time goes on without a catastrophe, people tend to become complacent. They look around and don't see their neighbors preparing. People quickly forget or were not aware of the history. They become unrealistically optimistic. And more houses are built while codes are relaxed or ignored until the inevitable disaster strikes and the finger-pointing begins.

After weeks, months, or years without significant incidents in our own operations, we too run the risk of becoming complacent. Like the homeowner who "never knew the water could get so high," some don't believe that something like that could happen to them. And that lack of attention is increasing the risk to themselves and their coworkers.

The challenge for all of us is instilling the values required to ensure that safety continues to be taken seriously, even as incident rates fall. As we go about our routines, we must invest in prevention. Always be situationally aware and remember that the risks are real, whether we are rigging a complex tree removal or just driving to a jobsite. Look after your coworkers and invite them to look after you. The costs are low, but the returns are high. Be present in every moment—and if there is any doubt, don't take the chance.

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Executive Director Message

Dennis Fallon

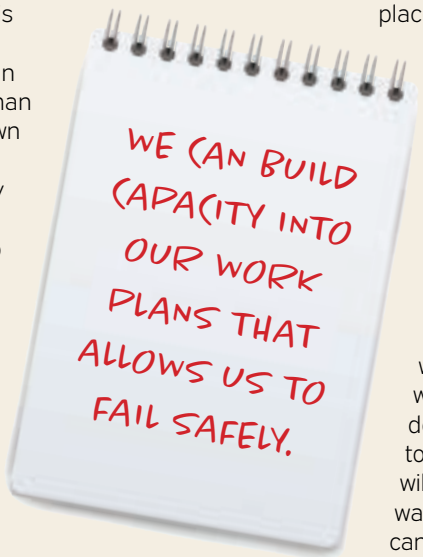
This image of a municipal tree-work jobsite in Minnesota helps illustrate that there is still work to be done on the safety forefront.

This issue of the *Newsline* has a focus on safety. June is National Safety Month in many areas, and this issue hits right as many operations are moving headlong into summer operations. As I write this article in early March, there have been five fatalities in arboriculture that I have been made aware of through online news feeds. They include one indirect conduct, one traffic strike, and three struck-by incidents that all occurred within a 10-day span of February 20 to March 1—five too many.

Dr. John Ball recently wrote an article in the TCIA Magazine and presented facts at the 2021 Trees & Utilities conference indicating that struck-by is surpassing electric contact as one of the top three causes of fatality around arboricultural operations. This is an alarming fact and one in which we are vulnerable on our jobsites. On February 20 in New Jersey, a newspaper reported that "a man was chopping down a tree when it came down and fatally struck his head." An ABC news affiliate reported that on that very same day in Brown Deer, Wisconsin, a man was killed when a tree branch fell on him. According to the story, the man came out of the house to video a crew removing a tree when a branch estimated to be 10–12 inches in diameter fell 20 feet, striking the victim. It is not uncommon for people to be curious about tree work and wander too close to active operations.

On March 1, another ABC affiliate in Wisconsin reported that a man was killed when a power line came in contact with a truck that the man was leaning against at the time of the incident. The police report indicated that a worker aloft pulled a limb that had been entangled in a power line and the line came down onto a truck underneath the tree. A scenario almost identical to this one is included in the UAA "Step and Touch Potential" PSA that can be found on our YouTube Channel. In that case, the worker is not touching the truck at the time the conductor came down.

Of the incidents mentioned, the one that hits the closest to home for me also occurred on March 1 when a 19 year old was struck by traffic while picking up limbs from a pruning operation. My son is 19 years old and has been helping me clean up as we completed tree work since he was four. One of my close friends works for a residential tree firm, and his 19 year old and his 18 year old both work at the same firm. The reality is that almost all of us clean up brush inside traffic control areas on job sites. I passed an orange truck with a crew dragging brush to a pickup site for my own electric cooperative earlier today. Their worksite traffic control was in place and appeared correct for the worksite, but cones and signs are still not enough to stop a vehicle if one were to enter the worker space.



Through concerted efforts, open dialogue, and genuine compassion, this organization's members have made tremendous strides in establishing safety. This was done because the stakes are too high for failure. Our safety work, however, will never be over. We can always be better, and the better we get, the more we will need to work to bring others along with us. Work will continuously need to be done on the sides of roads, limbs will need to be cleared from conductors, and trees will need to come down in areas where folks want to watch it happen. All of these things can be done without having people in the line of fire. We can build capacity into our work plans that allows us to fail *safely*. As you read through this issue of the *Newsline*, think about your safety, as well as the safety of folks around you, and then share what you learned or what you know with others. If you see something, say something.

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Safety Committee Update

By Paul Hurysz, Department Manager–Safety Consulting Services, Davey Resource Group

By Timothy Walsh, Corporate Director of Safety, Davey Tree Expert Company

It may be hard to believe, but the UAA Safety Committee has been active now for 10 years. Although the committee members have changed throughout the years, the objective hasn't changed—to make a difference. We can't say enough about the dedication and participation of the safety professionals who sit on this committee and participate—regardless of their employer or amount of effort required. Our purpose of making a difference is a committee value that is supported by all.

As the entire UAA recently reorganized its committee structure to focus on one of the organization's strengths—specifically collaboration—the Safety Committee has also followed suit. The following subcommittees have been developed, related to topics that are foundational to our success, to improve the overall effectiveness and efficiency of the committee as a whole:

The Education/Training Subcommittee is being led by **Wes Tregilgas** (Wright Tree Service) and is focused on a number of different topics that will add value to the committee and those in need of education and training. Some of the focused topics include operational span of control, safety roles and responsibilities with a benchmark survey, and certification levels for safety professionals appropriate in our industry. Their purpose is connecting SMEs with those in need of education and training.

The ISA Collaboration Subcommittee, being led by **Mark Kimbrough** (Townsend Corporation), is currently focused on finding opportunities to collaborate with organizations like the ISA and TCIA using safety as a tree care industry common denominator. These efforts began last year when developing PSAs pertaining to electrical safety topics such as "Look Up and Live" and "Step and Touch Potential." Those collaborative efforts have been well received within and outside of UVM, even though they target the non-UVM arborist. Additional PSAs include working around 5G, dog encounters, and hostile customer interactions. Bookmark the UAA YouTube channel to watch these videos.

The Safety Summit Subcommittee is also being led by **Mark Kimbrough** (Townsend Corporation) and has been a continuous focus for the committee since its inception. This effort was a seed that was planted and supported by our late and great Committee Chair **Will Nutter**. The purpose of the UAA safety summits are to bring together a representative group of UVM high-potential performers with a variety of views and experiences to develop safety champions within our industry who have the ability to positively impact their companies' safety cultures at the crew level and beyond.

These summits have been developed to promote the constructive exchange of ideas and information, regardless of organizational affiliation, by using a focus group format to achieve results. The goal of each summit is to help organizations proactively develop a safety culture that is measurable by reducing incidents. The summits successfully continued last year with what we call a "pandemic twist." We moved the road show outdoors in Pennsylvania and Indiana. We are trying to plan three more summits this year outdoors in Southwest Michigan, as well as in southeastern and southwestern locations. These summits work best with utility support, so let us know if your region is interested in supporting the next event, either this year or next.

The Research Subcommittee is being led by **Bob Urban** (ACRT) and will function as a liaison between the UAA Research Committee and the Safety Committee so that both committees can create a collaborative relationship. From the Safety Committee perspective, we would like to influence future research efforts that have an impact on UVM industry safety. A good example is ergonomics in UVM. Likewise, we would like the Research Committee to come to us when they need SMEs in safety to help them gauge the impact of change on performers and to provide a safety perspective.

Additional topics include the Z-133 and ULCSP (Utility Line Clearance Safety Partnership) updates. The Z-133 update is still on schedule to publish their five-year update this year and we look forward to the results of that effort. Furthermore, the last two years have been full of updates from OSHA regarding the COVID-19 vaccine and testing mandates, as well as the development of the Tree Care Industry Standard.

We could continue on and on about how valuable this committee is to the industry and to your organization. Instead, I would highly encourage you to see for yourself and participate if you can. We are always looking for additional thought leaders, utility and contractors alike, when it comes to safety. If you have a passion for safety, please feel free to reach out to join this very rewarding experience.

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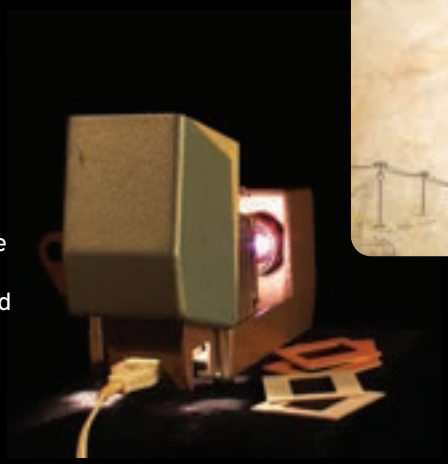
PSAs:

HISTORY, GOALS, AND OPPORTUNITIES

By Gerry Breton, Director of Safety and Training, Lucas Tree Experts



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The earliest public service announcements (PSAs), in the form of moving pictures, were made before and during World War II in both the U.K. and the U.S.

In the U.S., the Ad Council (initially called the War Advertising Council) was set up in 1941, when America entered World War II. On a massive scale, the council began implementing the idea of using advertising to influence American society on a range of fronts. Its first campaigns focused on the country's needs during the war, such as encouraging the American public to invest their savings in government bonds.

After the war, PSAs were used to educate the public on a broader range of important issues. In the U.K., PSAs were produced for the Central Office of Information (COI) by private contractors which were usually small film companies, such as Richard Taylor Cartoons. The announcements were supplied to broadcasters free of charge to use whenever they wished. The usefulness as a cost-free means to fill the gaps in fixed-duration commercial breaks left by unsold advertising airtime led to PSAs being used regularly and extensively in the '60s, '70s, and much of the '80s. And consequently, within both the COI and broadcasting companies, PSAs were typically known as "fillers." They are still being produced, though are rarely seen, due to a much decreased need for broadcasters to turn to third-party filler material to deal with unused airtime during breaks or junctions.

After the war, PSAs were used to educate the public on a broader range of important issues.

GOALS

The goal of the PSAs produced by the UAA is to provide a means of educating arborists and the public as much as possible with industry and safety topics of interest. PSAs are an effective way to heighten awareness on certain issues.

These ads or videos are designed to generate awareness or create a shift in public opinion about something important, like climbing techniques, chipper safety, electrical hazard awareness, or right tree right place, for examples.

OPPORTUNITIES

Producing effective PSAs will have a lasting impact on people as a medium to build awareness and invoke change. PSAs have the power to motivate us, inspire us, and change us. They are stories regarding what affects our daily work or social lives, and they provide focused outreach for the betterment of all. The UAA is always looking for ways to improve our community, environment, health, well-being, and safety by educating our members and the public. If you have ideas for a PSA, please share your thoughts at *www.gotouaa.org.*

WORKS CITED:
The Museum of Broadcast Communications (website), http://www.museum.tv/eotv/eotv.htm?entrycode=publicservic.

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FIELD SAFETY:
Mitigation Measures We May Not Think Enough About

By Michael McDonald, Consulting Utility Arborist and Levi Conrad, Consulting Utility Arborist, Filsinger Energy Partners

Today's VM professionals deal with a variety of common hazards when working in the field, including rural areas lacking sidewalks, swift or dense traffic, loose dogs, isolated terrain, and increasingly harsher climatic conditions. Because these hazards are rather common, we prepare for them out of habit. But, what if we become complacent? What if we feel prepared, but have not given specific hazards enough forethought to handle them in real time?

After decades in the field, we have gathered examples of eight workplace hazards that VM professionals may encounter during their careers. The following examples are not exhaustive, yet they do point out some safety hazards that VM field personnel may not discuss enough.

The intention of this article is to provide suggestions for safe field work procedures, not blanket rules on how to accomplish the intricate demands of others' jobs.

EIGHT MITIGATION MEASURES:

1. Refraining from parking over vegetation
2. Preventing and dealing with dog attacks
3. Avoiding energized equipment
4. Working solo in remote areas
5. Protecting your eyes in forested areas
6. Windshield maintenance for maximum visibility
7. Walking against traffic to maintain better situational awareness
8. Wearing suitable PPE

1. REFRAINING FROM PARKING OVER VEGETATION

"For safety is not a gadget, but a state of mind."

– Eleanor Everet

Lightning strikes and un-doused campfires are not the sole cause of wildfires—our vehicles are also culprits. In 2020, a vehicle in West Texas caused the Mays Fire by driving over and parking in tall grass. This mishap eventually burned over 9,500 acres.

When on a job, inspect your automobile's undercarriage regularly to ensure there is nothing being dragged, such as chains or incorrectly loaded equipment on a trailer. Sparks from dragging metal have ignited multiple wildfires along roadways. Additionally, regularly check the tire pressure and tire wear, making sure to change tires as soon as needed. Tire rims hitting the road or rocks may also produce sparks.

Catalytic converters (CCs) on vehicles can also start fires. CCs reduce emissions by accelerating the combustion of pollutants. The outside surface temperature of the CC, which is a flat, plate-like object under the vehicle, can reach 1,200 degrees Fahrenheit under certain conditions, such as running the air conditioner, towing a trailer, or navigating a steep mountain pass. Fires can then start when flammable materials, such as dry grass, collect on the exhaust/CC system, or if the vehicle is parked where dried vegetation contacts this system. To prevent such a fire, avoid driving through dry vegetation and also check the exhaust/CC system for debris buildup.

✓ **PRO TIP**: Carry a portable fire extinguisher in your work vehicle. It would be ironic and devastating if the individuals hired to prevent fires became the ones who started them.

2. PREVENTING AND DEALING WITH DOG ATTACKS

"It's not the size of the dog in the fight, it's the size of the fight in the dog."

– Mark Twain

According to the CDC, approximately 4.5 million dog bites occur in the U.S. each year, and 800,000 of those require medical care.

If you suspect that you will be working on a property with a dog, try to notify dog owners before entering the property to request that all dogs be safely contained. From personal experience, we know that dog attacks are scary, painful, and ultimately avoidable. Keep in mind that dogs feel emboldened when in the presence of their owners and may become protective simply out of situational misunderstanding.

> **In 2020, a vehicle in West Texas caused the Mays Fire by driving over and parking in tall grass. This mishap eventually burned over 9,500 acres.**

While avoidance should be your primary prevention tactic, you also need to learn how to recognize, understand, and respect dog body language. For example, a sleeping dog can easily startle in a defensive manner. Carrying an electric dog baton (stun gun) can be a good *last* line of defense.

3. AVOIDING ENERGIZED EQUIPMENT

"One flash and you're ash... electrocution is sudden, instantaneous, and without warning. Don't mess with electricity—it's a killer."

– Marc Klynhans

If you are working near electrical equipment, you must be vigilant. "Touch potential" is the risk of electrocution based on one part of the body touching an energized object, like a compromised utility pole or conductor wire, while simultaneously touching the ground. Electricity flows through such a pole or wire to the body and into the ground, which can cause electrocution.

Additionally, when the insulation surrounding old wires underground begins to degrade, the wires become exposed to the soil. Stray electrical currents can travel through the soil and into metal objects on the surface, including steel utility poles, streetlights, fire hydrants, and manhole covers. Simply touching these surfaces can cause an electric shock.

Further, during broken pole or downed wire conditions, natural conductors exist that provide a path to the ground including metal fences, wet soil, and puddles. Wood is typically considered an insulator, but wet wood will conduct electric current. When an energized conductor falls across a metal fence or directly to the ground, the object and immediate area become energized, creating a zone of high voltage. For obvious reasons, we must be extremely vigilant in such conditions.

Never touch any utility poles or downed wires. Secure an area, if needed, but only if you are qualified, and immediately report any serious field abnormalities involving electric or gas service equipment to the appropriate utility provider.

Finally, consider wearing a personal voltage detector, which provides audible and visual alerts when you're working near an electric current. If you don't have one, request that they be made standard equipment for field work.

4. WORKING SOLO IN REMOTE AREAS

"Don't learn by accident."

– Unknown

Communication breakdowns are one of the greatest risks you can face when working alone, particularly in rural areas without mobile phone coverage. In fact, OSHA considers "working alone" as a potential hazard to be monitored and mitigated like any other.

Because your wireless and internet connections may fail in remote areas, we recommend downloading the appropriate map into your phone or mobile device before going into the field. You don't want to rely on a digital map that disappears when you're in the middle of nowhere.

Also, never be afraid to go "old school." Bring along printed maps of the area where you're working. They serve as a great backup reference, and you can even write relevant observational notes on them.

Never assume you won't get lost and need help. It happens to the best of us. Make it easy for coworkers to find you by using a "find me" device, such as the SPOT X and the SPOTGEN 3 or 4.

5. PROTECTING YOUR EYES IN FORESTED AREAS

"There is no Wi-Fi in the forest, but we promise you will find a better connection."

– Unknown

Imagine yourself hiking through a thickly wooded forest when, suddenly, a tiny branch snaps right into your eye. This can cause corneal abrasion, which is uncomfortable at best, but can also be dangerous.

A corneal abrasion is a scratch to the cornea. It's like getting a paper cut on your eye, which is a painful and serious injury that can impact your level of field safety and fitness for some time.

To minimize the risk of a corneal abrasion, always wear protective eyewear when trekking through tall brush or thick forest. If you get poked in the eye with accompanying pain, or if it feels like something is lodged in your eye, visit an eye care professional.

Remember that you use your eyes more than any other part of your body when you're performing VM field work. Protect your eyes so that you don't risk your entire career to an eye injury.

6. WINDSHIELD MAINTENANCE

"Baseball is like driving. It's the one who gets home safely that counts."

– Tommy Lasorda

Getting a crack or break in your windshield can be more than just annoying and costly—it can be downright dangerous. Maintaining a clear view of the road in front of you is one of the most effective ways to stay safe while in transit.

Windshield damage is most often caused by flying debris, but weather can also have serious impacts on your car's glass. Even the smallest crack can spread during large swings in temperature. The combination of driving a vehicle between extreme temperatures, plus a defroster blowing air onto the windshield, can turn a small chip into a significant crack.

Save yourself time and money by getting windshield damage fixed before it worsens and causes a hazard.

7. IMPORTANCE OF WALKING AGAINST TRAFFIC

"Safety brings first aid to the uninjured."

– F.S. Hughes

Nearly 5,900 pedestrians are killed by automobiles every year in the U.S. Many of these deaths are entirely avoidable if everyone—pedestrians and drivers alike—takes preventative steps.

VM professionals are often required to work on or near busy roads, which is more hazardous than merely being a pedestrian because our attention is divided between our work and the road. Here are some safety tips to follow when you are working on or near a roadway:

- Walk on the sidewalks and face traffic where appropriate. If you can see cars coming, you can avoid them.
- Look left, right, and left again for vehicles. If you're in a rural area, don't assume the road is clear just because a car hasn't come by for several minutes.
- See and be seen. Make eye contact with drivers when crossing busy streets and wear reflective gear.
- Take your time. Being unfamiliar with the area where you are driving may present time-sensitive challenges (e.g., Where do I find shoulder parking? How far away is the nearest fuel station?). Never be in such a hurry and so distracted that you might hurt yourself or others.

8. WEARING SUITABLE PPE

"Sometimes it takes a good fall to really know where you stand."

– Hayley Williams

When performing field work, it is vital to consider which PPE is best for the job. Choosing the correct PPE for each job equates to proactive self-defense. In fact, some seemingly insignificant clothing items or accessories can be downright dangerous. For example, wearing a lanyard or a necklace while working on a chipping crew can put you at serious risk.

In the field of VM, slips, trips, and falls are the most common causes of injuries. Therefore, you should always wear the appropriate shoes for the job—in good condition, especially the soles.

Also, PPE may need to be properly adjusted for your body. For example, when you put on a hard hat, make sure you adjust it for your head so that it stays on while you're looking up to inspect trees or overhead infrastructure.

The following lists the most common forms of PPE:

- Boots
- Ear plugs
- Face masks
- Gloves
- Goggles/glasses
- Hard hats
- High-visibility clothing
- Safety shoes

> "Risks in the field are not always obvious."

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The following lists non-required PPE that you may consider adding:

- Gaiters may help reduce the severity of a snake bite and will keep snow, burs, or other debris out of your boots.
- Safety whistles can get someone's attention around noisy equipment or other circumstances that make jobsite communication difficult.

PRO TIP: You should take only what you need into the field so that you do not become exhausted by hauling unnecessary gear.

CONCLUSION

Risks in the field are not always obvious. Sleeping dogs, dry grass, quiet cars like electric vehicles, an overall increase in traffic volume and speeds, and even the increase in drought conditions all contribute to making roadside VM jobs riskier. In the end, your safety equates to your personal and professional longevity, which means you must be vigilant and proactive.

Incident-free is continually the way to be. So, stay safe out there.

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UAA SAFETY SUMMITS:

What Are They?

By Chris Gaston, Supervisor, Lewis Tree Service

UAA safety summits are a collaborative effort of industry professionals, from entry-level craft workers to the lead experts, coming together for one purpose: safety. We all have our own safety programs with the organizations we work for, but a safety summit is a way to network with other colleagues in your own industry—or even outside of it. The summits are a way to see what others are doing and how everyone is relentlessly pursuing ideas to improve safety across the industry.

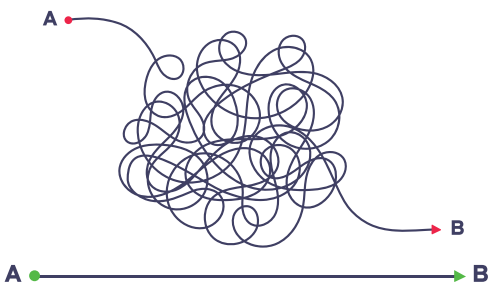
Utility companies working alongside the VM companies build the trust value to ensure safety is the number-one priority and obligation to get the leading techniques out to their personnel. The collaboration is a great, diverse way to look at the industry from different companies' perspectives. It is also a worthwhile time to form new partnerships to push the safety message to their valued team members.

Times have changed and the summits are conducted differently than they once were. Before, there use to be a classroom setting and speeches, and now we are actively putting the summits outdoors for the exhibits being performed. The outdoor summits were first held in 2021 and had extremely positive feedback. Being outdoors gives us the flexibility to show the live demos and techniques that will help catapult the industry's safety by being more hands-on. It is a constructive approach for field craft workers who perform the work every day.

Safety summits are an imperative platform for the industry to present many topics we all face in regard to safety concerns. Exhibits from chipper safety, tree felling, and rigging techniques all have been performed at the summits with great involvement from the attendees. There are endless possibilities on what can be brought to a summit.

There is no better time to start taking a proactive approach to getting the message out to the industry than attending a safety summit and participating in the conversation.

Accelerating Expertise



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Whether you're an EMT rehearsing the nuances of first-responder environments or a pilot in a flight simulator, practicing via different scenarios is the key to accelerating expertise. The same holds true in line clearance. We can tell craft workers what to do (i.e., ensure compliance) or provide them with opportunities to put good practices into action firsthand.

Over the past few years at Lewis, as we began exploring the science of naturalistic decision-making, we discovered myriad factors that contribute to accelerating expertise with our frontline workers:

- **Target setting.** Like participating in a clay shoot, target setting can be a fun and practical way to build hands-on expertise, especially with inexperienced crew members. This can be as simple as felling a tree and landing it on a target.
- **Exposing craft workers to a wide range of experiences.** Instead of expecting team members to do the same job day-in and day-out to build expertise, mindful rotations among different work types with expert mentors can accelerate expertise and contribute to a greater sense of job satisfaction.
- **Practicing sense-making.** Take the time to press pause during a complex task or unique situation and ask novices, "What do you think is going on?" and "What does that mean?" Ask the experts the same questions and allow team members to compare mental models.
- **Pausing for reflection.** Take the time to conduct after-action reviews and ask team members what went well, surprises they encountered, what they learned, what they might do differently, and so on.
- **Building in surprise.** Standard training does not prepare teams for surprise. Rather, we have discovered that when we build surprise into a drill, like an intentional headset communication failure, teams are better able to adapt to future disruptions, as well.

Surprise is a fascinating topic. Stay tuned for more on that subject soon.

LEWIS

“What Lewis is doing to be an **inclusive community** is incredible. Especially what is being done to help veterans transition to the civilian workforce.”

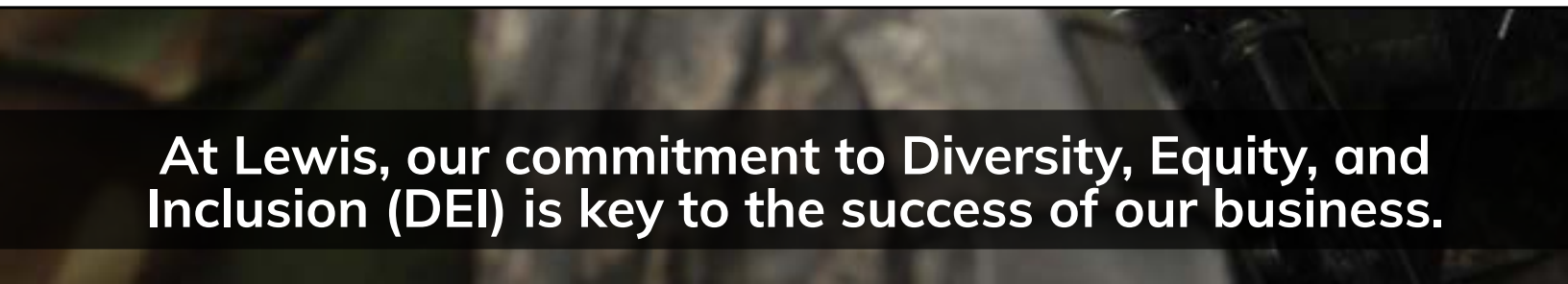
Rich Evans
Division Manager

POWERED BY PEOPLE

Join Us in Honoring Mental Health Awareness Month

“What I had heard about working in the civilian world was that most companies have a page about their values and supporting military veterans but that’s it, they didn’t actually live by it. At Lewis, we live by our operating principles. The respect for, and safety of, our craftworkers always comes first. We are not commoditizing our people, we are treating them as individuals.”

Learn more about Rich’s views on DEI at Lewis, and why he believes Lewis is a great place for veterans at https://bit.ly/3vvjOS8 or scan the QR code.



At Lewis, our commitment to Diversity, Equity, and Inclusion (DEI) is key to the success of our business.

SAFETY MANAGEMENT SYSTEMS

Insight into Advancing Your Culture of Safety

By Paul Hurysz, Department Manager–Safety Consulting Services, Davey Resource Group

A couple of years ago, the UAA Safety Committee attempted to help individuals and their organizations develop or measure some insight into what we all hope to continuously improve upon: our culture of safety.

That effort, titled, "Creating a Culture of Safety: Self-Assessment Metric," is currently accessible on the UAA website (*www.gotouaa.org*). The effort is quite simply a decision matrix that can be used to self-assess an individual or team's safety culture. As with all things in safety and performance, only rarely do we ever find perfection; human beings are all fallible.

This effort, the assessment, was no different. I have always felt like it could be improved upon; I just didn't know where to start. So, in the spirit of continuous improvement, I have been on a mission to frame what a safety culture looks like so that it can be assessed proactively and periodically. On this journey, I have been educated on the value of Safety Management Systems (SMS) and how it becomes more than a tool. It becomes the framework of the culture of safety we all wish to continuously improve.

The concept of managing an SMS—and every organization has one, whether they know it or not—is to help define what an organization or company's culture of safety looks like.

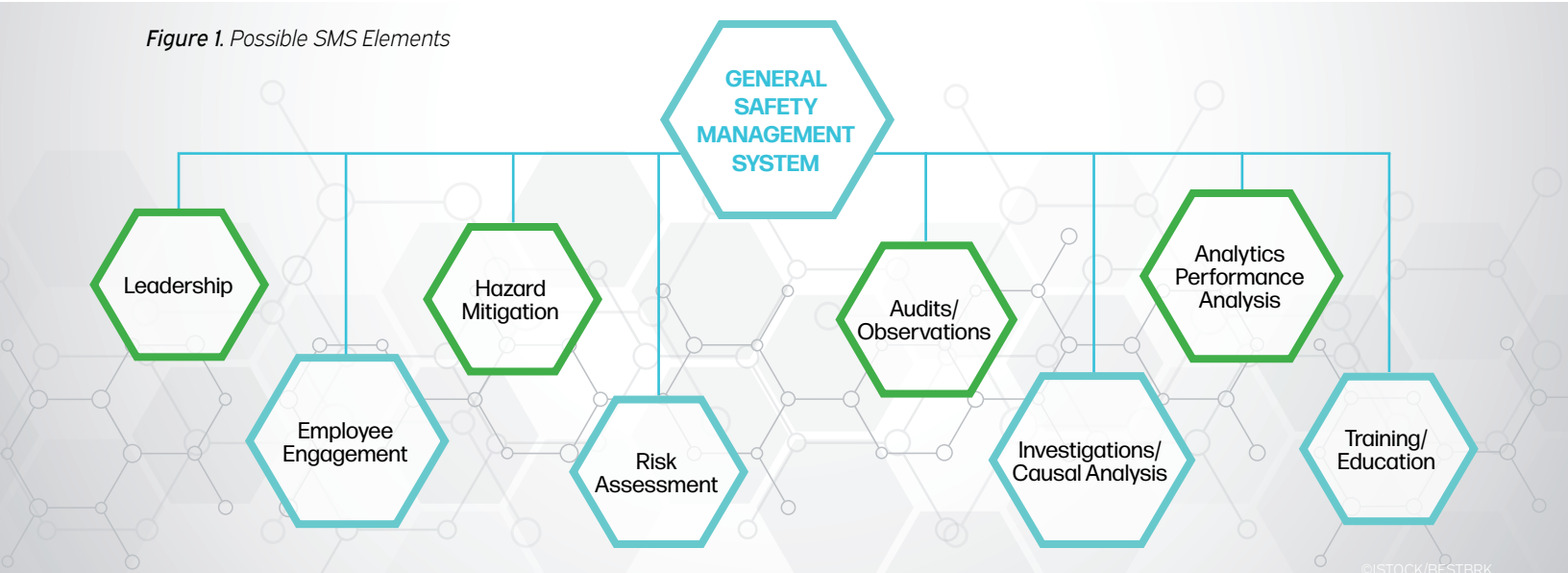
"As long as your organization has people working on its behalf or who may be affected by its activities, then using a systematic approach to managing health and safety will bring benefits to it" (Paoletta 2020). The general structure (Figure 1) of an SMS has a number of components and elements which are unique to every organization.

SMS elements may include:

- Management/leadership
- Employee participation
- Hazard analysis
- Risk assessment
- Incident investigations
- Training and education
- Observations and audits

Each of these elements can be considered equivalent to a link on a chain, giving the safety professional the ability to initiate cultural change by addressing weak links to make a difference and coalesce or mature that culture over time, seeking continuous improvement. Periodic SMS assessments and reviews give safety professionals the ability to identify those weak links, or elemental gaps, before that link produces an incident. In turn, system safety assessments can be the blueprint that

Figure 1. *Possible SMS Elements*



challenges safety professionals and other stakeholders to be held accountable for safety, to identify gaps within the system, and mitigate the risks associated with those hazards until those risks are deemed acceptable. Risk mitigation is achieved through controls, starting with elimination or substitution, then moving towards engineering solutions. Administrative and PPE controls should help mitigate the risk to acceptable levels or the task should not be attempted. When you take an SMS and manage its success through system safety and safety design reviews, "their application in the occupational, environmental, and product safety settings would result in significant reductions in incidents (that would otherwise normally have) adverse effects" (Manuele 2020) on the organization.

Let's break the SMS down even further for a deeper understanding of the concept. Hypothetically, if your system gap analysis (as part of your cultural assessment) shows needing an improvement of employee engagement with safety practices, processes, procedures, and accountability, what should your course of action be? It depends on the root of your problem; your assessment should provide you with that information. As stated in the UAA Culture of Safety Decision Matrix, your first step forces you to take a hard look at leadership from a corrective-action standpoint:

- Do your leaders walk the talk?
- Are your leaders spending quality time in the field supporting expectations?
- Do your leaders encourage field level employees to participate in incident investigations?
- Do your field level employees understand the *why* behind the policy or procedure?
- Is the mission or task at hand understandable to everyone involved?
- Is feedback freely accepted and encouraged by your leadership?

These are merely a few questions to ask ourselves when it comes to leadership. Since we all know nothing is perfect, opportunity for continuous improvement will always exist.

A proactive approach to mitigating incidents—the mindset that the SMS approach to achieving a culture of safety requires—is superior to a reactive approach. By gaining the "buy-in of others," SMS becomes not only a tool, but the framework of the culture of safety you wish to build and mature.

Buy-in is the ability for every person in an organization to not only know the goal, but *deliver* the goal at each level. This may require a cultural shift by starting corporate meetings with safety briefings, or training forepersons in causal analysis so they are actively involved in investigations. A holistic and proactive approach to elemental analysis and continuous improvement framework gives you the structure to examine, improve, and mature your culture of safety over time. If you would like to continue this discussion, please reach out to me (*paul.hurysz@davey.com*) or anyone on the UAA Safety Committee. We absolutely love participation and engagement! With communication and understanding, we only get better at what we do. Take care and stay well.

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Kerry Joseph

Carrying a Sentiment of Safety Through California

From the moment ACRT Pacific Senior Supervising Utility Pre-Inspector Kerry Joseph lost his father in a car accident in 1990, safety has been an integral part of how he thinks and operates every day.

When the accident investigation revealed his father was not wearing a seat belt, Joseph said "From that day on, getting myself and others home at the end of the day became a priority for me."

Joseph serves as ACRT Pacific's lead area safety representative (ASR) and sits on the ACRT Pacific Safety Committee. In these roles, he is responsible for keeping his fellow ASRs engaged in the organization's overall safety goals and guidance for the year, sharing information to relay to employees in the field, and most importantly, getting everyone home to their families at the end of each day.

ACRT Pacific ASR members assist in safety communications, safety auditing, identifying at-risk behaviors, near-miss reviews, and incident investigations. Members are safety champions and serve as a conduit between safety management and field employees. They aid in the training and tracking of safety-related items throughout their region and mentor those who need extra help.

For Joseph, the sentiment he carries for safety goes back nearly 32 years to that day in 1990.

"When my father died in that car accident, he didn't get home. It was unexpected. He left the house and the next knock at the door was the California Highway Patrol."

Joseph shared, "Our people are getting home in one piece. That's the ultimate goal. I know we have important jobs. I know we have production schedules. Work's a good thing—but don't worry about it, it will still be there tomorrow. Get home."

Learn more about ACRT Pacific and our safety philosophy at *pacific.acrt.com*.

Spreading The Word

Staying SAFE Across the Industry

By Renée Bissett, Director of Marketing and Communications/ Chair of UAA Editorial Committee, ACRT Services

Numerous industries are inherently risky—ours more so than others. Just browse the most dangerous jobs and you'll see landscape, construction, driving, and logging all making the list. With an industry full of risks and hazards everywhere, how do you keep your people safe? We checked in with some folks around the industry to see what they're facing, what trends they're seeing to mitigate risk, and some successes they've celebrated. This article features M.K. Youngblood (Safety Manager, ACRT Pacific), Beth Lay (Director of Safety and Human Performance, Lewis Tree Service), Craig Kelly (Principal Land Consultant, PG&E), Adrienne Jones (Assistant Manager of Safety, ACRT and Bermex), and Gerry Breton (Director of Safety and Training, Lucas Tree Expert Company).

Team Effectiveness

Building a culture of safety takes time and commitment throughout an organization. It can't be an edict direction from the top down without management leading by example. We asked our panel how they get their teams engaged, active, or excited over the expectations with safety and how to ensure their teams are following through.

Youngblood "likes to get out in the field and put a face to safety—showing the employees a softer side of safety. You have to connect to the employees on a personal level, showing them how this has a direct impact with implications to their personal lives."

For Lay, it's about principles over expectations. "We talk about principles all the time—repeat, repeat, repeat," she said. "We open almost every call with our operating principles and mission. We set goals for activities like storm response, and we check how we are doing against the goals daily. We praise when people are meeting expectations. Our leaders model our expectations. We have a high level of leadership engagement including check-in points for activities like convoying to a storm."

Kelly "sets goals and metrics for individuals and evaluates their progress with their supervisors." For him, "engaged and active means assigning tasks of safety to each of the individual contributors."

Jones stated, "It's important to involve field employees when defining best safety practices. After all, no one gets a closer view of the challenges facing workers than the workers themselves. Over time, I have noticed that the more curious we get, the more questions we ask. And the more value we place in our employees' personal experiences, the more likely they are to actively participate in our culture of safety.

"Whether that means asking our employees to write a daily safety message or share a personal near-miss experience, our teams get excited when they are asked to share and have an audience that will truly listen. This empowers them to take ownership of their safety and emphasizes the impact they could have on a coworker's safety.

"In safety, follow-through is all about communication and expectations. We have built a strong team of departments vital to our culture of safety, especially when it comes to responding to and investigating safety incidents. In addition to these expectations, we have worked hard to establish trust and reliability. Our teams know they are not alone. When someone feels supported, they are more likely to reach out and ask for help in completing a project or finishing a task. We rely on members of our leadership team to set the tone. After all, when leaders do not follow through, the rest of the workforce feels they have permission to do the same."

Breton tries to "do more than communicate—try to *connect* with employees. We incorporate our employees' families into our safety program. The family is critical. One example of this is that we actually send a quarterly safety communication to the emergency contact of every employee." Regarding the follow-through, he added, "Nothing beats good old jobsite observations, accompanied by electronic trending data."

Trends and Challenges

Safety challenges us in most aspects of our industry. According to OSHA, the impact of building safe practices is working. Worker deaths in America are down on average from 38 worker deaths in 1970 to 15 a day in 2019. Worker injuries and illnesses are down from 10.9 incidents per 100 workers in 1972 to 2.8 per 100 in 2019. Most of us would agree the only acceptable number of worker incidents is zero, and the worst imaginable incident is death. We wanted to know from our safety experts what their biggest safety challenges are, what trends they're seeing to reduce risk, and what solutions we can anticipate in the future.

Youngblood views his biggest challenge as "communicating in real time when something happens. Late notifications are the Achilles heel to any company." Trends at ACRT to reduce risk include satellite technology for real-time communication making better two-way, real-time communication possible. Additional trends are drone technology and its applications in the field. For solutions expected in the future, he stated, "I am collaborating and creating new tailboards, quizzes, and policies on several key safety issues in the VM field, not only to keep our employees safe, but to keep our organization on the cutting edge of safety."

For Lay, if she could wave a magic wand to fix her biggest safety challenge at Lewis, it would be "eliminating people being struck by trees and limbs." On trends to reduce risk, she stated, "We have reframed risk in terms of managing uncertainty. This fits our highly variable work environment better than trying to predict and manage all risks."

Kelly's challenge at PG&E is "getting people to recognize that safety is not just a priority: it's a value and the culture needs to change." On reducing risks in the future, he said, "Ensuring to establish regular field safety observations on crews to identify, record, and implement safety improvements. Once implemented, the trends will improve."

At ACRT, Jones said, "The biggest challenge is consistent, open communication. Eradicating the fear of punishment for reporting or asking questions is a constant need in the world of safety. We work tirelessly to change that narrative, and creating open lines of communication is vital. We must examine our audience. The workforce is made up of multiple generations and we must cater to each. Some teams respond best to in-person, face-to-face communication. Others prefer email; some text. We have to get out of our comfort zones to effectively connect with our unique and diverse workforce.

"Our anticipated future solutions include continued acceleration of our virtual safety solutions and the use of ever-evolving technology. This could look like virtual reality (VR) training that includes demonstrations on specific workplace tasks. VR can allow employees to practice using equipment and simulate environments that pose potential hazards. There's a growing trend of PPE devices embedded with sensors for real-time information and data. These virtual solutions even include drones to minimize exposure to hazards by inspecting sites and monitoring operations. Technology innovations seem to impact every part of business today and safety is no exception."

At Lucas Tree Experts, Breton said, "Our big challenge is a disconnect that has developed between the general foreperson and his/her personnel. Several years ago, the foreperson ran the crew when the GF was supervising. I believe as an industry, we have transferred so much of the crew leadership to the GF that they do not have the time to properly monitor the operations assigned to them."

According to Breton, a trend for reducing risk is in motor vehicle safety. This is not just limited to Lucas Tree Experts. Distracted driving has become an epidemic across our country. "Unfortunately, it affects us not only while driving, but also in the vast majority of our worksites," he said. "With cab management systems, we can disable, limit, or monitor driving behaviors. Over the last year and a half, Lucas has made a huge investment in dual-dash cam and GPS units."

Celebrate Successes

Youngblood cited two recent safety wins. "We recently reevaluated vandalisms vs. vehicle burglaries and made sure the classifications are correct," he said. "This helps law enforcement on the back end for possible prosecution: misdemeanor vs. felony. Our near-miss classifications have been improving with better accuracy in reporting. This allows for a more defined trend analysis to share with the teams."

Lay is celebrating how meaningful close calls are being reported by more and more people. She said, "We've truly created a learning culture."

Kelly considers a win when there is an incident and no one was injured or there was no significant damage to equipment. "We consider it a 'safe failure' and celebrate it with the crew, company, and throughout PG&E. It means all controls were implemented properly so that 'everyone and everything is always safe' (PG&E Safety Stand)," he said.

Jones said, "A recent win for our team was an exponential increase of near-miss reports from field employees from one company in particular. The amount of reports has risen drastically, and we can attribute the change to several things: newly engaged and motivated leadership personnel who are sending the right message to their teams, reeducation of near-miss reporting, how we use the content, and encouragement. Ultimately, getting to the 'why' behind this part of our safety program has helped us improve participation. Ensuring employees understand how data is used and how their contributions impact the safety program as a whole has made a world of a difference in increasing engagement."

Breton's recent win is a result of a safety culture survey. He said, "We have incorporated a short video into our weekly tailgate program. This has allowed us to deliver a consistent message into every tailgate session."

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+ Contributors

Renée Bissett

Bissett has been in the industry for nearly 20 years and is the director of marketing and communications at ACRT Services. She was the first woman to receive the UAA Education Award in 2019. Bissett serves as Chair of the UAA Editorial Committee, a member of the Trees and Utilities Conference Planning Committee, and the UAA Partners in Excellence Committee. She is the secretary of the Saluting Branches Board of Directors.

Gerry Breton

Breton is director of safety and training for Lucas Tree Experts, as well as one of the partners. He is a U.S. Navy Veteran, holds a Bachelor of Science degree in industry technology from the University of Southern Maine, with a minor in safety and ergonomics, and has worked in the utility industry and as a safety consultant for nearly two decades. Breton is a Certified Tree Care Safety Professional by the TCIA, Certified Safety Management Practitioner by the Institute Hazardous Material Management, and a Certified Utility Safety Professional by USOLN.

Adrienne Jones

Jones is an assistant safety manager at ACRT and Bermex. She has two years of industry experience and is a National Safety Council-Certified Defensive Driving Course Instructor. Jones also serves as a First Aid/CPR/AED instructor and is a member of the UAA Safety Committee. She holds a bachelor's degree from DePaul University in Chicago, Illinois.

Craig Kelly

Kelly is a principal in the land management organization of Pacific Gas and Electric, overseeing the organization's contractor safety program. Kelly is a Certified Arborist, Utility Specialist, and holds his TRAQ qualification through the ISA. He is a Certified Treecare Safety Professional through the TCIA and holds the OSHA-10 qualification. He is Past President of the UAA and currently champions several UAA committees with his active role on the UAA Board of Directors..

Beth Lay

Lay is experienced in resilience engineering, high-reliability organizations, Safety II, human performance, and operational risk management. She is currently Director of Safety and Human Performance for Lewis Tree. Lay has advised on resilience and human performance at NASA, DOE, and Los Alamos National Labs. She is a mechanical engineer with a master's certificate in cognitive science. Her former roles include leading Siemens Energy Risk Management team and, more recently, Director of Human Performance at Calpine.

M.K. Youngblood

Youngblood serves as the safety manager at ACRT Pacific. He has more than 30 years of public service and first-responder experience, with core proficiency in American Indian law, American Indian culture, and disaster cleanup. Youngblood also serves as a certified instructor for the U.S. Department of Energy (National Nuclear Security Administration and Center for Radiological Nuclear Training), U.S. Emergency Management Institute, and Center for Domestic Preparedness. He holds a Bachelor of Science degree in emergency management and a master's degree in public administration, both from Concordia College, in Moorhead, Minnesota.

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Safety Advancements in the LINE CLEARANCE INDUSTRY

By John Sullivan, CUSP, Safety Director, Tree Care of New York, LLC

When I started working for an investor-owned utility in 1974, I was fresh out of high school and had little knowledge of safe work practices and policies. I was truly fortunate to collaborate with people at the utility who cared about my safety and made sure I developed safe work habits that I still espouse today.

Thirty-four years later, I transitioned to the tree care industry and quickly discovered that I had much to learn about line clearance work. While VM companies at that time had extensive safety policies and programs in place, certain practices remained that were accepted under the guise of "that's the way it's always been done." Fortunately, through the arduous work of many fine safety professionals from the line clearance industry, those practices are no longer acceptable.

Line clearance organizations have worked tirelessly and invested millions of dollars in the development of a true safety culture across the industry. We have collectively raised the bar for the safety performance of our workers. During new-hire orientations, we rarely hear the phrase, "That's not the way my former employer did that." Regardless of the model you are using—whether a behavioral safety, human performance, or a hybrid method—line clearance organizations have the expectation that all of our employees will work safely. And if they cannot work safely, the job shall stop. We have reduced injuries to historically low levels and must continue to develop an industry-wide culture where safety is the priority.

Workers being struck by objects from above remains the number-one cause of injuries and fatalities in the tree care industry.

Safety Partnership

A number of line clearance companies have representation on the Utility Line Clearance Safety Partnership. This group was formed in 2000 with representatives from eight of the largest line clearance organizations in the U.S. It has grown to 14 members who meet at least twice annually to discuss critical issues that are present or may be emerging within the line clearance industry. The partnership is represented by legal counsel who update the group on regulatory issues. OSHA's Emergency Temporary Standard (ETS) for COVID-19 vaccinations is one example. We were given updates on the progress of the ETS as it unfolded. Member companies of the partnership benefit from having a credible source for information, as opposed to each of us doing our own extensive research. When we meet, either in person or virtually, it does not matter whose name is on your shirt. We all work together toward a common goal of reducing incidents within our industry.

Drop-Zone, Chain Saw, and Grounding Rules

Workers being struck by objects from above remains the number-one cause of injuries and fatalities in the tree care industry. Thus, all line clearance companies have adopted drop-zone policies that have dramatically reduced the number of struck-by incidents across our industry. Drop-zone policies typically define the area around the tree that workers on the ground shall not enter without permission from the workers aloft. The drop zone may be defined by setting up a perimeter of cones at a predetermined distance from the drip edge of the tree. Drop-zone policies also define the distance at which workers on the ground shall stand when trees are being felled. This is typically a minimum of 1.5 times the height of the tree being felled. This ensures that workers on the ground will not be struck by the falling tree. Establishing a proper drop zone was added in 2013 to the ANSI Z133 consensus standard regarding safety requirements for arboricultural operations and expanded in the 2017 revision.

The safe use and operation of chain saws is imperative within the tree care industry. While they do not occur often, incidents involving chain saws do happen. In the past, when chain saw cuts have occurred, we often find that the operator failed to keep two hands on the saw while operating it. Two hands on the saw with thumbs wrapped around the handles ensures that in the unlikely event that the saw kicks back, the operator can keep the saw from contacting any part of their body. Line clearance companies have long prohibited the practice of one-handed chain saw use, and we have seen steady declines in chain-saw-related soft-tissue injuries due to our efforts.

The use of visible safety grounds has become widely adopted across the line clearance industry. It is now a frequent

practice that line clearance crews request visible grounds, particularly during storm work. Historically, our utility customers have been very accommodating when tree crews ask for outages while conducting non-storm-related line clearance tasks. However, the practice of grounding during storm events was not a widely accepted expectation in the past. Through the collaborative efforts of the line clearance industry and our utility partners, our workers are now offered an extra level of protection. Because our workers are qualified line clearance workers and not qualified electrical workers, they shall continue to treat all conductors as if they are energized and maintain the prescribed minimum approach distance.

PPE

As safety professionals, we often refer to PPE as the last line of defense against incidents. Thanks to our training and coaching efforts, as well as advancements made in the tools we use across the industry, our workforce is now less likely to injure themselves than they were in the past. The use of chaps or cut-resistant pants, safety eyewear, hearing protection, safety-toed footwear, full-body harnesses for aerial lift work, gloves, head protection, and high-visibility attire is required of all our workers. Technological advancements in PPE continue to improve the overall protection, comfort, and appearance for end users.

Certifications and a New Endorsement

Our customers expect that safety professionals who support the contract workforce are knowledgeable about the standards and regulations that apply to the utility industry. Many of our frontline safety professionals came to safety from the field and bring vast line clearance experience with them. It is not uncommon for line clearance safety professionals to have credentials from the ISA, the Tree Care Industry Association, and the UAA. As an industry, we must continue to offer our workforce exceptional support from our safety teams.

I am proud to have been part of the team that developed the new utility line clearance arborist endorsement for Certified Utility Safety Professionals (CUST), for which you can visit *https://usoln.org/endorsements* to learn more. Together with Mark Kimbrough (Townsend Tree Service), Gerry Breton (Lucas Tree Experts), Chris Dichard (Asplundh Tree Expert), Mark Werndorf, Ted Granger, and Catherine Cox (Utility Safety & Ops Leadership Network), we developed the body of knowledge and a battery of test questions for the endorsement.

This endorsement should serve as a catalyst for line clearance safety professionals to join our peers across the utility industry in earning the CUSP credential. We also anticipate that current CUSPs will earn the endorsement to add to their credentials.

Conclusion

Those of us who work as safety professionals in the line clearance industry are immensely proud of our progress throughout the last decade to make the industry a safer place for our workers. None of this would have been possible without the efforts and great work of our safety teams and the exceptionally hard work of our line clearance workers in the field. They are the heart and soul of our organizations.

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BENEFITS AND CHALLENGES OF A Safety Management System

By Darrell Daniel, VM Program Manager and Steve Apicelli, Environmental Health and Safety Specialist, SMUD

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In 2021, SMUD began a complete overhaul of the numerous siloed processes that had been in place to support the many departments ranging from VM, line assets, substation, facilities, and many more. The approach was to roll out a comprehensive safety management system (SMS) to allow for a single database to house and archive necessary safety information, such as field observations, inspections, and audits. The essential idea and purpose of any SMS is to provide a systematic approach to reducing safety risks in an organization.

This system allows for better time management, as well as a greater ability to collect information; document defects and success; store compliance-driven actions; monitor and document tailboard discussions; house and access job-hazard analysis; monitor and analyze trends of near misses or concerns; and perform corrective-action tracking.

The SMUD Safety Department successfully launched a customized, hosted system consisting of the first nine apps with more enhancements to come this year. The apps are made available from any handheld or desktop device. SMUD has partnered with the Benchmark ESG Gensuite SMS program.

OPPORTUNITIES AND BENEFITS

This SMS system will allow SMUD to move to an easily accessed digital format for all safety-related activities, accessible in the field or office. While used by both field and safety staff, the system is also customized for field staff with unlimited possibilities for additional customization as users provide feedback.

These systems can be accessed online from anywhere to perform analysis of in-field reporting and inspection almost instantaneously. Historically, utilizing multiple systems, plus paper data collection (when necessary), requires heavy administrative time to consolidate and generate reporting that has an increased likelihood of errors. Utilizing a central clearing house of data and information limits the potential for invalid data collection, and ensures the solutions being developed are targeting accurate challenges.

The elimination of siloed safety programs and paper usage will increase the overall safety culture and create increased department collaboration, as well as synchrony in the organization.

The instantaneous updating of submitted reports and inspections allow for real-time updates regarding field conditions, which lead to an accelerated trend analysis and potential prevention of injuries or negative outcomes.

Utilizing the system has allowed for increased focus on many issues, ranging from small to large, to gain better visibility, as well as assist in accountability. When records are submitted that highlight defects, alerts are created to ensure follow-up. If uncorrected, visibility is available and shown on a much broader basis than past processes allowed.

CHALLENGES

While the consolidation of the safety programs and systems allows for many benefits, there have been challenges encountered that must be taken very seriously to ensure the feedback and concerns are fully vetted out and resolved. A few primary challenges encountered have been: (1) the amount of upfront work required to build out and (2) populating the applications held in the SMS. For example, line-assets vehicles and customer-liaison representatives need to perform vehicle inspections. However, the data being collected has overlaps but also many deviations. Having this on one application but adjustable based on department takes large up-front administrative work to ensure success. Once the applications are created, each employee and department needs both training on utilization and an appropriate feedback loop established to spur continuous improvement. Additionally, ensuring connectivity to submit records is required for instant updates to be provided.

> **“The essential idea and purpose of any SMS is to provide a systematic approach to reducing safety risks in an organization.”**

Change management is essential in implementing new processes—especially when transitioning many team members from paper to electronic submittals requires much technical support to ensure success. Former President Woodrow Wilson astutely said, “If you want to make enemies, try to change something.” Although difficult, change allows evolution and advancement. And if done well, change creates many advantages for an organization.

gold LEVEL

PREPARING FOR THE STORM:

Mitigating Incidents During Storm Response

The aftermath of a storm is full of hazards. Vegetative debris, property damage, and destroyed utility pole top equipment can create dangerous circumstances for the crews responsible for power restoration and storm cleanup, such as life-threatening electrical risks, fire hazards, difficult accessibility to restoration sites, and more. Most tree care professionals would agree the best bet for incident-free storm response is strict adherence to safety procedures and protocols. But amidst all the chaos of a storm cleanup effort, how can safety protocols stay top of mind to VM crews?

Detailed, hands-on training and work plans are the answer. With proper training and skill sets, storm response crews can spot the signs of danger and use the right tools to complete work with less risk.

In November 2021, Davey Tree held its third lines-under-tension training to address this issue. The two-day hands-on training session held at the Davey East Campus in Kent, Ohio, used manufactured lines-under-tension scenarios. The training allowed attendees to learn and safely implement the use of specialized rigging methods—to secure and then release lines under tension once the tree was sawn clear and work area hazards were mitigated. Most importantly, the training emphasized using "all stop" and having a detailed work plan to the non-routine threats associated with lined under tension.

"We wanted to demonstrate the hazards associated with storm work," said Jeremy Lewis, senior regional safety specialist, who oversaw the training. "We've had incidents involving tensioned lines breaking free [in the past] and wanted to give hands-on experience that attendees would take back to their crews."

Attendees were selected leaders who would be working with their crews during storm events and unusual circumstances. The leaders ranged from foremen to general foremen to supervisors. The training established safe work practices and work plans with a crew before incidents have a chance to occur, Lewis said, making the main goal of the program to eliminate incidents like the one experienced by Shawn Solada.

In 2010, Solada was called for storm response work in Clearfield, Pennsylvania, while working for a different tree contractor. An uprooted tree pushed another tree into a primary line. Without any other way to clear the hazard tree, Solada climbed the tree tangled into the lines to break down the uprooted tree before clearing the primary line. During this process, a trunk created a line-under-tension scenario. When trying to remove the trunk from on top of the line under tension, it broke free unexpectedly and shattered Solada's tibia, fibula, and ankle. He had to have metal plates and screws placed in his leg and was not able to return to work for eight months.

With preemptive specialized training, Solada said his incident could have been averted. "[With] a program like this, that incident would not have happened."

Davey plans to hold the lines-under-tension training twice per year to give employees ample opportunity to learn and implement new skills to ensure crews get home safely to loved ones at the end of a storm-response effort.

DAVEY® Resource Group

TREES & UTILITIES

A partnership of the Utility Arborist Association and the Arbor Day Foundation

TreesandUtilities.org

By Beth Lay, Director of Safety and Human Performance, Lewis Tree Service

Brain research shows that when people move, learning improves. Picture an actor rehearsing lines while pacing back and forth. Action-based learning refers to all learning that is orchestrated by some activity on the part of the learners.

Action-based learning can also be described as kinesthetic, tactile, or physical learning. This is important to note as it is often the preferred learning style of field operations personnel. Put them in a conference room for a day and watch them grow fidgety and distracted.

Compliance vs. Human Performance

When we think about action-based learning, oftentimes military exercises come to mind: combat drills, joint tactical maneuvering, hostage rescue drills, and other training events. If we step back and consider why these topics are the focus in action-based learning, a key concept comes to the surface. Each exercise provides participants with a hands-on, lived experience which can be called upon quickly during a time of crisis to inform their decision-making.

Conversely, action-based learning can also be a key tool in fostering understanding and adoption of human performance concepts—case in point, minimum approach distance (MAD). In traditional safety, we train our craft workers to maintain MAD. If MAD is violated, there may be repercussions—including automatic suspension—without learning opportunities. Instead, in human performance, we help our craft workers become better judges of distance through drills, competitions, and what we call at Lewis "learning loops" (i.e., different training activities centered around repetitive topics).

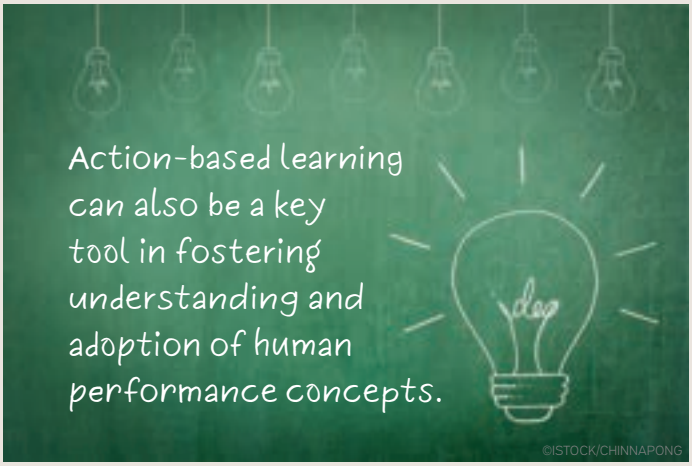
Why Action-Based Learning in VM

Complex environments, like those found in UVM, are different than orderly systems (e.g., factory floors). We're operating in high-risk, highly variable environments akin to the special forces. There are many interdependencies (tree conditions, weather conditions, experience levels, and training of personnel, etc.) which even if we're following all the rules, can lead to unintended or unpredictable consequences.

Learning to adapt in highly variable environments is critical. For this reason, classroom-based training and traditional change management

practices often fail in complex environments. In line clearance, we cannot freeze the environment and interactions are not linear. Instead, fostering a culture of learning by *doing* is the key to building resilience.

At Lewis Tree Service, learning is field-based and iterative. We try things and learn from them. We take small steps forward and, at times, small steps back. This contrasts greatly from classroom-based training where there's a strong push from leadership to share human performance concepts, but a profound misalignment on how to move to real implementation on the front lines.



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Cognitive Dissonance

Anyone who has ever been on a diet understands cognitive dissonance. You wake in the morning with a steadfast commitment to your health. When five o'clock rolls around, you begin to waver because you're tired, no longer feel like hitting the gym, and prefer making something quick and easy for dinner. Your brain is sending two opposing messages, and you're listening to both.

Cognitive dissonance holds true when testing different human performance tools. It may feel uncomfortable. People will push back. This is a healthy indication that we are entering uncharted territory. This is also the price we pay in the tug-of-war between the pull toward the status quo of old safety and push toward a new frontier. In this push-and-pull world, one-and-done training will always fail. Add to this complexity a labor shortage and industry-wide low retention rates. How do we teach new employees how to make sense of what they're seeing?

To address this, Lewis has embedded safety researchers and cognitive systems engineers into our operation to understand our work, provide expert advice, and help us learn continuously. And, to the point of this article, we provide ongoing real or simulated experiences to accelerate expertise (again, action-based learning).

Conclusion

Industry-wide, our workplaces are a hidden laboratory of alternative choices. Making the space to practice our craft through action-based learning exercises thereby increasing our understanding of complex environments is the single most impactful gift we can give. At Lewis, we are using action-based learning to radically transform our safety culture. And we're having fun in the process! We encourage you to join us.

HEAT STRESS:

HAVE A PLAN

By Aaron Baldwin, Senior Industrial Hygienist, Salt River Project

The U.S. Bureau of Labor Statistics reported that 815 workers across the country died from heat exposure between 1992 and 2017. More than 70,000 workers suffered serious heat-related injuries during that same time. Today, only California, Minnesota, Washington, and the U.S. military have heat-stress standards, but OSHA recently announced plans to create one at the federal level.

In October 2021, OSHA published an Advance Notice of Proposed Rulemaking (ANPRM) to gather information from the industry to help develop a future standard. This is the first step in the process of standard development, and it is a clear indication that protecting our workers who work in the heat will require more attention in the future.

Science has shown that the human body is resilient and it can maintain a steady temperature through most working conditions. Increased blood flow to the skin draws heat away from the body's core, and the evaporative effects of sweating allow the heat to escape and cool the body. However, when these mechanisms cannot keep up with the heat generated through work or the heat absorbed from the environment, the body's core temperature can rise, causing workers to experience symptoms of heat exhaustion or heat stroke.

Photo courtesy of Salt River Project.

Managing or controlling heat stress is not an easy task. Many of the risk factors are out of our control, and it will take more than just providing water to prevent a heat-related incident.

SYMPTOMS

Symptoms often start out rather mild and can be easily overlooked as a normal part of performing work tasks. These can progress quickly to more dangerous conditions, such as heat exhaustion or heat stroke. It is important to recognize the early onset of heat-related symptoms to prevent a serious injury or illness in yourself or a coworker.

- **Heat rashes** are small red blisters or pimples that may develop on moist skin. Keep the area dry to improve the condition. Sunburn is painful, red skin that inhibits the ability to perspire; the skin may feel warm to the touch. Blistering may occur in more severe cases. Stay out of sun or cover sunburned areas with cool clothing. Do not break blisters. Moisturize sunburned skin and use sunscreen on exposed skin to prevent sunburns.
- **Heat cramps** are muscle strains and spasms caused by overwork or a lack of hydration. If workers feel cramps starting, they should stop what they are doing, take a break to rest and hydrate, and only resume work when the cramps subside.
- **Heat exhaustion** is a more serious condition which may include one or more of the following symptoms: heavy sweating; cold, pale, or clammy skin; fast pulse rate; nausea or vomiting; muscle cramps; tiredness or weakness; and dizziness, headaches, or fainting. Workers experiencing symptoms of heat exhaustion should stop work immediately, go to a cool place, and loosen their clothing. They should attempt to lower their body temperature using wet towels or clothing. Ice packs, if available, may be placed on the nape of the neck or under the armpits for the best results. Workers should drink small sips of water to rehydrate, but only if they are not vomiting. It is important to seek medical attention if symptoms get worse, persist for longer than one hour, or if the worker is vomiting.
- **Heat stroke** symptoms can quickly progress from heat exhaustion. With heat stroke, the body has completely lost its ability to thermoregulate its temperature. It can be deadly. A person may stop sweating, and their body temperature may rise above 103°F. Their skin may be hot, red, and dry. They may experience rapid heart rate, headache, dizziness, nausea, confusion, or loss of consciousness. Heat stroke is a medical emergency—call 9-1-1 immediately. Move the person to a cool area and begin to cool the person down. No water should be given until medical personnel arrive.

RISK FACTORS

It is important to know the conditions that may increase the chances of someone on your crew developing a heat-related illness or injury.

- **Activities:** Working in the heat and direct sun with few breaks, performing strenuous work, and pushing through muscle strains or spasms increases the risk of injury or illness.
- **Environment:** High-temperature and high-humidity days make the evaporative effects of sweating less efficient and increase the heat risk. Wind can help cool the body when ambient temperatures are below 95°F. But when the temperatures are above 95°F, the wind adds to the body's heat strain—even in the shade—without doing any work.
- **Health History:** Poor physical condition, diabetes, heart disease, age, a prior heat illness, and dehydration are all risk factors. Other illnesses, such as diarrhea or vomiting, may leave a person dehydrated.
- **Hydration:** Hydration is an important factor. Drink at least four cups of water per hour. Sports drinks are acceptable, but avoid caffeinated and sugary beverages.
- **Medications:** Consult your physician because some medications may affect a person's ability to work in the heat. Medications for blood pressure, muscle spasms, diarrhea, vertigo, depression, cold and allergies, and congestion may impact a worker's heat tolerance.
- **Acclimatization:** New and returning workers are at a higher heat risk. Conditioning to work in the heat takes time. Athletes are not in shape the first week of practice, just as new employees are not 100% the first few weeks on the job or when returning from a lengthy absence. Their workloads should start with light duty and gradually increase over a few weeks.

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HEAT-STRESS MANAGEMENT PROGRAM

Managing or controlling heat stress is not an easy task. Many of the risk factors are out of our control, and it will take more than just providing water to prevent a heat-related incident.

Have a plan. Develop a heat-stress management program so you know in advance what you are going to do to protect your workers as the temperature and humidity rises. Your plan should be specific for your type of work and the environment. This is not a one-size-fits-all situation. A lineman working in Phoenix has a different degree of heat strain than a lineman in Seattle. It is important to know what an effective heat management program should include.

EDUCATION AND RAISING AWARENESS

At minimum, workers should receive annual heat-stress training. The training should define and explain the basics: what heat stress is, symptoms, risk factors, preventative measures, and emergency procedures. Be sure your workers have the knowledge and understanding to recognize symptoms in themselves or their coworkers and take appropriate action in the field.

DEFINING PREVENTATIVE MEASURES (AND WHEN THEY WILL BE USED)

The next part of the program should include specific preventative measures planned to mitigate heat strain at increasing levels of risk. To assess risk, there are several indices available for reference. The WBGT index from the American Conference of Governmental Industrial Hygienists is the gold standard, and what most heat-stress researchers

utilize. However, it takes specialized equipment to measure, and it may not be applicable for companies with many crews spread out over a geographic area.

Alternatively, other indices are calculated from the temperature and humidity in the air. The result is a heat index number that can be described as a "feels-like" temperature. Both NIOSH and OSHA have developed heat risk tables with three levels of risk based on the heat index: (1) Caution, (2) Warning, and (3) Danger. These agencies also have a smartphone app available which uses local weather information and your GPS location to display the heat index and heat risk at your location. The app provides guidance on precautions at the risk level, information on symptoms, emergency response, and first aid. It is a handy, informative tool in the field.

One approach to a heat-stress management program is to identify preventative measures to be taken at each heat risk level. Preventative measures should be specific and apply to the type of work. Employee training, acclimating new and returning workers, providing adequate water, and prescreening employees may be appropriate measures taken while conditions are in the Caution heat-risk level. The Warning category may include additional preventative measures, such as monitoring the daily index for changes, providing adequate shade at the jobsite for breaks, adjusting work times, or moving strenuous tasks to cooler times of the day. In the Danger category, companies may decide to go further by assigning a heat-stress monitor to watch crew members to ensure they are hydrating and taking appropriate rest breaks throughout the day. Cooling devices, such as cooling vests or cooling fans, may also be an option. Prohibiting employees from working alone and maintaining communication may be important. Preventative measures should be specific and progressively more protective as the heat risk increases.

PROVIDE FIRST AID PROCEDURES AND REPORTING

A heat-stress management program should detail steps to be taken when someone experiences symptoms of heat strain. This information should be included as a part of workers' annual training. For less severe symptoms, increasing rest breaks and hydration may be all that is needed. For the more serious conditions of heat exhaustion and heat stroke, immediate medical attention and cooling the worker's body will be required. Plenty of resources are available from OSHA and NIOSH to help employers develop a first aid and emergency response plan. Do not leave reporting procedures out of the program because it is widely accepted that heat-related incidents are vastly underreported. Accurate reporting of both serious incidents and first aid cases provide the data needed to assess the effectiveness of preventative measures and controls.

MOVING FORWARD

Wearable devices that track physiological data to assess an athlete's endurance and conditioning levels are already used in the sports world. This technology may also have applications for workers with the potential to monitor any physiological changes that may indicate an increasing level of heat strain in real time. Other innovations in cooling devices or new clothing textiles (e.g., arc-rated clothing) have made them much lighter and more breathable in the last decade.

Be prepared for more extreme weather this summer. We should anticipate this along with the increased potential for heat-related injuries or illnesses. It is on OSHA's radar, and more companies should be prepared.

COMING SOON!

UAA
UTILITY ARBORIST ASSOCIATION

BOARD ELECTIONS

The UAA Executive Board will be opening nominations for new board members soon.

UAA Members are encouraged to update their online profiles with current information (email, address, etc.) in the member portal *(gotouaa.org/member-portal)* and prepare to submit nominations for the following UAA Executive Board open positions:

Treasurer
Vice President
Directors *(two openings)*

For more information, contact Diona Neeser at *dneeser@gotouaa.org.*

ISA

MALMÖ 22

with ITCC Copenhagen • 12–14 September 2022

EARLY BIRD

REGISTRATION IS OPEN!

ISA is excited to return to in-person events in 2022 with the ISA Annual International Conference being hosted in Malmö, Sweden 12-14 September.

The event offers a forum for participants to learn and network with others in the arboricultural profession. Experience a lineup of keynote speakers and educational breakout sessions led by industry leaders from around the globe, sharing their thoughts and views about research, practice, and technology. All sessions presented in English.

The conference will be held at Clarion Hotel & Congress Malmö Live. The venue is in the very heart of Malmö, five minutes' walk from the central station and with plenty of restaurants, bars and shopping nearby!

The event is hosted by ISA in partnership with the Swedish ISA Chapter and their Scandinavian colleagues in Denmark and Norway.

Registration is limited to the first 1,000 attendees. Register today to enjoy early bird pricing!

isa-arbor.com/conference

The Value of Environmental Moments

By Kimberly Laing, Business Development Manager–Canada and Orville McLean, Director of Operations–Canada, ArborMetrics

Many of us choose careers in VM as it provides us with the benefit of spending time outdoors.

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Repetition is power in making environmental stewardship a part of our culture.

Being outdoors puts us in a unique position—providing a valuable opportunity to care for the ecosystems we interact with daily. This interaction also positively impacts our stakeholders. Our stakeholders are not just customers, landowners, managers, or people. Stakeholders are also the wildlife, habitat, animals, and insects that nurture and balance our ecosystems. We cannot thrive as communities without these healthy ecosystems.

Industries, partners, and communities are increasingly creating policies, plans, and initiatives towards environmental protection. Still, there's more we can do to create a system-wide impact from our work cultures by keeping environmental stewardship top of mind daily.

One simple and practical example is introducing "environmental moments" at your daily tailboard meetings, alongside the other fundamental issues like safety and work planning. Due to the nature of our work, we must constantly maintain a safe working environment and be mindful of our actions. It is no different from promoting a safe environment for our ecosystems. Fostering an understanding of the climate and region we're working in will yield better and safer work practices and promote a healthier ecosystem.

Keeping environmental moments top of mind has many benefits, including fostering mindfulness, which allows us to be more conscious of our actions and their impact on others. Adopting environmental moments to the crew level allows these ideas to percolate on a foundational level. This is how industries shift positively and how best practices are born. Other benefits include:

- Focusing daily on stewardship
- Sharing environmental knowledge and pride
- Promoting sustainable practices frequently
- Learning about ecological success stories
- Strengthening human–nature connections
- Enhancing work satisfaction through positive interaction with work activities
- Providing a positive impact to the communities where workers live

All of this reminds us that our work is not in a vacuum—we coexist with the habitat where we work. In other words, we integrate our work into the environment—not the environment into our work. For example, while out in the field planning work and walking a ROW, take stock of what you see around you, what the pollinator habitat looks like, what stewardship actions you can take, and if there are photographs and stories you can capture. Practicing this mindfulness is the starting point for communication and dialogue. Bringing an environmental message into our daily routines benefits all our stakeholders, creates trust, and engenders long-term sustainability.

The following lists examples of environmental moments in tailboard meetings:

1. Be aware of pollinator habitats while prescribing herbicide applications. Choose selective applications with minimal collateral damage. Look for beehives, observe pollinator activity, and check weather conditions to minimize drift.
2. If working around riparian habitats, consult with local professionals before work.
3. Understand bird migration seasons and look for nests while doing field assessments. Keep watch for nests within vegetation (tree branches, tree cavities, shrubs, etc.) on the ground or in structures.
4. When planning ROW and capital projects, be mindful of wildlife travel corridors and habitat survey standards for your work location.
5. Note what compatible species are in bloom or carry fruits, and what wildlife benefits from them.

6. Provide examples of success stories of stewardship actions and projects.
7. Talk about threatened and endangered species in the region. How can our actions have a positive and negative impact?
8. Discuss the impacts of trash on the ROW and the surrounding wildlife.
9. What are some of the regional environmental rules, restrictions, and/or permits? How can we share this information?

Provide your team with annual training and certification, project-related training, regulations, environmental moments, and engagement with local Indigenous partners to understand the unique characteristics of the ecosystem they are working in. Engage your customers and partners to create an environmental protection plan and look at small things you can do right now to help. The daily environmental moments should encapsulate the core values of our customers, partners, stakeholders, communities, and the unique situations that occur in each region.

Sharing our diverse experiences and backgrounds creates teachable moments. It allows us to share our expertise by speaking about things we are passionate about and encourages an environment of learning and curiosity. Repetition is power in making environmental stewardship a part of our culture. Instilling ecological stewardship as a core value allows us to protect our stakeholders—which benefits everyone.

Simplicity in SAFETY

Removing Complexity to Help Our Workers Make Safer Decisions

By Chris Coker, Director Health, Safety, and Operational Risk, Iapetus Infrastructure Services

Utility vegetation management workers are incredible people. In fact, they are often hidden heroes performing high-risk work in all sorts of challenging terrain and weather conditions. From the routine line-clearance pruning to the complex equipment-assisted removal operations, these extraordinary partners show up to work with a can-do attitude of pure grit.

With plenty of pressure to get work completed, UVM workers regularly face all sorts of obstacles: demanding days—or even weeks—away from their families, intense physical labor, treacherous terrain, and grueling weather. They must always be ready to audible for things like tool and equipment hiccups, changes in work assignments, environmental precautions, third-party and homeowner issues, and client satisfaction. All that sounds like a huge list, and we haven't even started talking safety.

Our workers have a tremendous burden to keep themselves and others safe. It is easy for them to drown in safety information and requirements. Mantras like "going home safe everyday" or "be our brothers' and sisters' keepers" are all well and good, but what else can we do to make sure the messages really *resonate* when workers have so much on their minds? I know that when something goes wrong, it is easy to point at a regulation or policy and play "Monday morning quarterback." While following the requirements and trying to raise safety morale are essential for our workers, what else can we do to help our teammates understand what is *most* important in the search to eliminate all serious injuries and fatalities?

Here is a list of items to consider when determining how we can best deliver important yet succinct information to the hearts and minds needing it most.

1. **It Starts with Care**
   Know one another's *why*. For whom and what do you and your teammates work safe? List these out. Spend genuine time talking about them. Share photos! Keep them front of mind. There is no substitute for genuinely caring for one another.
2. **Do the Homework**
   Understand precursors to serious incidents and fatalities. Study relevant data to understand what activities pose the most significant and common hazards to our team members.
3. **Distill Critical Information**
   Leaders must use their homework to distill essential intelligence into easy-to-understand deliverables. While there is absolutely a time and need to review regulatory standards and detailed rules and laws, resist the temptation to present a wall of words. See the illustrations for some examples.
4. **Resist Complacency**
   Ensure tailboards/job safety analyses are engaging. Do not let these discussions turn into mandatory "box-checking activities." Mix it up!
5. **Share the Roles**
   Allow others to take turns sharing and presenting. From the most senior GF in the crew yard to the most recently hired grounds person, find creative ways to share responsibilities in presenting material.

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Workers should have access to basic information presented in easy-to-follow visual aids—limit text and focus on quick delivery of concepts and requirements. Illustrations courtesy of the Iapetus Marketing Team.

6. **Triage**
   High-energy and high-impact risks should be most top of mind. It may be uncomfortable, but ask questions and discuss: what things could go wrong and cause me the most significant harm today?
7. **Confirm and Collect Feedback**
   Check for feedback and understanding. People dread long training sessions. Take the time to make sure the audience is tracking. Always ask what could be done better.
8. **Encourage and Reward Work Readiness**
   "Fitness for duty" can mean a whole lot of things. Getting good rest and hydration are only part of the formula. A healthy homelife makes it much easier to have a healthy work life. Who on our crew needs our help?
9. **No Safety Secrets**
   Eliminating worker serious injuries and fatalities is a common goal for utilities and contractors. We must work together and help one another to shape our industry.

The author engaged in reviewing a job safety/hazard assessment and work plan. Photo courtesy of Ed Martinez (Rancho Tree Service).

We owe it to the incredible front line UVM workers and their families to make sure we set them up for safety success.

About the Author

Chris Coker is the Director of Health, Safety, and Operational Risk for Iapetus Infrastructure Services, LLC. He is an ISA-Certified Arborist and Utility Specialist with experience in VM, law, safety, and wildfire program management.

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SIMPLIFYING THE WORK:

GSI's Forester Software

By Jessica Anundson, Director of Customer Experience, GeoSpatial Innovations, Inc.

GeoSpatial Innovations, Inc. (GSI) has been working with utilities for more than 20 years, supporting their work with a variety of solutions and services. Solutions that support complex workflows, analyze comprehensive engineering data, and manage the natural environment to keep electricity flowing through utility lines.

Forester, GSI's vegetation work management solution, can be easily configured for a variety of contract types, including time and material, unit-based, and lump-sum contracts. Forester's flexible software allows utilities to coordinate contractors in the field with managers in the office—saving time and money.

Looking to eliminate the paper tickets and map? Forester automates work processes using any device in the field. Forester can be utilized on Windows, iOS, and Android devices. In the field, crews can effortlessly mark sites as complete and enter time and equipment usage from the convenience of their devices. Forester allows for field planning and management of utility arborist duties across multiple individuals and teams. It easily generates work plans and year-end reports with integration into existing GIS, WMS, CIS, OMS, and invoicing systems. It was created to be flexible to help planners, foremen, auditors, and crews complete their work with minimal effort on their part.

Want a tool that is easy to use and implement? Forester requires minimal IT support to implement and maintain any VM program. By hosting on the cloud, the software can be updated quickly and easily. New features are available as soon as they are released to the cloud-hosted Microsoft Azure cloud platform.

Want to learn more about Forester? Contact GSI at *forester@gsiworks.com.*

A Move to Resilient SAFETY

By Chris Kenney, Safety Coordinator and Paul Dickson, Corporate Safety Director, Xylem Tree Experts

Industries typically use post-incident metrics to define how safe a company is. At Xylem Tree Experts, we have transitioned away from this philosophy into a "Safety II" or a resilient safety culture. We are accomplishing this using the principles of human organizational performance (HOP) and focusing on evaluating safety *leading* indicators instead of *lagging* indicators. So, how is this safety transition being accomplished?

Xylem's safety leadership discusses the principles of HOP with all of its employees. This is not "training" as most define it, but rather a conversation and dialogue with employees to set in motion a cultural shift in how we think about safety. HOP is a set of principles that enables employees to predict, manage, and reduce the severity of events and/or incidents. The basic premise of HOP is to recognize that people and organizations make mistakes and that it is possible to minimize the impacts of mistakes with the use of safety defenses—it changes the way we think about safety.

Every employee agrees that mistakes will occur. But the follow-up topics really start the dialogue. As one would expect, we cover the use of substitution, engineering controls, administrative controls, and personnel protective devices; we also introduce a new defense. This defense is a technique used to address conditions that impact our situational awareness, which varies throughout the day and is influenced by many types of distractions and our ability to regain focus.

Have you ever been distracted at work because of personal events in your life? A simple distraction can clutter our thought process, which makes us vulnerable to unknown errors. The key is that we present error-defense techniques that can be used by an individual or a team to improve situational awareness. For example, if employees are distracted by things in their personal lives, a quick time-out before executing a critical step could help regain focus.

At Xylem, we consider our measure of safety to be the presence and use of defenses. Instead of counting injuries per hours worked, we look at leading indicators obtained from observation forms, near misses, good catches, close calls, and all-stop events. How awesome is it to look at situations when there are no consequences? By looking at this information, we can make decisions on focus areas for safety bulletins, alerts, and program changes if determined necessary. A powerful tool applied to these records is to conduct a learning event. This reveals details to help us focus on corrective actions.

"We present error-defense techniques that can be used by an individual or a team to improve situational awareness."

A learning event is the pinnacle to resilient safety. Learning events serve a similar function to a root-cause analysis—but it is so much more. Root-cause analysis works backwards from the event moving to the causal factor. A learning event starts at the beginning with the purpose of determining how the work is actually done, looking at process deviations and system problems that reveal themselves. This allows us to determine conditions that influence events. Instead of saying that it was a crew member mistake, we define the factors that contributed to the mistake. Was the mistake system induced, a loss of situational awareness, or equipment failure? What factors played into allowing the influence?

There is a key concept that needs to be in place. To have an effective learning event, individuals must take responsibility or own their mistakes. It is only when this happens that you can learn. When an employee is misrepresenting facts to avoid responsibility, the process cannot produce real results. Transparency from our personnel is the key to determining the facts. While it is impossible to control human nature, companies that use learning events need to create openness for employees so that they feel they can discuss events without consequence. There is a need to maintain rules and discipline, but this should be from periodic reviews, not from effecting discipline only when events occur.

There are a series of metrics that industries, insurance, and regulators use to compare and measure a company's safety programs. At Xylem, we believe our safety is defined by our use of safety defenses, not on the number of past events. By having a transparent conversation with our employees and implementing the learning event concepts, we will influence the use of safety defenses. Success is measured by looking at leading indicator metrics, ultimately facilitating a resilient safety program that looks forward to predicting hazards—not looking back at past mistakes.

We recognize that our employees are our most valued asset. And we are dedicated to improving performance and efficiency while making safety the top priority. By prioritizing the people in our organization as the keys to safety success, we must rethink how our employees recognize potential hazards *and* empower them to stop an incident before it occurs.

Instead of focusing on the days since a recordable accident, Xylem measures our successes with proactive feedback via near miss, close call, and good-catch submissions from the employees based on the mindset of embracing HOP.

"Utilizing technology to optimize field personnel safety is a huge step forward. Reducing the number of incidents is important for our clients, and our software has provided them with data transparency, real time updates and direct photos of obstacles averted in the field."

Justin Walters | Project Manager,
Davey Resource Group

ACCIDENT PREVENTION STARTS IN PARK

DAVEY'S NEW APP KEEPS WORKERS SAFER ON THE ROAD

As part of our ongoing commitment to safety, Davey has developed a new safety application that prompts workers to perform a 360-degree inspection of their vehicles before getting on the road. Results don't lie: this simple but effective program has prevented more than 1,500 incidents since launch and reinforced a mindset of safety with our employees.

At Davey, safety has been and always will be a core value.

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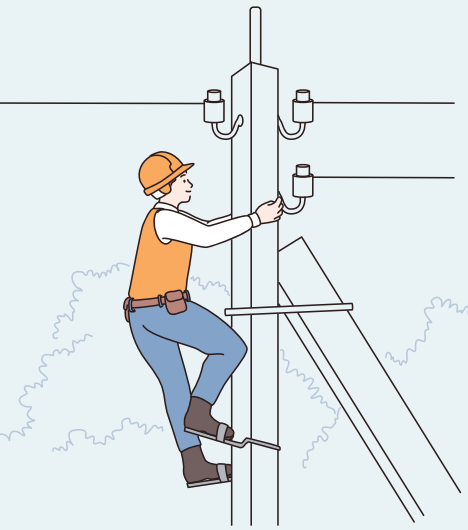


TRAINING AND LEADERSHIP:

The Road to Safety

By Nate Demby, Division Manager, Wright Tree Service

The Six ISA Certifications:

- ISA Certified Arborist®
- ISA Certified Arborist Utility Specialist™
- ISA Certified Arborist Municipal Specialist®
- ISA Certified Tree Worker Climber Specialist®
- ISA Certified Tree Worker Aerial Lift Specialist®
- ISA Board Certified Master Arborist®

When you work in the UVM industry, safety should be your primary focus. The industry has dangers and there are opportunities for serious injury. As service providers for utility companies, it's essential to have trained professionals working for companies with strong safety cultures, with the end goal of all of us going home to our families safely every day. What is the secret to making this happen? The more I work in this industry, the more I'm finding that **building up and training leaders** is the answer.

As a division manager for Wright Tree Service (WTS)—one of the largest UVM service providers in North America—I know that WTS prioritizes safety as our top value and the foundation on which we make our decisions. We have strong leaders at all levels of the company, a strong safety culture that has been built over the last several decades, and trained professionals who are eager to learn. I'd like to share some of the things we do at WTS so that others can build stronger teams of trained, safety-conscious leaders.

In order to strengthen leaders at your company, you need to *invest* in them. That investment starts on day one of employment, with training opportunities at the employees' fingertips. The ISA is foundational to our industry as it manages the professional credentialing program that helps ensure we have qualified, knowledgeable tree care professionals. A tested and proven system is needed to maintain safe, reliable, innovative, and honest customer and public service. WTS leverages these opportunities to introduce our employees to a higher level of training so that we have educated and safety-focused employees on all of our contracts.

The training varies from the entry-level tree worker safety to tree biology. The ISA promotes industry best practices while also adhering to land stewardship and environmentally beneficial processes. Crews can expect to learn of the ANSI Z133 standard and the reasons behind each of our governing safety rules.

Six certification credentials offered by the ISA highlight our shared desire to cast a wide net when growing the next generation of tree care workers. Watching fellow employees from within my division work their way to becoming an ISA Board-Certified Master Arborist is a joy and motivates me to continue my educational path. I know as a division manager that we are leaders who represent our divisions and the company at large. I want to lead by example and take the training opportunities available to me, not only to better myself, but to hopefully inspire other employees to want to continue advancing their careers. I've found that showcasing our training opportunities on the first day of employment has proven to get employees interested in training and career development. It starts with our leaders and trickles down from there.

ISA materials and credentials support WTS's approved work methods (AWMs), which are introduced to crews immediately in their educational career. Each yard completes weekly tailgate trainings that are accompanied by continuing education units (CEUs), which provide ISA and WTS approved curriculum to ensure our company and industry safety standards are being provided, trained, and revisited in a continual cycle. We have manuals that are provided to our employees that have training, information, and standards that help guide them in their position. We are proud of the people on our team who have reached each of these certification levels and continue to work with the next group to raise our safety standards and professionalism.

With intentional and successful implementation of ISA certifications across the company, WTS has been able to create an informed partnership comprised of ourselves, property owners, utilities, and the professionals on our crews who provide the actual service. Property owners benefit from informed, knowledgeable, and professional crews with enhanced and clear communication, an explanation of the needs of and goals for a VM program, and great customer service built on confidence. Utilities benefit from happy customers, decreased contractor complaints, and reliable, flexible, and qualified service.

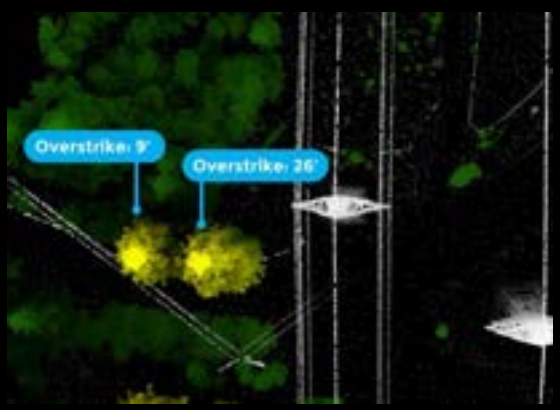
At WTS, we benefit from teaching and learning from some of the best hearts and minds in the industry. Our core values of safety, integrity, excellence, teamwork, innovation, and family are weaved throughout the teachings of the ISA. In addition, the individuals tasked with performing the daily arborist principles benefit a great deal from these practices. Community members can see that utility arborists are essential and valued in every well-managed VM community. This provides vital motivation to be special. They can take pride in being emergency responders. They can challenge themselves with variety and complexity of storm work. They can test their ability to manage and plan in routine maintenance scheduling and seasonal work. All of these options are available, but not apart from an internal and nourished commitment to safety.

Safety and knowledge cannot be separated, and crews who begin their professional career with a focus on ISA credentials will position themselves to earn a higher wage and affect greater positive change in their pursuits.

All of these things will help us raise our safety standards and professionalism as a collective industry.

Too late.

Learn More About Decision Tree



Don't miss another one. NV5 Geosaptial's Decision Tree is a predictive modeling platform for vegetation management. Decision Tree combines innovative data science and modeling to identify the relative risk of any given tree and help prioritize and optimize your operational activities. With Decision Tree, it's never too late.

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Advances in Apparel INCREASE JOBSITE SAFETY

By Bill Weber, Team Captain, Arborwear

In every industry, new products are delivering increased efficiency, productivity, and most importantly, safety. The apparel industry is no different than any other. We have had many advancements in the last decade worth mentioning.

It wasn't that long ago when most workers wore cotton tees and blue jeans in the summer or a waffle-knit cotton long underwear with a baggy sweatshirt in the winter. There are some that may still prefer this type of wardrobe, but today, there are many developments that have changed the way apparel affects a jobsite.

On the forefront of meaningful advances in apparel, look first towards PPE. Chain saw protection, for example, is half the weight it used to be. Higher-performance fibers and more technical weaving has enabled wearers to find the same, or better, protection but with half the weight. This reduces fatigue and heat for a wearer, which can affect both judgment and performance over time. Similarly, new designs like replaceable straps and stretch webbing increase comfort and allow for easy fixes in the field—both of which contribute to longer wear times with safer, better-fitting protection. Proper fitting PPE is always safer PPE.

High Visibility Safety Apparel (HVSA) has also come a long way from simple commodity fabrics with poor fit and reflectivity that only lasted for a few washes. Today, there are fabrics that stretch better, have segmented tape to allow for greater range of movement, and will last well over 80 wash cycles. Stain-resistant finishes have helped protect the brightness of certain HVSA garments, preventing discoloration and promoting longer-lasting chromaticity. These all contribute to increasing jobsite safety.

The advances made in sun protection have been very exciting. For example, workers can wear shirts with UPF ratings of 50+ that can deliver greater shielding from the sun's exposure to help prevent skin cancer. These fabrics used in uniforms, T-shirts, and even HVSA garments, protect workers every single day while they work in the heat and in direct sunlight.

Tree industry workers are like professional athletes. They move, climb, lift, carry, push, and sweat with periods of rest, and then do it all over again—multiple times a day. For these reasons, any apparel worn on a jobsite that helps people regulate their body temperature is considered safer. Overheating, exhaustion, and overexposure to cold not only affect the direct health and safety of the worker, but can also affect decision-making and judgment. New fibers today like Dri-Release™ and Geo-Cool™ help move moisture away from the body to cool it down more quickly in the summer and keep it warmer in the winter. Sweatshirts are now made from moisture-wicking technical

Workers can wear shirts with UPF ratings of 50+ that deliver greater shielding from the sun's exposure to prevent skin cancer.

fleece with layers of advanced lightweight insulation like Primaloft™ that are designed to keep the core warm, but not overheat. These are lightweight but warmer than two layers of heavy-duty cotton.

New fabrics are being made every year from things like coconut fiber, bamboo, hemp, and even oyster shells to try and deliver better thermoregulation. More and more of these fabrics are now being used on jobsites—not just for climbing Mt. Everest.

Bacteriostats, antimicrobials, and other additives or treatments to textiles reduce smell, bacteria growth, and in some cases, even virus transmission. These obviously promote better health and hygiene among workers, also making a difference on the job.

In every industry, technology is advancing more rapidly than ever before. Textiles and apparel are no different. Today, there are garments that can monitor heart rates, temperature, and other vitals. Just like using computer diagnostics on your chippers and chain saws to monitor how they are running, imagine using this technology among your crews to help them stay healthy and safe. Although cost prohibitive now, a few years down the road, workers may be recharging their jackets using outlets in the trucks.

Silver LEVEL

ANNA DAVIS: Safety Is Everyone's Responsibility

As the chair of ACRT's Area Safety Representatives (ASRs), Operations Manager Anna Davis works each day to make conversations about safety more approachable. She recalls her early days at ACRT and how she didn't want to "mess up or do the wrong thing." Now, Davis wants to talk through those mishaps.

"If you do mess up or have a near miss, you need to talk about it. You need to share it with your coworkers and have those open lines of communication because they can learn from what you experienced," said Davis.

Davis has served as the ACRT ASR Chair since 2020 and oversees the ACRT Ready Force® team. She compares the job of an ASR to the "be-your-brother's-keeper" concept.

ACRT ASR members assist in safety communications, safety auditing, identifying at-risk behaviors, near-miss reviews, and incident investigations. Members are safety champions and serve as a conduit between safety management and field employees. They aid in the training and tracking of safety-related items throughout their region and mentor those who need extra help.

"Our team of ASRs gets to lead that charge on their projects and be the ones to do safety audits on their peers and managers. It speaks to our culture of safety because we're all responsible for safety. It's not just a manager's responsibility to deliver that message—it's everyone's responsibility," said Davis.

Anna Davis

She appreciates that field employees can take ownership of not only their safety, but their peers as well.

Davis emphasized, "Our ASRs allow ACRT to have different leaders in the field and foresters across our company who take the time to talk about safety—what's effective and what's not—and where we see a need in terms of changing policy and keeping our field employees safe. This group's commitment to safety and their openness allows us to create some great ideas to keep every employee safe."

Learn more about ACRT and our safety philosophy at *acrt.com*.

FROM ROOTS TO RESULTS: How Our Safety Program Has Grown

By Les Day, Safety Director/New Business Development, Mountain F. Enterprises, Inc.

In January 2017, Mountain F. Enterprises, Inc. made the unprecedented, strategic decision to invest more than 6,400 billable hours in putting our then 200-person organization through a weeklong arboriculture safety program. This course covered safety standards, such as OSHA and ANSI practices; first aid and CPR classroom training; and field-based training with a variety of equipment types and processes (e.g., tree felling, chain saw usage, wood chipper safety, climbing, bucket operations, and more).

As with any utility industry safety program, the primary goal is to reduce the likelihood of incidents and injuries through employee education and engagement. After all, this is a people industry. It's our employees, partners, and contractors who are working in rural and urban areas every day to address vegetation issues so that utility customers continue to enjoy reliable power.

By building into our employees the knowledge and skills needed to work safely on the job, whether in the field or office, we are able to mitigate the ever-present and often costly risks and hazards associated with arboriculture. And while risk mitigation is certainly one of our primary objectives, we wanted to take the investment further than ever before.

In addition to reinforcing our commitment to safety for our employees, we wanted to establish a baseline for the skills employees would need while working in the field. We engaged our longtime partner ACRT Arborist Training to provide instruction, evaluate and assess individual employees, and also provide advanced instruction. This engaging program showed us where our team excelled, but also identified areas where we could be better by helping us chart a course toward making those improvements a reality.

Four Years Later, Our Commitment Remains the Same

We knew that our annual safety initiatives were not only important for protecting our employees, but were also an essential springboard for the next phase of growth. Since we first reported our investment in the weeklong safety program, Mountain F. Enterprises has grown from 200 employees to more than 1,200—not including an additional 400 subcontractors. This rapid expansion occurred throughout 2018 and 2019. Our safety team has also grown alongside the company. Today, this department consists of nearly 50 in-house and third-party safety experts—five of whom are solely focused on subcontractor safety.

Along the way, we've focused on new safety initiatives—one of the most significant was upfront training for incoming employees. Throughout 2018 and 2019, our growth saw the company bringing in anywhere from 10–30 employees per week. With that increase in staffing, it was essential that these new team members proactively received the safety education they needed early to ensure they were empowered to protect themselves, and others, in the field.

Similar to our 2017 effort, new employees during this period underwent a five-day program covering a number of safety practices, equipment operation evaluations, and more. Our safety team works with each team member on everything from using chain saws and chippers, to safe driving and tree climbing. We also take advantage of this time to complete required OSHA compliance training, and employees undergo a field-based skill assessment. A baseline is established and, following completion of the program, the safety team works with each employee on a related curriculum designed to further their knowledge and skills. Employees are expected to advance in this, and the safety team follows up with them as they progress.

In 2020, we teamed up with Butte College in Oroville, California, on a new program developed by a number of industry organizations for individuals without previous tree-work experience. As one of the pilot organizations, we sent employees—who hadn't ever worked in the tree care industry—through the five-week program where they received foundational education and training on tree care and safety topics. The program is now running statewide, and we continue to send employees, who are new to the industry, through this program. Because we believe in the importance of educating our employees about safety, we pay for the program costs *and* for the employees' time.

Expanding Our Safety Focus Beyond New Hires

While our safety program has always had a company-wide scope, as 2020 progressed, we realized that many of our initiatives were centered on new hires. To ensure our managers and forepersons were expert-level, safety-focused leaders, we made the decision to send more than 100 of them through the Certified Treecare Safety Professional (CTSP) credentialing program of the Tree Care Industry Association (TCIA). The CTSP certification helps industry leaders develop and nurture a safe work environment by strengthening participants' leadership, hazard identification, incident control and prevention, and adult learning skills and abilities.

We maintained our safety momentum in 2021 by implementing a new line clearance program that combines 14 years of safety knowledge and best practices into a single program. This helps to empower entry-level employees to efficiently grow their careers. We, once again, partnered with Butte College on a leadership development program designed to develop new managers and strengthen their skills. Many of the employees going through this program are tree workers who have undergone our safety programs and have been identified as candidates for future leadership roles.

One major component of our ongoing safety efforts is our fleet safety program. To ensure our team members are

In addition to reinforcing our commitment to safety for our employees, we wanted to establish a baseline for the skills employees would need while working in the field.

protected while operating vehicles on the road, and in remote areas, we implemented Lytx cameras and telematics equipment on more than 800 vehicles. Through this monitoring equipment, we successfully reduced vehicle-related incidents and positively impacted our employees' driving behavior—not only at work, but also in their personal lives.

The Results of Our Safety Focus

As with any large-scale change, resistance is a natural reaction. But, there's a higher goal of protecting our employees, contractors, and those they serve. Through consistent leadership and employee training, it has become clear to the 1,600 employees and contractors that comprise MFE—who collectively work more than two million hours per year—that we could do more and be better to create a safer work environment.

Thanks to this continued focus, and with the support of ACRT Arborist Training, that's what we have achieved. We increased our International Suppliers Network (ISN) rating from a C to an A in only two years. We made safety a deeply ingrained part of our culture, while also reducing our incident rate to one of its lowest levels ever. And there's much more to come.

Thank you for following our safety journey. Remember, when it comes to safety, we shouldn't operate in silos.

We would enjoy collaboratively discussing our safety initiatives and yours; we welcome your questions and input. Please contact us at *mfe@mtfent.com* if you'd like to share your own efforts to move your organization forward in the months and years to come.

Author Bio

In 1991, Hollis (Les) W. Day began working as a forest technician. In 1994, he obtained his associate's degree in forestry from Sierra College. From 2000–2006, Day was a partial owner in a small logging operation where he was responsible for job estimating, contracts, payroll, accounts payable and receivable, and Cal-OSHA compliance. From 2005–2007, Day served as Chairman of the Fire Safe Council of Nevada County.

In 2007, he went to work for MFE as an estimator and soon became a project manager. Day spent many years in the field with tree crews directing work and overseeing projects. In 2010, he became a safety director and gained responsibilities to direct MFE's safety programs. He is an ISA-Certified Arborist, utility specialist, and a TCIA CTSP.

Silver LEVEL

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In the wake of the ongoing pandemic and *sansdemic* (the shortage of workers), the utility industry is experiencing unprecedented struggles with retaining employees and mitigating increased safety incidents. Attracting and retaining qualified, hardworking employees who can embrace a safety culture can be challenging. As a result, ECI has invested heavily in our recruiting process and "Week One" training program to ensure our new employees are adequately trained and prepared. This investment helps mitigate risks associated with the day-to-day duties before showing up to our utility partners' properties.

Week One introduces all of our new employees to the utility industry—both in classroom and field settings—in a structured, systematic format. New employees are introduced to:

- Electrical safety
- Hazard recognition and mitigation
- Arboricultural standards and risk-tree identification
- Decision-driving techniques

These subjects are not only trained, but also tested to ensure comprehension. We firmly believe that an informed and educated workforce will embrace a culture of safety and inclusion, providing greater value to our clients and ensuring that each employee ends the way they began every day—healthy and happy.

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3. DCM: AUDIT

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- Regulatory Compliance Validation
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Since 1972 ECI has helped hundreds of clients in North America realize dramatic improvements in public & employee safety, service reliability, cost savings, risk, regulatory compliance, and overall operational effectiveness while improving the public's perception of utility vegetation management.

SEE SOMETHING, SAY SOMETHING, DO SOMETHING: Taking Action in Arboriculture

By David Jollymore, Operations Manager, Lucas Tree Experts

On January 3, 2004, Flash Airlines Flight 604 crashed into the Red Sea killing all 135 passengers and 13 crew members on board. Investigators could not determine the root cause of the accident but believed that human performance factors played a role. Based on findings from the black box and voice recorder, there was evidence that the pilot got disoriented and made navigation errors, resulting in the airplane crash. There was also evidence that the copilot knew that the captain was making these errors but failed to speak up or take command of the airplane to divert the crisis.

Although this incident occurred in the airline industry, the human performance scenario that played out frequently occurs in utility arboriculture. When reviewing industry incidents, I often wonder why no one at the jobsite addressed the at-risk behavior(s) before the incident occurred—incidents where arborists were in violation of the Minimum Approach Distances (MAD) or failed to wear PPE come to mind.

At Lucas Tree Experts, we often use the phrase, "See Something, Say Something, Do Something." We promote open communication and coach all our employees—regardless of their position or level of experience—to call an all stop when things do not look or feel right. However, promoting open communication is a useful strategy only when employees endorse the message, have the confidence to assert themselves, and take action when necessary. In other words, messaging is only one facet of a strong safety culture.

Developing a strong safety culture where all employees share the same attitudes, values, and beliefs towards safety must be tackled on multiple fronts:

- Hiring and retaining the right employees
- Training and coaching consistently
- Identifying problem employees and implementing corrective action plans
- Holding employees accountable when at-risk behaviors are identified
- Recognizing and rewarding employees who practice open and honest communication

To assess the safety culture within your organization, start by asking simple questions.

SEE SOMETHING

How often is your work inspected by the utility, a labor inspector, or your own internal management team to ensure it complies with all regulations and safe work procedures? How often do these inspections identify at-risk behaviors? Why are these at-risk behaviors identified only by inspectors rather than frontline workers?

Crew members of Lucas Tree Experts

SAY SOMETHING

Do you have a near-miss reporting program? How often do your employees submit near misses? Are near misses submitted by all employees or only a select few? Do you have an employee survey or feedback program?

"To assess the safety culture within your organization, start by asking simple questions."

What percentage of employees participate in this program?

Is everyone on the job participating in daily job briefings, helping to identify all hazards and risks and implementing corrective actions?

DO SOMETHING

What do you do with your inspection results? Do you create action plans to correct at-risk behaviors, and then follow up to ensure the plans have been effective?

What do you do with the near misses submitted? Do you identify trends, review them with your employees, and provide training and education to mitigate them?

Do you create action plans based on feedback from your employee surveys?

Do you have an incremental disciplinary process? Is it applied consistently?

Answering these and other relevant questions will help you understand your organization's current safety culture, identify process gaps, and inform meaningful improvement strategies. You can empower your employees to speak up and act when safety is at risk—preventing your plane from crashing.

Author Bio

David Jollymore has been working in UVM for more than 20 years. He has overseen distribution and transmission UVM programs for FirstEnergy and Nova Scotia Power during this time. He is a Registered Professional Forester in Nova Scotia and is a Certified Treecare Safety Professional through the TCIA. Jollymore is currently the Operations Manager for Lucas Tree Experts Canadian Division in Halifax, Nova Scotia.

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ACRT Services and Satelytics have partnered to help utilities identify system issues while reducing safety incidents and mitigating costs.

Utilities have thousands or even tens of thousands of line miles to manage. Identifying encroachments and other issues requires people to assess them one mile at a time — not only requiring significant time and resources but also putting field workers at risk. That's why ACRT Services and Satelytics have partnered to offer geospatial analytics to the utility industry. As the first UVM organization to provide this solution, our family of companies is able to take our safety efforts further for you than ever before while reducing program costs, prioritizing work planning, and providing in-depth system data.

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