

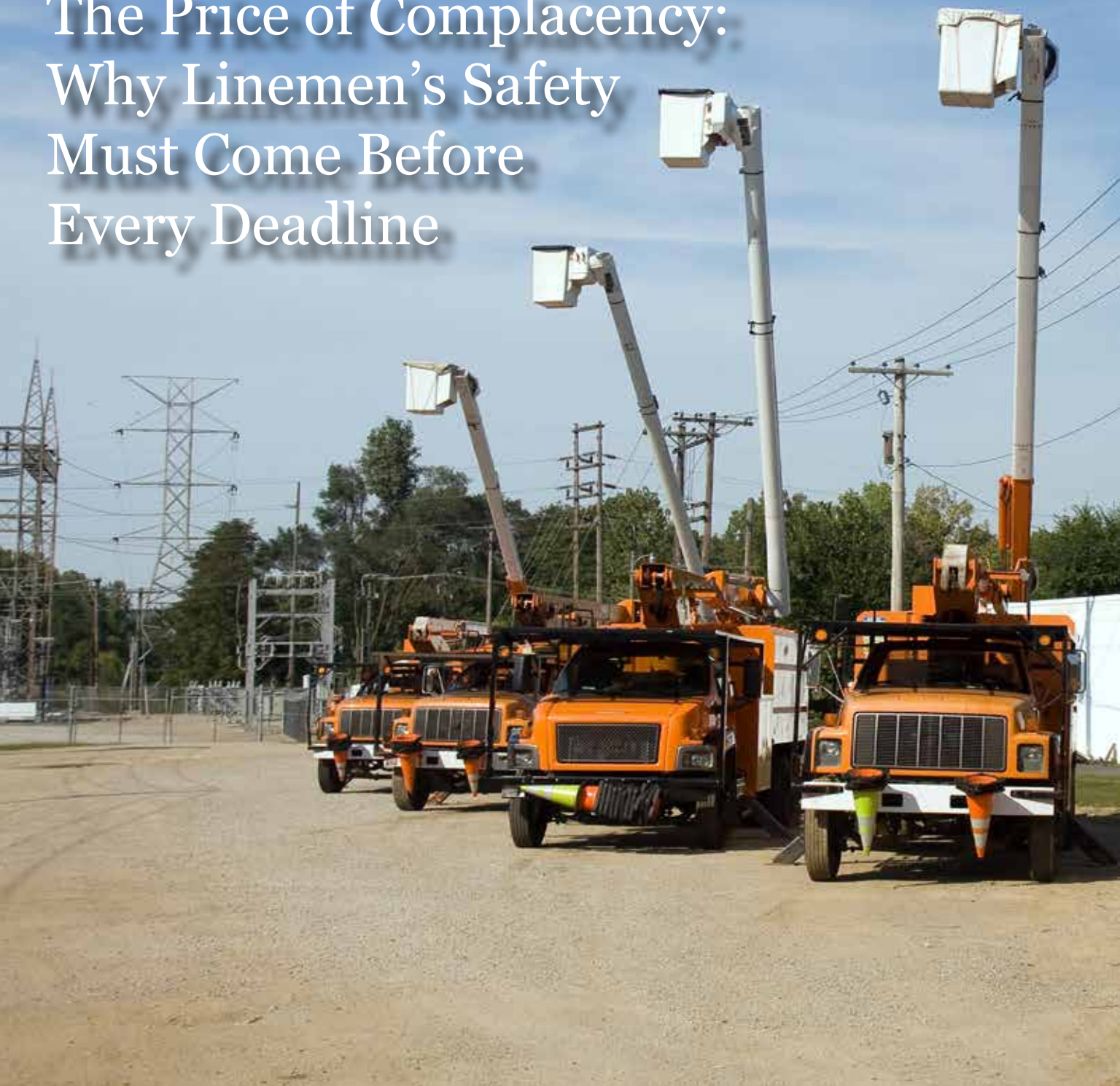
THE

September 2026

UTILITYSOURCE

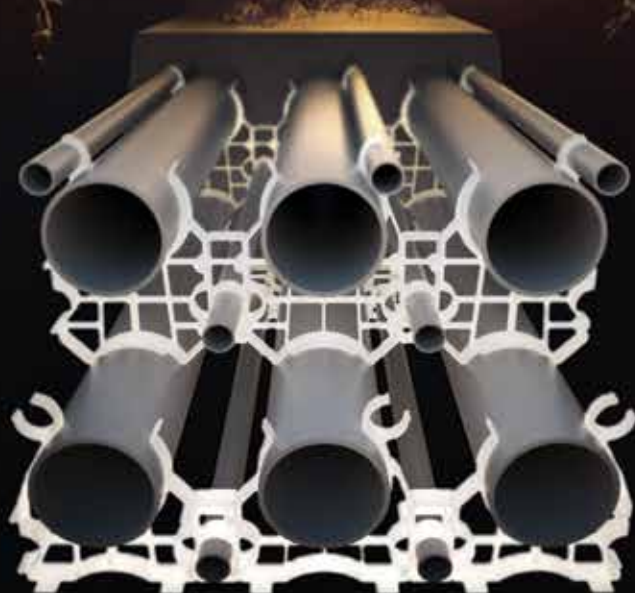
Products and Services for Today's Electric, Telecom, and CATV Utilities

The Price of Complacency:
Why Linemen's Safety
Must Come Before
Every Deadline



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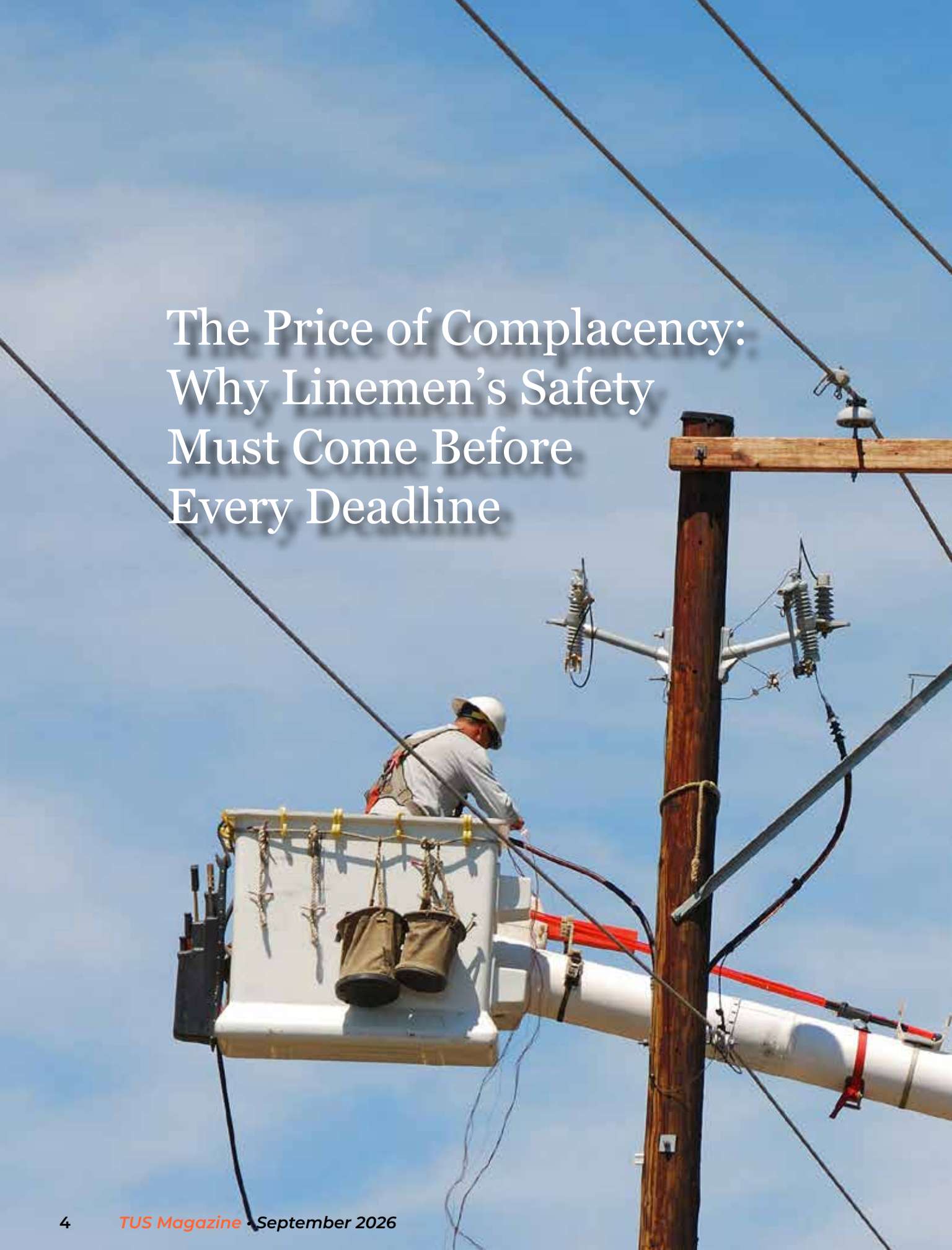
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A lineman wearing a white hard hat and safety harness is working in a white bucket on a power line. The bucket is suspended by ropes and has two tool bags hanging from it. The lineman is positioned next to a wooden utility pole that has various electrical components, including insulators and wires. The background is a clear blue sky with some faint clouds.

The Price of Complacency: Why Linemen's Safety Must Come Before Every Deadline



Every time a neighborhood light comes on after a storm, a factory resumes production, a hospital returns to normal operations, or a family switches on a kettle, someone has usually taken a risk on behalf of the public. That person may be a lineworker—often called a lineman—working high above the ground, beside energized conductors, in driving rain, freezing temperatures, intense heat, or the aftermath of a disaster.

Lineworkers are among the least visible and most essential workers in modern society. Their work is noticed most when something goes wrong: when the power fails, when a pole collapses, when a transformer explodes, or when a storm leaves entire communities in darkness. Yet the risks they face are present even on an ordinary day. Electricity does not forgive carelessness. Heights do not forgive a missed connection. Moving vehicles, unstable structures, heavy equipment, fatigue, and severe weather can turn a routine task into a life-changing event within seconds.

For that reason, lineworkers' safety cannot be treated as a slogan, a training module, or a box to be checked before work begins. It must be the central value governing every decision in the electrical utility industry. Production targets matter. Restoration times matter. Customer satisfaction matters. But none of them matters more than ensuring that every worker who climbs a pole, enters a substation, operates a bucket truck, or repairs a damaged line returns home safely.

A society that depends on electricity must also accept responsibility for the people who maintain it.

The hidden danger behind reliable power

Modern life encourages us to think of electricity as automatic. We flip a switch, charge a phone, run a business, or heat a home without considering the enormous infrastructure and human effort behind that convenience. When the system works, lineworkers disappear from public attention. When it fails, however, they become urgently visible.

The pressure placed on lineworkers during outages can be immense. Customers want their electricity restored immediately. Businesses fear financial losses. Hospitals and emergency services require continuous power. Utility companies face public scrutiny, political pressure, and demanding repair schedules. After hurricanes, ice storms, wildfires, floods, and tornadoes, line crews may work for long hours under dangerous conditions, sometimes far from home and with limited access to food, rest, and medical services.

These circumstances create a dangerous temptation: to measure success only by how quickly the power returns. A

crew that restores a circuit in record time may be praised, while a crew that pauses because a pole is unstable, a line cannot be properly grounded, or weather conditions have become unacceptable may be criticized for delay.

That attitude is not merely unfair. It is dangerous.

The public must understand that safe restoration is not slow restoration. It is responsible restoration. A worker who is injured or killed cannot restore power, support a family, train an apprentice, or contribute to the community. A rushed repair can create a second outage, damage equipment, expose the public to energized conductors, or cause a fatal accident long after the original emergency has passed.

Reliable electricity is important. Reliable safety practices are indispensable.

Electricity leaves no room for assumptions

The most obvious danger facing lineworkers is electrical contact, but the hazard is often more complicated than simply touching an energized wire. Electricity can arc across gaps, travel through conductive materials, energize equipment unexpectedly, and move through the ground. A line that appears de-energized may become live because of backfeed from generators, solar systems, batteries, industrial equipment, or interconnected circuits.

This is why assumptions are among the most dangerous habits in line work.

A worker must never assume that a circuit is dead because a switch has been opened. The circuit must be identified, isolated, tested, and properly grounded according to established procedures. Communication must be clear and confirmed. Lockout and tagout practices must be followed. Protection against accidental re-energization must be maintained. Where required, protective grounds must be installed correctly and in the proper sequence.

The difference between “I believe it is de-energized” and “I have verified that it is de-energized and protected” can be the difference between going home and never returning.

Electrical safety also depends on respect for distance. Workers must maintain the required approach boundaries and use appropriate insulating tools, gloves, sleeves, clothing, shields, and barriers. Personal protective equipment is not a substitute for planning, but planning is not a substitute for PPE. Both are necessary, and neither should be compromised because a task appears simple.

A lineworker may have performed a job hundreds of times. Familiarity, however, does not reduce voltage. It can instead

create overconfidence. The worker who has completed a procedure safely for years may be more likely to overlook a change in conditions, a damaged component, or an unexpected source of energy. Experience is valuable, but experience must strengthen discipline—not replace it.

Working at height is a daily test of discipline

Lineworkers routinely perform their duties at heights that would make most people uncomfortable. Climbing poles, working from aerial lifts, moving across structures, and handling equipment while suspended or elevated require balance, strength, coordination, and constant attention.

Falls are among the most serious hazards in line work. A fall can result from defective climbing equipment, an unstable pole, improper positioning, poor footing, an unexpected movement of an aerial device, or a momentary distraction. It can also occur because a worker is tired, rushed, carrying too much equipment, or working in rain, ice, or high winds.

Fall protection must therefore be treated as a complete system. Harnesses, lanyards, climbing belts, positioning devices, anchor points, and rescue plans all matter. Equipment must be inspected before use and removed from service when damaged. A worker should never rely on a tool, pole, crossarm, or structure without confirming that it can safely support the intended load.

The condition of the pole itself deserves particular attention. A pole may look sound from the ground while being weakened by rot, insects, fire, vehicle impact, weather, or internal damage. Before climbing, workers should assess the structure, follow established testing procedures, and use alternative methods when the pole cannot be trusted. A beautiful day does not make an unsafe pole safe.

The same principle applies to bucket trucks and other aerial devices. These machines require trained operators, stable positioning, appropriate clearances, proper use of outriggers, and careful attention to overhead and underground hazards. The presence of a bucket truck can create a false sense of security. It does not eliminate the risks of electrical contact, falls, equipment failure, or struck-by incidents.

A lineworker’s safety at height depends on preparation before the climb begins. Once a worker is elevated, correcting a poor decision becomes much more difficult.

Tools and equipment are only as safe as their condition

Line work depends on specialized equipment: insulating gloves, hot sticks, grounding devices, ropes, ladders, climbing gear, aerial lifts, trucks, hydraulic tools, fall-arrest systems, voltage detectors, and communication devices. Each item exists because the work demands it. Each item can also become a source of

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be energized can have fatal consequences.

Communication begins before the job. Crews need a job briefing that identifies hazards, assigns responsibilities, explains the work sequence, reviews emergency procedures, and establishes who has authority to stop the operation. Everyone should understand the plan—not merely the supervisor or the most experienced worker.

Critical instructions should be repeated and confirmed. Radio messages should be clear. Hand signals should be standardized. Workers should have a reliable way to communicate when noise, distance, weather, or equipment interferes with ordinary conversation.

The culture surrounding communication matters as much as the method. Workers must feel free to ask questions, challenge unclear instructions, and report changing conditions. A junior employee who notices an unsafe condition should not be afraid to speak. A veteran worker who is uncertain about a procedure should not be expected to remain silent to protect an image of competence.

The best crews are not those in which nobody raises concerns. They are those in which concerns are raised early, discussed respectfully, and addressed before they become emergencies.

Fatigue is a safety hazard, not a personal weakness

Lineworkers are often called upon to work long shifts, especially during major outages. Their commitment is admirable, but human concentration has limits. Fatigue reduces reaction time, weakens judgment, impairs memory, and increases the likelihood of mistakes. It can make a worker misread a label, miss a communication, forget a step, or underestimate a hazard. Fatigue should be managed as seriously as any physical hazard. Supervisors must plan shifts that allow sufficient rest, hydration, meals, and recovery. Crews should be rotated during prolonged emergencies. Workers must be encouraged to report when they are too tired to work safely, without fear of being labeled uncommitted.

There is a dangerous cultural belief that endurance proves dedication. In reality, recognizing fatigue and requesting relief may be one of the most professional actions a worker can take. The goal is not to prove who can work the longest. The goal is to complete the work without injury.

Travel after long shifts is another concern. A worker who is too exhausted to perform a task may also be too exhausted to drive safely. Employers should consider transportation, lodging, and rest arrangements during extended deployments. Safety cannot end when the crew leaves the worksite.

danger if neglected.

Inspection must be more than a formal ritual. Workers should look for cuts, cracks, contamination, wear, deformation, missing parts, expired testing dates, and signs of heat or chemical damage. Insulating equipment must be properly stored and maintained. Tools should be clean, dry, and used only for their intended purpose. Equipment that is questionable should be taken out of service immediately, not placed back in a truck with the hope that someone else will inspect it later.

Organizations also have a responsibility to provide enough equipment in good condition. Workers should never be pressured to use damaged gear because replacement is inconvenient or expensive. A missing tool can be as dangerous as a defective tool if it encourages improvisation.

Improvisation has a place in emergency engineering, but it should never replace a safety procedure or approved equipment. A makeshift repair may save minutes while creating years of consequences. Management must make it clear that stopping work to obtain the right equipment is a professional decision, not a failure.

Communication is a life-saving control

Many linework accidents occur not because workers lack technical knowledge, but because people do not communicate clearly. A misunderstanding about which circuit is isolated, who is in charge, where a crew is working, or when equipment will

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Weather and the uncertainty of emergencies

Lineworkers frequently work in conditions that would cause most people to stay indoors. Rain creates slippery surfaces and can alter electrical risks. Ice adds weight to conductors and structures. Wind affects bucket stability, suspended loads, and falling branches. Extreme heat can cause dehydration and heat illness. Cold weather reduces dexterity and increases the risk of hypothermia and frostbite. Lightning introduces an immediate and unpredictable threat.

Emergency conditions also produce hidden hazards. Floodwater may conceal energized equipment, unstable ground, chemicals, debris, or open utility structures. Wildfires can weaken poles and leave ash or smoke that reduces visibility. Storm-damaged trees may remain under tension and fall unexpectedly. Roads may be blocked, bridges damaged, and communication systems unreliable.

Weather decisions must be based on conditions, not optimism. Crews need authority to pause or withdraw when risks become unacceptable. That decision should not require a worker to defend his or her life against a production schedule. Every emergency response should include a changing-conditions mindset. A plan that was safe at dawn may be unsafe by afternoon. A structure that appeared stable may shift after a cable is removed. A road that was passable may become flooded. Safety briefings should be repeated whenever the work changes, the crew changes, or new information emerges.

The public has responsibilities too

Lineworkers do not operate in isolation. Their safety is affected by motorists, property owners, contractors, businesses, and members of the public.

Drivers must slow down and move carefully near utility crews, work vehicles, cones, and temporary traffic controls. A distracted driver can strike a bucket truck, a parked service vehicle, or a worker standing near the roadway. Work zones must be treated as active hazards even when no equipment appears to be moving.

Members of the public must stay away from downed lines and damaged utility equipment. A fallen wire should always be treated as energized. People should never touch the wire, vehicles in contact with it, fences, puddles, or nearby objects that may carry current. They should keep others away and contact emergency services or the utility provider.

Property owners who use generators, solar systems, batteries, or other distributed energy equipment must ensure that these systems are installed and operated correctly. Improper connections can send power back into a circuit that workers believe is isolated. Businesses and homeowners should follow utility in-

structions during outages and never attempt to remove, move, or repair utility equipment.

The public often sees a lineworker as someone who is “just fixing the power.” That language minimizes the complexity of the task. Respecting work zones, following instructions, and avoiding interference are simple actions that can save lives.

Safety culture begins with leadership

No safety program can succeed if leadership rewards speed while merely talking about caution. Workers quickly learn what an organization truly values by observing promotions, praise, discipline, scheduling, and budget decisions.

If a supervisor praises a crew for restoring power rapidly but ignores a shortcut, workers receive a clear message. If employees who stop work are punished through poor assignments or negative evaluations, written safety policies become meaningless. If safety meetings are rushed while production meetings receive extensive attention, the organization has revealed its priorities.

Leadership must demonstrate that safety is operational, not decorative. This means providing training, staffing jobs adequately, maintaining equipment, investigating incidents, correcting hazards, and ensuring that supervisors are competent in both technical work and human leadership.

It also means distinguishing between honest mistakes, reckless behavior, and system failures. Blaming an individual after an accident may be emotionally satisfying, but it rarely prevents recurrence. Investigations should ask deeper questions: Was the worker properly trained? Was the procedure clear? Was the equipment available? Was the schedule realistic? Were warning signs ignored? Did the culture discourage reporting?

Accountability is necessary, but accountability should improve the system rather than simply find someone to blame.

Training must prepare workers for reality

Effective training cannot rely only on classrooms or written manuals. Lineworkers need practical experience, supervised field instruction, emergency drills, rescue exercises, equipment demonstrations, and realistic scenarios involving changing conditions.

New workers should be taught not only how to perform a task, but also how to recognize when the task should not proceed. They need to understand electrical theory, fall protection, rigging, traffic control, first aid, cardiopulmonary resuscitation, communication, weather hazards, and rescue procedures. They must learn that safety rules are based on hard-earned lessons, often learned through tragedy.



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Mental health is part of occupational safety. Anxiety, depression, burnout, trauma, and substance misuse can affect concentration and decision-making. Organizations should provide confidential access to counseling and support services, especially after serious incidents and major disasters.

A culture of toughness should not become a culture of silence. Asking for help is not weakness. It is a safety measure, just like inspecting a harness or testing a circuit.

Coworkers are often the first to notice changes in behavior. They should be encouraged to check on one another and to respond with concern rather than judgment. Peer support programs, employee assistance services, and trained supervisors can help workers obtain assistance before a crisis becomes an emergency.

Technology helps—but it does not eliminate responsibility
Advances in technology are improving lineworkers' safety. Remote monitoring, drones, improved protective equipment, digital mapping, automated switching, robotic inspection tools, real-time weather data, and better communication systems can reduce exposure to hazards.

However, technology is not a substitute for judgment. A drone may inspect a line, but it cannot always interpret every structural concern. A digital map may be outdated. A sensor may fail. A remote switching system may be misunderstood. New technology can create new risks if workers are not adequately trained.

Technology should be used to remove people from unnecessary danger, improve information, and support sound decisions. It should never be used to justify unrealistic schedules or to suggest that human caution is obsolete.

The safest future will combine technical innovation with disciplined human practices.

Learning from incidents instead of hiding them
Every serious incident, near miss, equipment failure, and unsafe condition should be treated as an opportunity to learn. A near miss is not "nothing happened." It is evidence that the system came close to producing harm. Ignoring it wastes a valuable warning.

Reporting systems must be easy to use and free from retaliation. Workers should be able to report hazards anonymously where appropriate. Investigations should focus on facts and contributing conditions rather than embarrassment or public relations.

Lessons must be shared across crews and organizations. A haz-

Refresher training is equally important for experienced workers. Procedures change, technology changes, equipment changes, and complacency develops. Training can renew attention and expose gaps that routine work conceals.

Rescue training deserves special emphasis. A crew should know what to do if a worker is shocked, falls, becomes unconscious, or is trapped in an aerial device. Rescue plans must be practical and rehearsed. Waiting until an emergency occurs to discover that nobody knows how to lower a disabled bucket or approach an injured worker is unacceptable.

Training should also include psychological safety. Workers must be prepared to speak up, stop work, and seek help. Technical skill without the confidence to challenge danger is incomplete competence.

Mental health deserves the same seriousness
Linework is physically demanding, but the emotional burden can be substantial as well. Workers may witness severe injuries, fatalities, disaster damage, displaced families, destroyed homes, and conditions that remain dangerous long after the public assumes the crisis is over. Long separations from family, irregular schedules, financial pressure, and the expectation to remain strong can intensify stress.

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ard discovered in one district may exist in another. An accident involving one type of equipment may reveal a broader maintenance or training problem. Industry-wide learning can prevent repeated tragedies.

Transparency is especially important after fatalities. Families, coworkers, and the public deserve honest explanations. Concealing problems protects an organization temporarily while placing future workers at risk.

Safety is a moral obligation

The argument for lineworkers' safety is sometimes presented in economic terms: accidents cost money, interrupt service, increase insurance premiums, and expose companies to legal liability. Those consequences are real, but they are not the strongest reason to prioritize safety.

The strongest reason is moral.

No deadline is worth a life. No restoration target is worth a permanent disability. No customer complaint justifies sending an exhausted or inadequately equipped worker into danger. Every lineworker is a human being with family, responsibilities, hopes, and a right to return home.

The public benefits from the work of lineworkers, but it must not demand sacrifice as the price of reliable service. Utility companies benefit from their labor, but they must not treat workers as replaceable resources. Supervisors depend on their judgment, but they must provide the support and authority necessary to exercise it safely.

A safe workplace is not created by luck. It is created by deliberate choices made repeatedly: before the truck leaves the yard,

before the pole is climbed, before the switch is opened, before the line is touched, and before the job is declared complete.

Conclusion: Send them home

The true measure of a successful day in line work is not only how many poles were replaced, how many customers were restored, or how quickly an outage map turned green. The true measure is whether every member of the crew returned safely.

That standard may require patience. It may require delaying a repair, replacing equipment, calling for additional help, changing a plan, or disappointing people who want immediate results. Those decisions are not signs of weakness or inefficiency. They are signs that the industry understands the value of human life.

Lineworkers keep communities functioning, economies moving, and essential services alive. They work in the places where electricity is most dangerous and most needed. Their bravery should be respected, but bravery must never be used as an excuse to tolerate preventable risk.

The future of electrical work must be built on a simple principle: no task is so urgent that it cannot be performed safely, and no worker should ever be pressured to choose between doing a job and protecting his or her life.

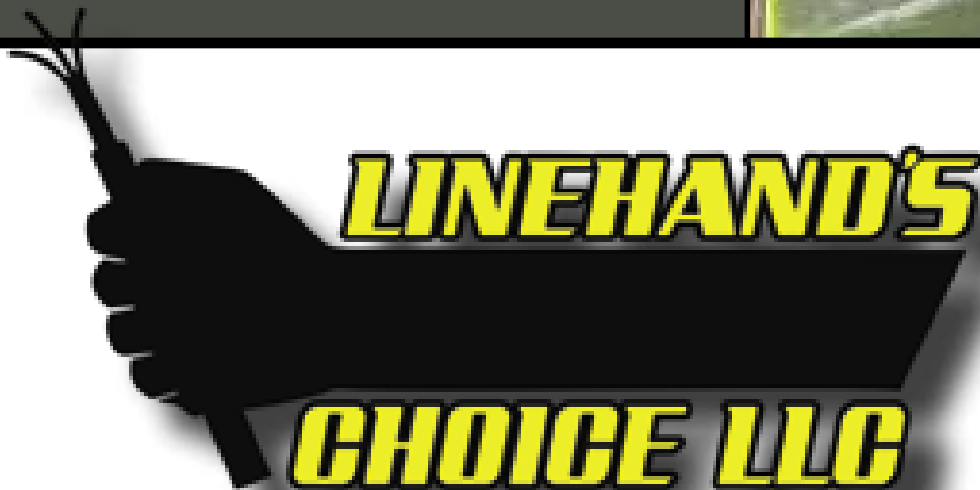
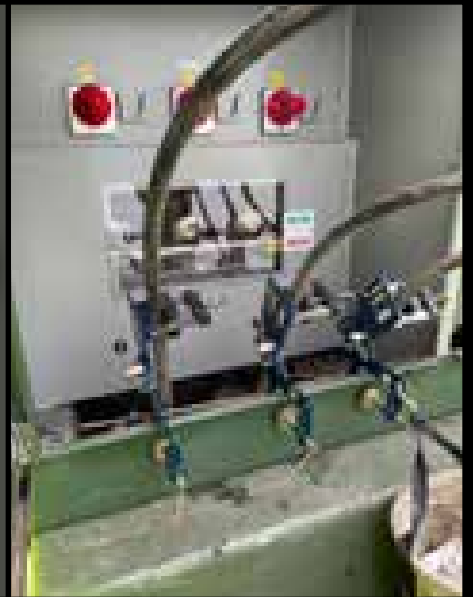
When the trucks return to the yard at the end of a long shift, when the tools are inspected and stored, and when the workers walk through their front doors, that is the outcome that matters most.

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The Art & Science of Maintaining Modern Articulation Systems

By Steven Maxwell— Industry Feature

Heavy machinery is the muscle behind modern industry. From construction sites to mining operations, these machines lift, haul, dig, and shape the world around us. But beneath their raw power lies a delicate truth: heavy equipment is only as strong as its articulation systems. Joints, linkages, bearings, and hydraulic cylinders must move with precision, endure extreme loads, and survive brutal environments.

This feature explores the engineering, maintenance, and diagnostics that keep heavy machinery moving. Whether you're a technician, operator, or fleet manager, understanding articulation is essential to safety, productivity, and machine longevity.

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Explore deeper engineering concepts with mechanical articulation principles.

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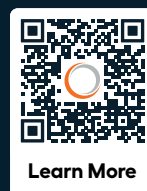
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- ▶ Valve sticking
- ▶ Cylinder scoring

Pressure Testing

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Inspection Tools

- ▶ Calipers
- ▶ Micrometers
- ▶ Dial indicators
- ▶ Ultrasonic testers
- ▶ Vibration monitors

Wear Patterns to Watch

- ▶ Ovalization
- ▶ Scoring
- ▶ Pitting
- ▶ Excessive clearance

Get a full checklist with inspection checklist.

PREVENTIVE MAINTENANCE PLAYBOOK

Daily, Weekly, Monthly, Annual Tasks

Daily

- ▶ Inspect joints
- ▶ Check fluid levels

Low-Dust Application of Stabilization Materials

Fast, Accurate and Consistent!

Sizes
from 8 to
27 Tons



Truck Mounted



Pull-Type



Custom Sizes

- Spreads all dry binding agents accurately
- Spread rates up to 120 lb/sq. yd.
- Available in manual or automatic rate control with Stoltz Controller

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www.stoltzfusspreaders.com

- Grease critical points
- Test articulation movement

Weekly

- Inspect hydraulic hoses
- Check tires or tracks
- Verify torque on critical bolts

Monthly

- Fluid sampling
- Filter replacement
- Wear measurement

Annual

- Hydraulic flush
- Pin/bushing replacement
- Bearing overhaul
- Structural inspection

Generate a printable plan with maintenance plan.

ALIGNMENT & CALIBRATION

Precision That Protects Your Investment

Misalignment increases wear, reduces efficiency, and destabilizes loads.

Tools of the Trade

- Laser alignment systems
- Digital inclinometers
- Straight edges

Calibration Goals

- Proper steering geometry
- Accurate boom movement
- Balanced load distribution

Request stepbystep guidance with calibration guide.

THE ENVIRONMENT ALWAYS WINS

Dust, Water, Heat, Chemicals — The Silent Destroyers

Dust

Accelerates wear and contaminates lubrication.

Moisture

Causes rust, seal degradation, and hydraulic contamination.

Temperature Extremes

Cold thickens lubricants; heat thins them.

Chemicals

Salt, fertilizers, and industrial chemicals corrode metal.

Get protection strategies with environmental protection

tips.

THE DIGITAL REVOLUTION IN MAINTENANCE

Sensors, AI, and Predictive Technology

Telematics

Tracks joint movement, pressure, temperature, and lubrication cycles.

Predictive Maintenance AI

Analyzes sensor data to forecast failures before they occur.

Digital Twins

Simulate stress loads, articulation movement, and component fatigue.

Explore more with digital maintenance tools.

SAFETY FIRST, ALWAYS

The Human Side of Machine Maintenance

Lockout/Tagout

Energy isolation is nonnegotiable.

Pinch Points

Articulation joints can crush limbs instantly.

Hydraulic Pressure Hazards

Injection injuries are severe and often invisible at first.

Load Stability

Improper articulation can cause rollover.

Get a full safety list with safety checklist.

FINAL WORD

Precision Maintenance = Maximum Uptime

Heavy machinery is a blend of brute force and engineering finesse. When articulation systems are properly maintained — lubricated, aligned, inspected, and monitored — machines operate safely, efficiently, and profitably.

A wellmaintained articulation system isn't just a mechanical advantage. It's a competitive advantage. •



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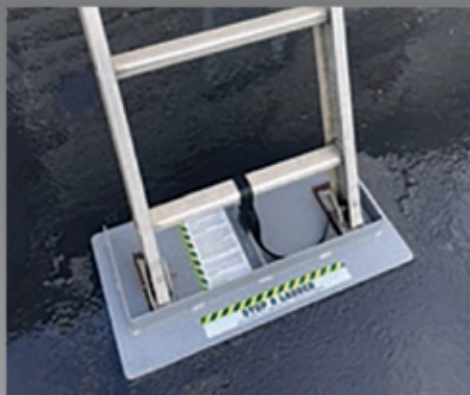
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